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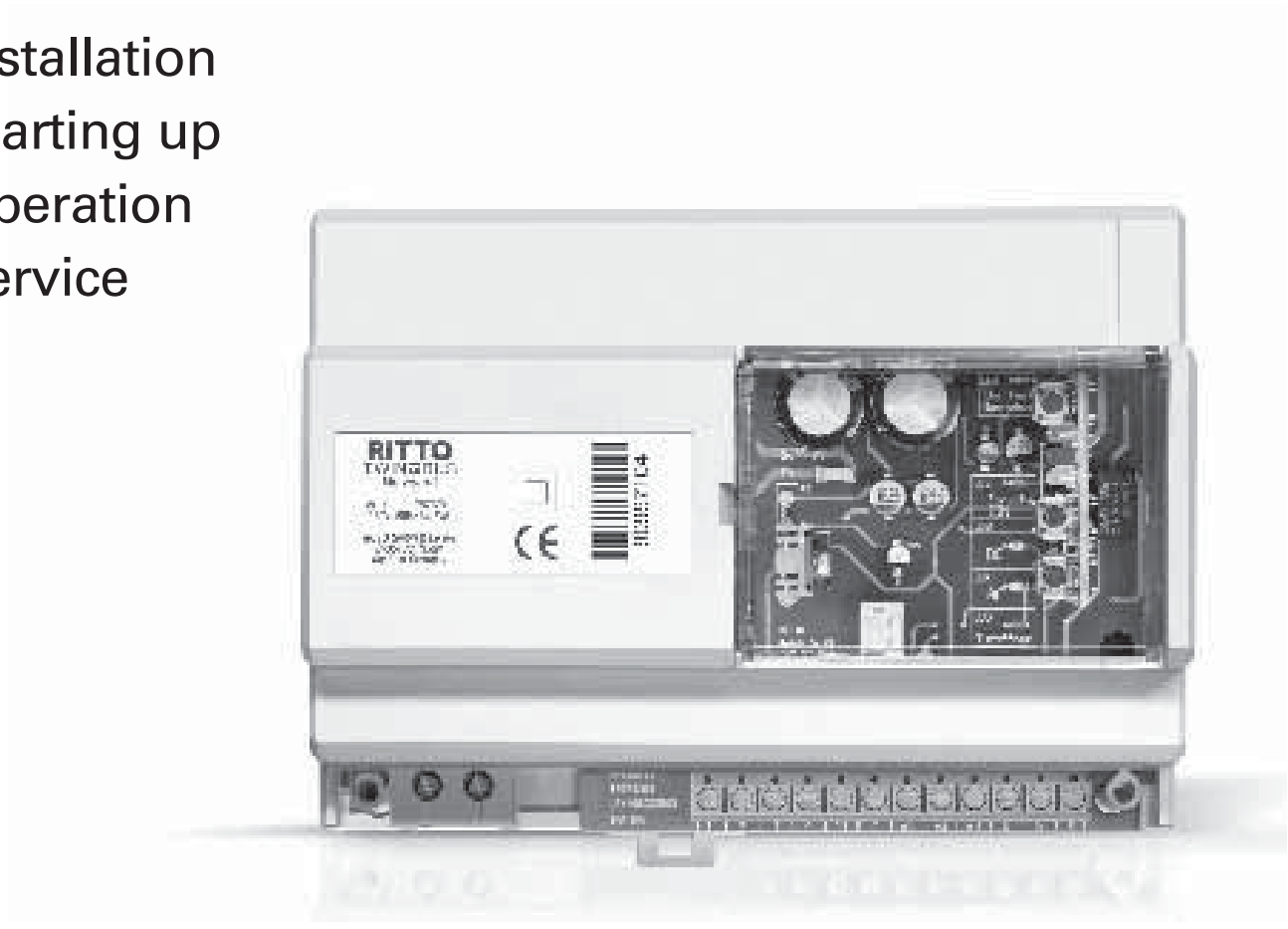
RITTO TWINBUS System Manual

Door intercom and video systems based on bus technology

TWIN BUS

- Installation
- Starting up
- Operation
- Service



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Before continuing ...

Using this system manual

This system manual provides all the information necessary for planning, installing and operating a TwinBus door intercom system. In order to find the information required quickly, the chapters have been organized according to the following groups of customers:

Chapter	Customer group
1. General Information	All customer groups
2. Installation: assembly, connection and start-up	Electricians and installation technicians
3. Operation	Users
4. Service	After-sales service personnel

In the Installation chapter, basic information is provided by means of general examples. Detailed technical specifications on the individual devices supplements the information.

Please keep this system manual on hand for later use.

Explanation of the symbols used

Indication of risks:

Danger!

Type and source of the danger

This danger symbol indicates the risk of personal injury.

Caution!

Type and source of the danger

This symbol indicates the risk of equipment, environment or other property damage.

Important information:

Note:

This symbol does not represent a safety note. It identifies information to better understand the respective processes.

This symbol indicates an acoustic signal issued by a device should be observed. The length of the signal indicates the acknowledgement of settings.

Circuit diagram symbols

This circuit diagram symbol indicates a twisted pair of wires.

This circuit diagram symbol indicates that the line screening sheaths must be connected across the joints.

List of abbreviations

ET Floor line
ED Apartment button
TÖ Door opener
LW Chime type, e.g. gong
UV Subdistribution

Terminal designations

a Bus terminal
b Bus terminal
ED Apartment button
ED Apartment button
a1 Main bus line 1
a2 Main bus line 2
a3 Main bus line 3
Va Bus terminal, video bus
Vb Bus terminal, video bus
LW Chime type, e.g. gong
TV Door connection
NV Power supply connection

Information on article numbers

The article numbers of RITTO products are made up of three components. For example, 1 7630 70

1 7630 xx	Device: TwinBus indoor telephone
7 x	Colour: white
x 0	Device index

This document only specifies information on the respective device. Please refer to the manual for the colours available and the current device versions.

General Information

1.1 Cable networks

Existing lines can be used as bus lines. We recommend the following, commercially available telecommunication lines:

- Telecommunication line J-Y (St) Y
- Telecommunication line J-2Y (z) Y with strain-relief
- Telecommunication grounding cable, longitudinally and transversally waterproof

For more information, please refer to the planning manual.

1.1.1 Cable layout

It is recommended to lay the bus line from subscriber to subscriber and to connect it to the connection terminal on the device.

All the line screening sheaths must be connected across the joints and laid to Terminal b on the TwinBus power supply unit. Please use appropriate locally provided terminals for this.

The stranded video line Va/Vb can generally be laid in the cable with the screened a/b lines.

In order to fulfil the general safety requirements for telecommunication systems complying to VDE 0800 and prevent disturbances on the lines, ensure that the mains voltage and SELV (TwinBus line) are laid separately. A clearance of 10 cm must be maintained for the installation. In the case of a common line cabling, a separating webbing must be inserted in the installation channels.

The bus lines must be terminated with terminal resistors.

Please follow the installation instructions for the indoor video stations 1 7855, 1 7857 or the handsfree video intercom units 1 7835 and 1 7845.

Caution!

Malfunctions due to strong magnetic fields

No other devices with strong magnetic field (contactors, transformers, etc.) may be installed in the direct vicinity of the power supply unit and additional devices. Malfunctions could be caused by induced voltage peaks.

1.1.2 Maximum line lengths

The loop resistance of each TwinBus line must not exceed max. 20 Ohm. This results in the following maximum line lengths:

Wire diameter in mm	**0,8**	**0,6**
Resistance in Ohm/m	0,0349	0,0621
Line lengths between TwinBus power supply unit 1 7573 and indoor telephone or indoor video station	280 m	160 m
Line lengths between TwinBus power supply unit 1 7573 and door unit (lighting)	60 m	30 m
Line lengths between TwinBus power supply unit 1 7573 and door openers up to 8V/1A	50 m	30 m
Line lengths between power supply unit 1 4874 and indoor video station	100 m	60 m
Line lengths between mains transformer 1 6477 and indoor video station	50 m	35 m
Line lengths between mains transformer 1 6477 and camera module	35 m	25 m
Line lengths between mains transformer 1 6477 and camera module	150 m	100 m
Line lengths between mains transformer 1 6477 and built-in camera	40 m	20 m

Line lengths for 75 Ω COAX lines

Cable type	**Line lengths**
3/S – 75	250 m
1.1/7.3	600 m

1.1.3 Considerations when renovating

Note:
In the case of existing YR cables, all the free wires on the TwinBus power supply unit must be laid as screening to Terminal b.

If commercially available doorbells are used, they must not have a contact transition resistance in excess of 10 Ohm.

1.1.4 Connection to the mains

Caution!

Equipment damage through overvoltage or short circuiting

Equipment damage can occur through overvoltage or short circuiting. Connection must be made to a 230 V~±10% mains power outlet. The power must be fed via an intrinsic line safety switch with max. 10 A.

Please note that a 230 V/AC power supply is required for the power supply units and mains transformers which are not explicitly depicted in the block diagrams.

1.1.5 Electrostatic charging

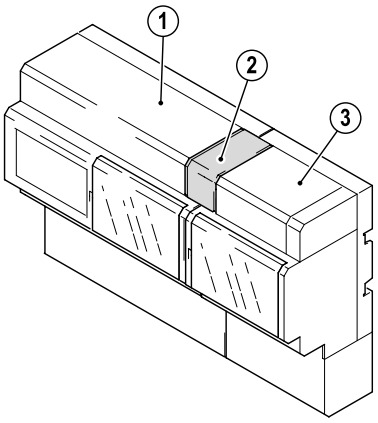
Caution!

Risk of equipment damage through static electricity (ESD)

Static electricity could destroy equipment if direct contact is made with the printed circuit boards. Discharge electrostatic charges before touching the equipment.

1.2 The system bus

The power supply unit and additional devices are connected via the system bus. The system bus connector, enclosed with each additional device, is used for this purpose.



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1. TwinBus power supply unit 1 7573
2. System bus connector
3. TwinBus additional device

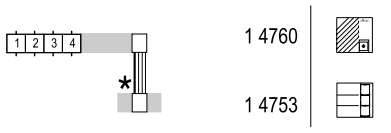
The additional devices receive their power supply via the system bus.

If the devices are installed on several mounting rails, the bus connector 1 6907 is used instead of the system bus connector.

Connection is made from the right-hand system bus connection of the device to the left-hand system bus connection of the following device.

1.3 Bus connector in the Portier modular door station

The door station modules are connected to the bus connectors one under the other.



S0050-2

The wire of the bus connector in the door station marked red must be attached to the pin labelled "red" on the board. As a result, the door station modules are numbered identically. The wire marked red is identified in the respective circuit diagram by a "*****".

1.4 The video system

Installation requirements for video cameras

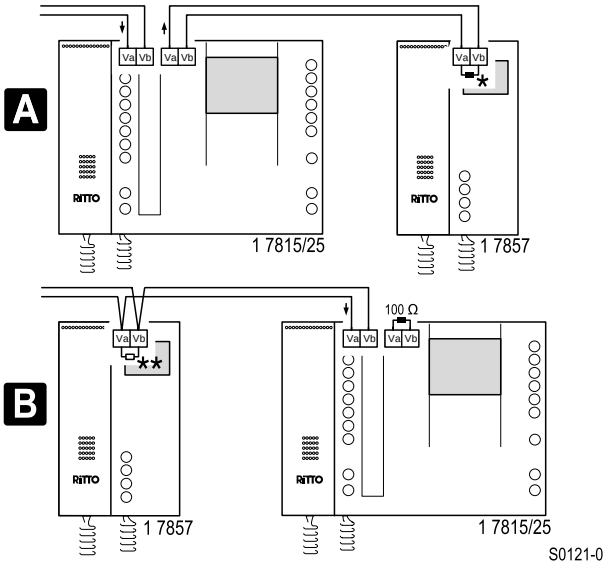
A camera can only view a certain area. In order for the visitor who has just rung to be monitored, for example, the camera must be appropriately installed.

The surveillance area varies according to the angle the camera module is set.

The installation height is approx. 1.5 to 1.6 m.

- The area surveilled must be well illuminated, also at night. If necessary, appropriate lighting must also be installed.
- We recommend positioning an external light about 1 m above the camera. It should be an incandescent bulb of at least 40 W.
- The camera must not be pointed towards the source of light (sun, lighting, reflection, etc.).

Terminal resistor



Circuit diagram:terminal resistor for mixed systems.

A indoor video station as the last device in the line
* Terminal resistor: ON
B indoor video station as the last device in the line
** Terminal resistor: OFF

Note:
You must switch on the terminal resistor if the indoor video station 1 7857 or 1 7855 or handsfree video intercom unit 1 7835 or 1 7845 you want to install is the last device in the video bus line.
If the last device installed in the video bus line is an indoor video station 1 7815 or 1 7825, manually use a 100 Ω resistor 1 7832.

Caution!

Reduced image quality

Incorrectly set terminal resistors will lead to reduced image quality.

1.5 Intended use

The RITTO door intercom is a system devised for controlling access and internal communication inside residential buildings.

Any other use is considered unintended use. The manufacturer is not deemed liable for any damage resulting from unintended use. The risk, in this case, is assumed solely by the installation technician.

Intended use also includes observing the manufacturer's regulations concerning use and maintenance. The system may only be installed and serviced by persons familiar with it and informed of the risks involved.

1.6 Cleaning

The surfaces of the TwinBus devices can become dirty due to environmental influences and frequent use. The surfaces should only be cleaned with a damp cloth and suitable, mild household cleaning agent.

Stainless steel surfaces should be cleaned regularly with a commercially available stainless steel cleaning agent to prevent flash rust from forming.

Make certain that the plastic parts of the door station (e.g. name labels) do not come into contact with the cleaner.

Observe the information provided by the cleaning agent manufacturer.

1.7 Handling equipment

The devices could be damaged through static electricity. Therefore, static must be discharged from the body before touching printed circuit boards by contact with a grounded connection.

1.8 Directives/Conformity

All RITTO TwinBus devices have been constructed according to the following directives:

- EU Directive on "Electromagnetic Compatibility" 89/336/EEC and 2004/108/EC, respectively (complying to the currently valid version).
- Directives on low-voltage 72/23/EEC (complying to the currently valid version).

RITTO TwinBus devices bear the CE approval label. Conformity has been certified. The corresponding documents are held by the manufacturer.

1.9 Warranty

The general terms of business implemented by RITTO GmbH & Co. KG apply.

Installation: Assembly, connection and start-up

This chapter contains all the information that is needed to install a door intercom system.

2.1 Door intercom systems without internal speech communication

The assembly, connection and start-up of a TwinBus system depends on the design of the system and the type of TwinBus devices that are used. Information on how to carry out the work can be found in the following. More information can be found in the descriptions of the individual TwinBus devices.

2.1.1 Assembly and connection

Electrical voltage

Risk of electric shock.
Risk of burning.
Damage to equipment and malfunctions.

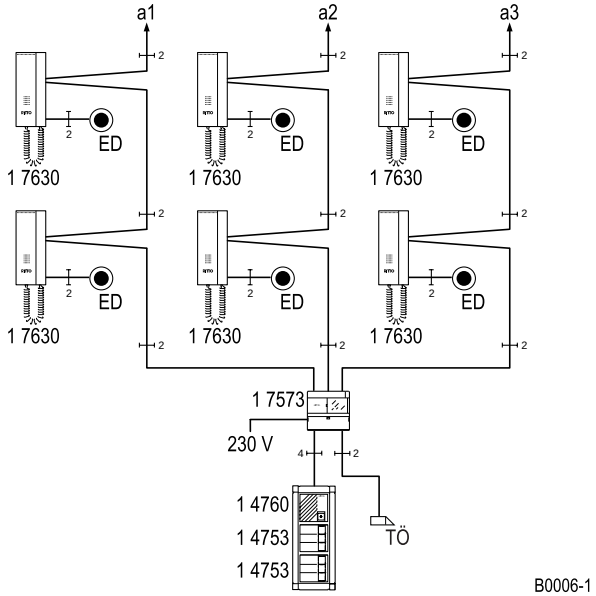
Countermeasures:

- Isolate all live cables before starting the work.
- Protect the switched-off lines from being mistakenly switched on again.
- Test that the power is off. Earth and short-circuit.
- Cover up neighbouring live parts.
- All work and electrical connections must comply with the national regulations of the respective country (e.g. the VDE regulations in Germany) and be carried out by appropriately trained experts.

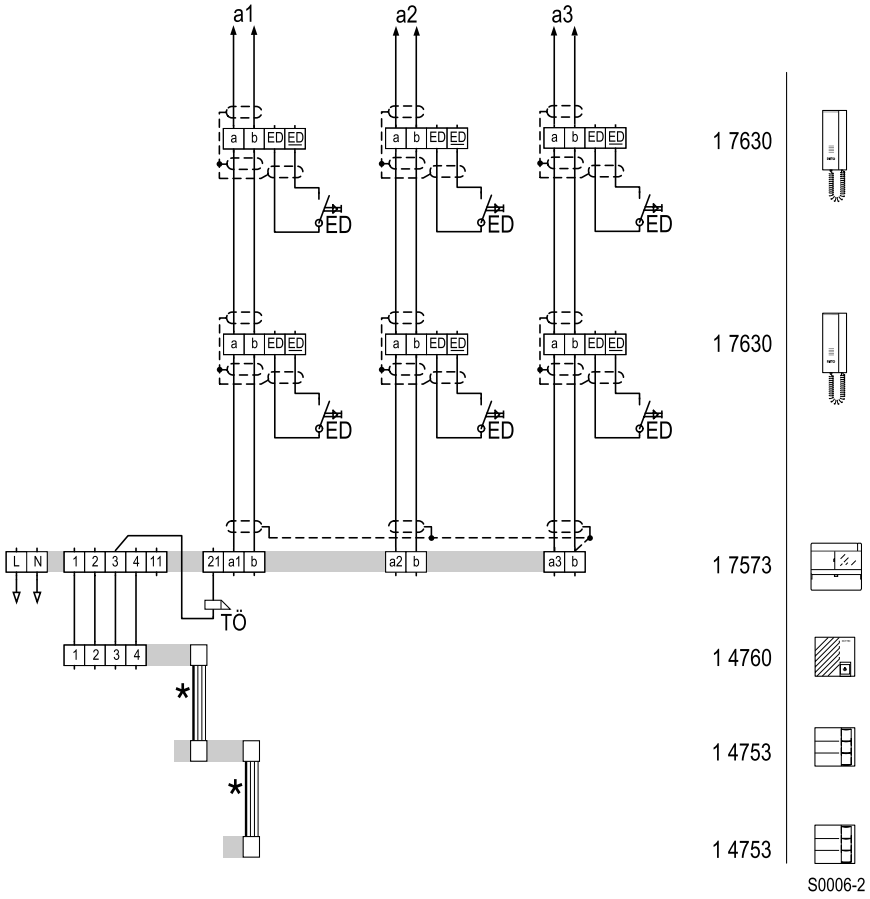
2.1.2 Starting up

The information on the initial start-up and expansion of a TwinBus door intercom system can be found on the pages that follow.

One or multi-family residence with one to three main bus lines



Block diagram: one or multi-family residence with one to three main bus lines.



* Please observe the red marking - refer to "Bus connector in the Portier modular door station" page ☞ **10**.

Circuit diagram: one or multi-family residence with one to three main bus lines.

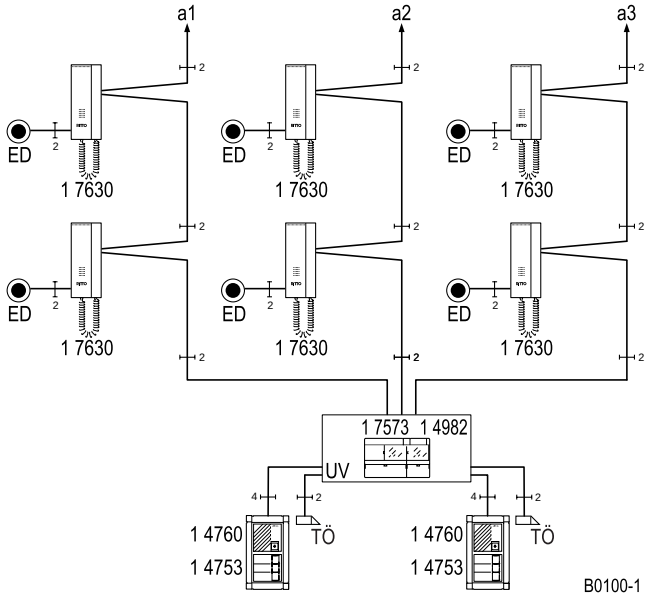
Starting up

Operation	Device
1. Switch on	Customer line safety switch
2. Deactivate adjustment protection[1)]	TwinBus power supply unit 1 7573
3. Programming the main doorbell[2)]	Assign door station and intercoms
4. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
5. Activate adjustment protection if required	TwinBus power supply unit 1 7573

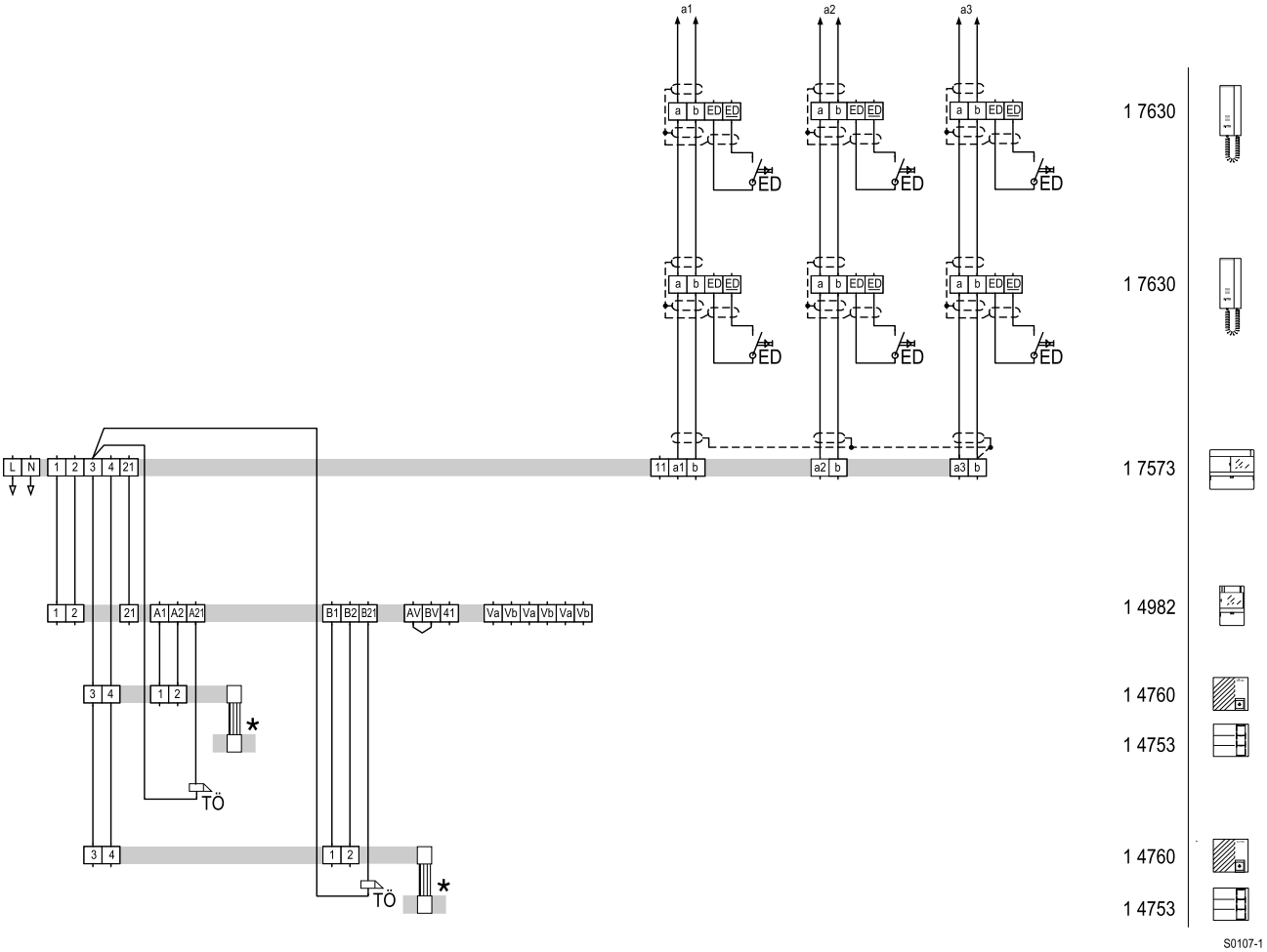
1) Deactivated by the contractor.

2) For more information, refer to "TwinBus indoor telephone 1 7630" page ☞ **33**.

One or multiple-family residence with extension to two door stations



Block diagram: one or multiple-family residence with extension to two door stations.



* Please observe the red marking - refer to "Bus connector in the Portier modular door station" page ☞ **10**.

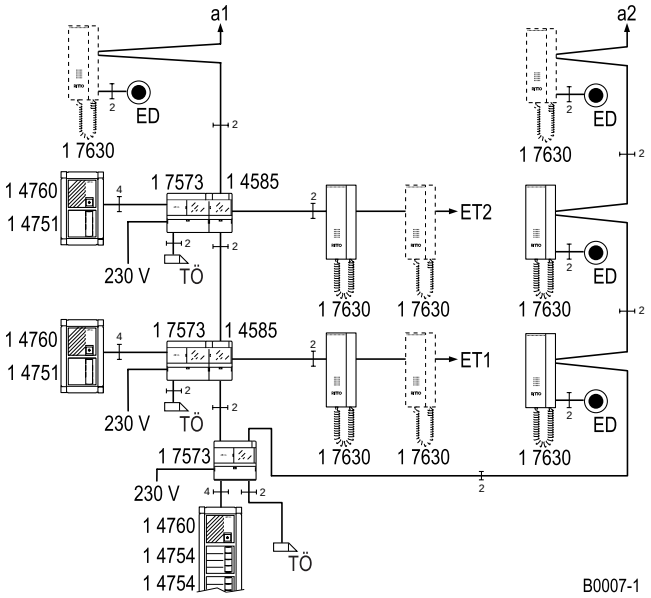
Circuit diagram: one or multiple-family residence with extension to two door stations.

Starting up

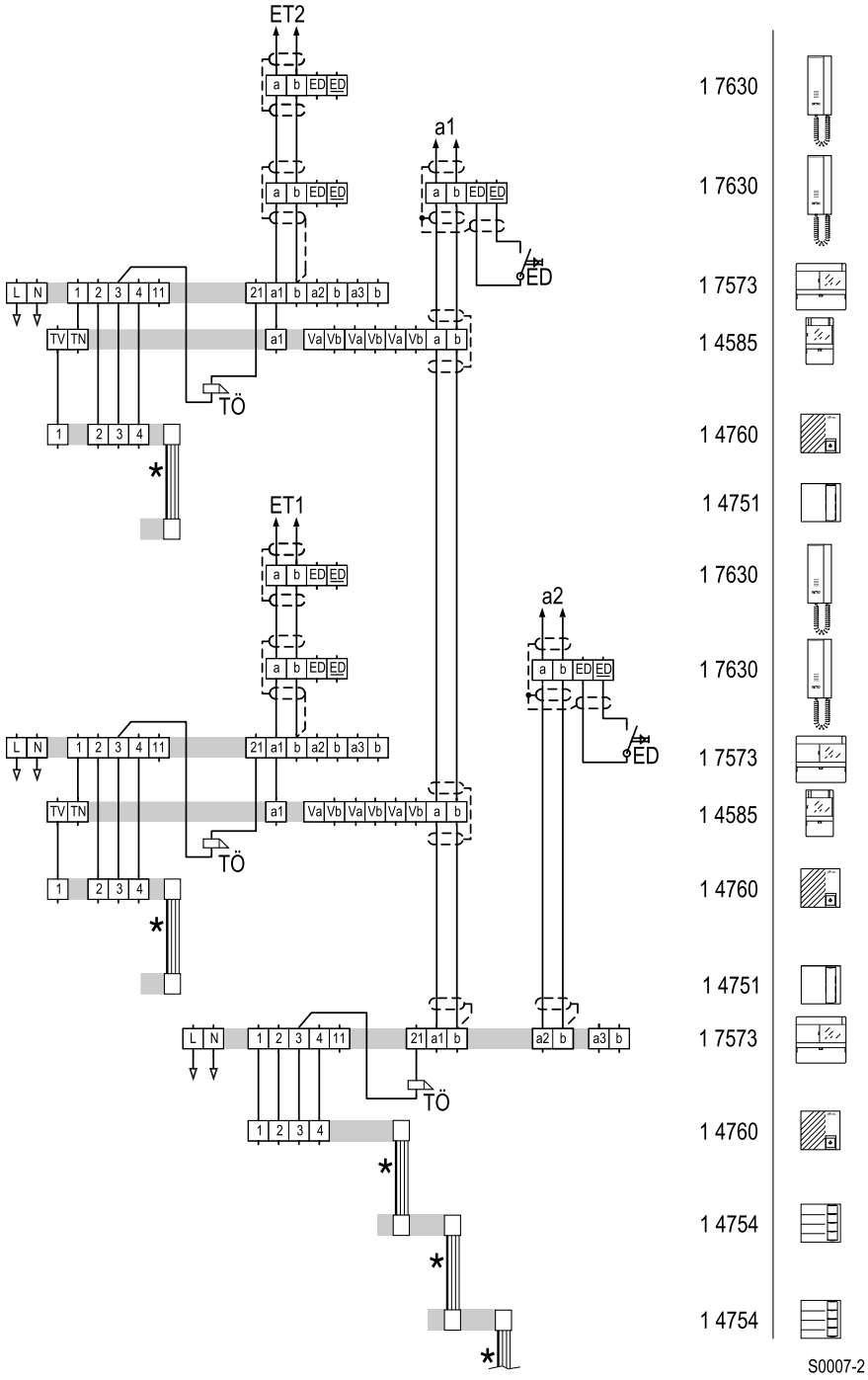
Operation	Device
1. Switch on	Customer line safety switch
2. Deactivate[1] adjustment protection	TwinBus power supply unit 1 7573
3. Activate door station	Door selector switch 1 4982
4. Programming the main doorbell[2]	Assign door station and intercoms
5. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
6. Activate adjustment protection if required	TwinBus power supply unit 1 7573

1) Deactivated by the contractor.
2) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

Multi-family and office building with separate floor access door stations



Block diagram: multi-family and office building with separate floor access door stations.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: multi-family and office building with separate floor access door stations.

Starting up

Operation	Device
1. Switch on	Customer line safety switch
2. Delete power supply unit memory	TwinBus power supply units 1 7573 for main bus line and floor lines
3. Deactivate adjustment protection[1)]	TwinBus power supply units 1 7573 for main bus line and floor lines
4. Activate self-programming mode[2)]	Floor control unit 1 4585
5. Activate door station[3)]	Door selector switch 1 4982
6. Programming the main doorbell[4)]	Assign main door station and intercoms to main bus line and floor line
7. Deactivate self-programming mode	Floor control unit 1 4585
8. Program apartment doorbells[4)]	Floor door station and intercom units
9. Program switching device[3)]	Switching device 1 4981
10. Adjust door opening time	TwinBus power supply unit 1 7573 at floor and main door, default value 3 s
11. Activate adjustment protection if required	TwinBus power supply unit 1 7573 for main bus line and floor lines

1) Deactivated by the contractor.
2) Operations 3 to 8 must be repeated for each floor line.
3) Optional.
4) More information can be found in the indoor telephone “Start-up” section starting on page☞ **33**.

2.2 Door intercom systems with internal speech communication

The assembly, connection and start-up of a TwinBus system depends on the design of the system and the type of TwinBus devices that are used. Information on how to carry out the work can be found in the following. More information can be found in the descriptions of the individual TwinBus devices.

2.2.1 Assembly and connection

Electrical voltage

Risk of electric shock.
Risk of burning.
Damage to equipment and malfunctions.

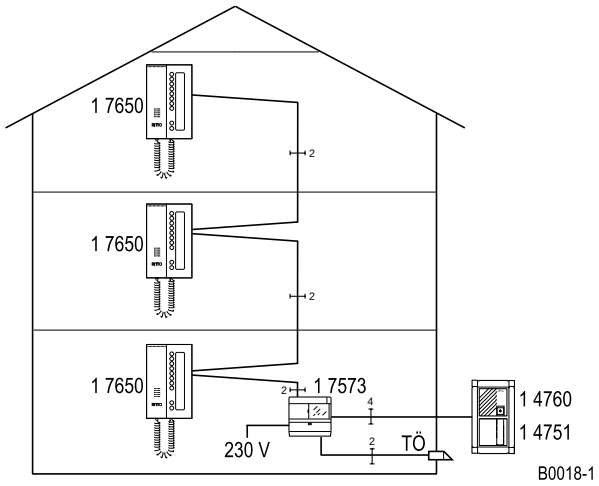
Countermeasures:

- Isolate all live cables before starting the work.
- Protect the switched-off lines from being mistakenly switched on again.
- Test that the power is off. Earth and short-circuit..
- Cover up neighbouring live parts.
- All work and electrical connections must comply with the national regulations of the respective country (e.g. the VDE regulations in Germany) and be carried out by appropriately trained experts.

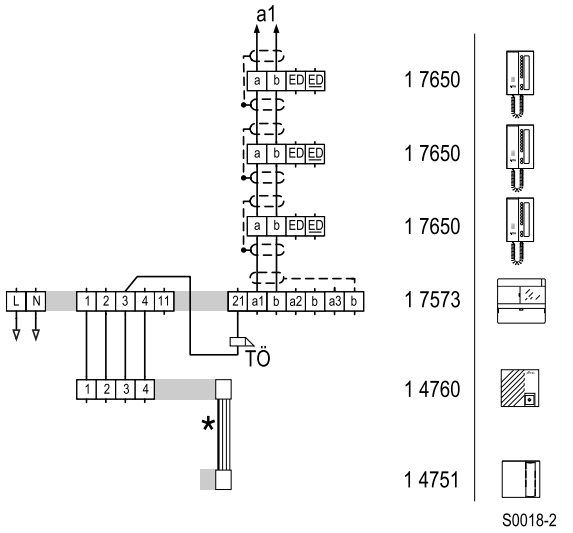
2.2.2 Starting up

The information on the initial start-up and expansion of a TwinBus door intercom system can be found on the pages that follow.

One or multi-family residence with one main bus line



Block diagram: one or multi-family residence with one main bus line.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: one or multi-family residence with one main bus line

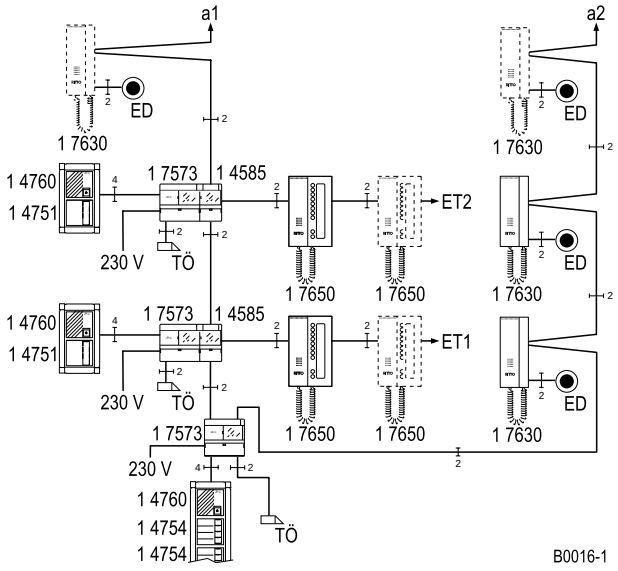
Starting up

Operation	Device
1. Switch on	Customer line safety switch
2. Deactivate adjustment protection[1)]	TwinBus power supply unit 1 7573
3. Programming the main doorbell[2)]	Assign door station and intercoms
4. Program internal call numbers	Intercom units with internal communication
5. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
6. Activate adjustment protection if required	TwinBus power supply unit 1 7573

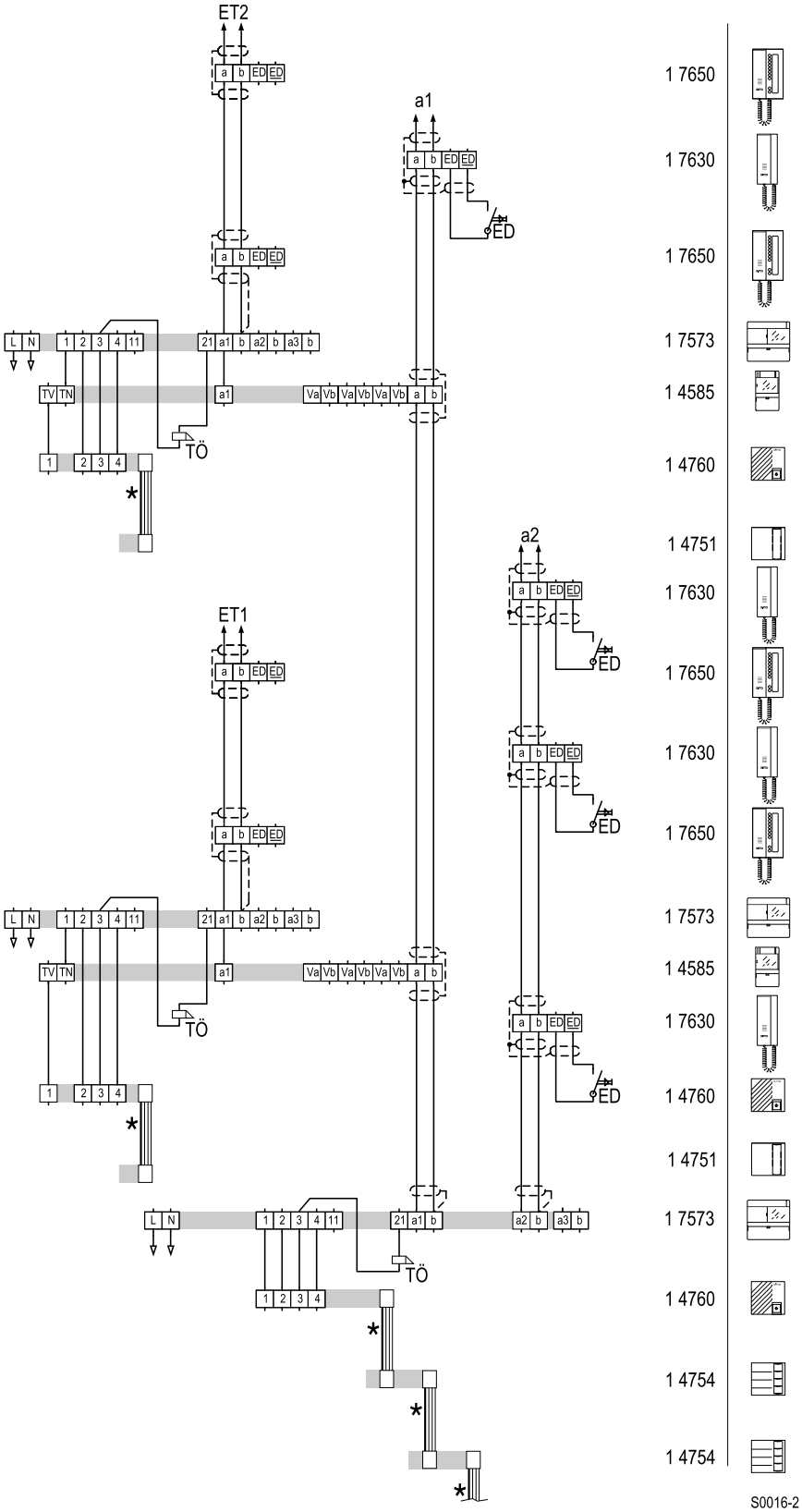
1) Deactivated by the contractor.

2) More information can be found in the indoor telephone “Start-up” section starting on page☞ **33**.

Multi-family and office building with separate floor access door stations



Block diagram: multi-family and office building with separate floor access door stations.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: multi-family and office building with separate floor access door stations.

Starting up

Operation	Device
1. Switch on	Customer line safety switch
2. Delete power supply unit memory[3)]	TwinBus power supply units 1 7573 for main bus line and floor lines
3. Deactivate adjustment protection[1)]	TwinBus power supply units 1 7573 for main bus line and floor lines
4. Activate self-programming mode[2)]	Floor control unit 1 4585
5. Activate door station[3)]	Door selector switch 1 4982
6. Programming the main doorbell[4)]	Assign main door station and intercoms to main bus line and floor line
7. Deactivate self-programming mode	Floor control unit 1 4585
8. Program apartment doorbells[4)]	Floor door station and intercom units
9. Program internal call numbers[4)]	Intercom units with internal communication
10. Program switching device[3)]	Switching device 1 4981
11. Adjust door opening time	TwinBus power supply unit 1 7573 at floor and main door, default value 3 s
12. Activate adjustment protection if required	TwinBus power supply unit 1 7573 for main bus line and floor lines

1) Deactivated by the contractor.
2) Operations 3 to 9 must be repeated for each floor line.
3) Optional.
4) More information can be found in the indoor telephone “Start-up” section starting on page☞ **33**.

2.3 Video-door intercom systems without internal speech communication

The assembly, connection and start-up of a TwinBus system depends on the design of the system and the type of TwinBus devices that are used. Information on how to carry out the work can be found in the following. More information can be found in the descriptions of the individual TwinBus devices.

2.3.1 Assembly and connection

Danger!

Electrical voltage

Risk of electric shock.
Risk of burning.
Damage to equipment and malfunctions.

Countermeasures:

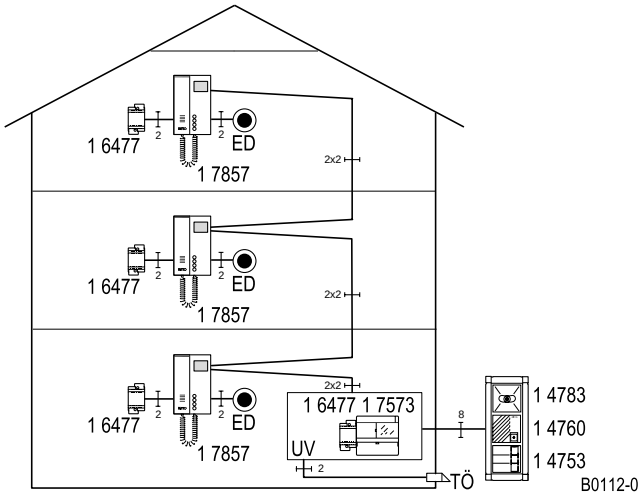
- Isolate all live cables before starting the work.
- Protect the switched-off lines from being mistakenly switched on again.
- Test that the power is off. Earth and short-circuit.
- Cover up neighbouring live parts.
- All work and electrical connections must comply with the national regulations of the respective country (e.g. the VDE regulations in Germany) and be carried out by appropriately trained experts.

Note:
The stranded video line Va/Vb can generally be laid in the cable with the screened a/b lines.
The last indoor video station in a video bus line must be terminated with a terminal resistor. Please follow the device instructions.

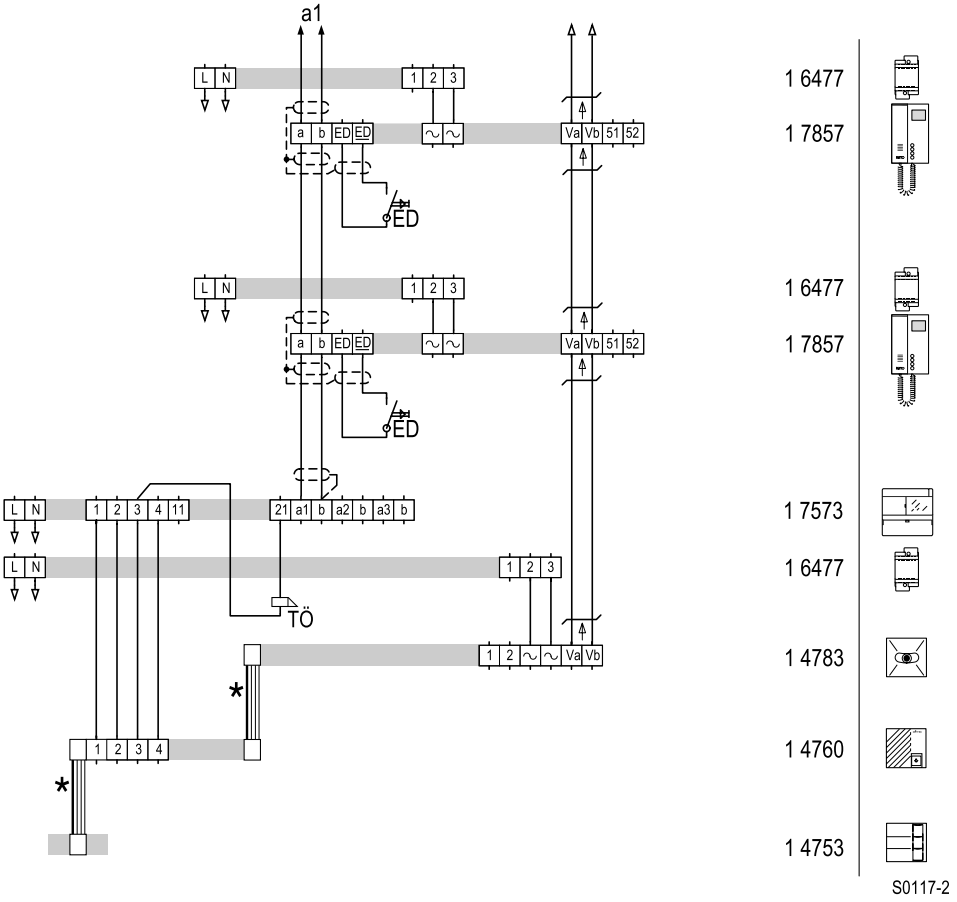
2.3.2 Starting up

The information on the initial start-up and expansion of a TwinBus door intercom system can be found on the pages that follow.

One or multi-family residence with one main bus line or internal communication



Block diagram: one or multi-family residence with one main bus line.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: one or multi-family residence with one main bus line.

Starting up

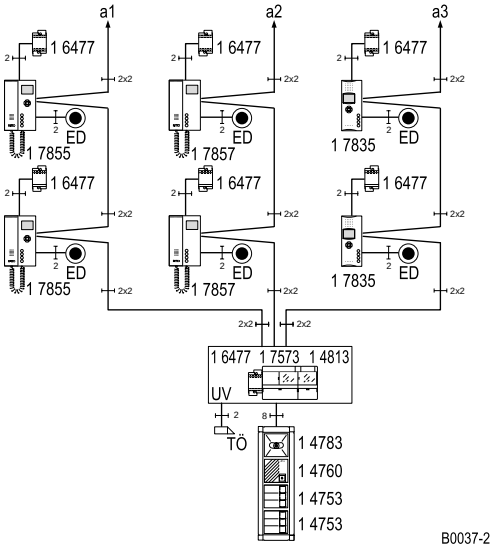
Operation	Device
1. Switch on	Customer line safety switch
2. Deactivate adjustment protection[1)]	TwinBus power supply unit 1 7573
3. Programming the main doorbell[2)]	Assigning main door station and intercom units
4. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
5. Activate adjustment protection if required	TwinBus power supply unit 1 7573

1) Deactivated by the contractor.

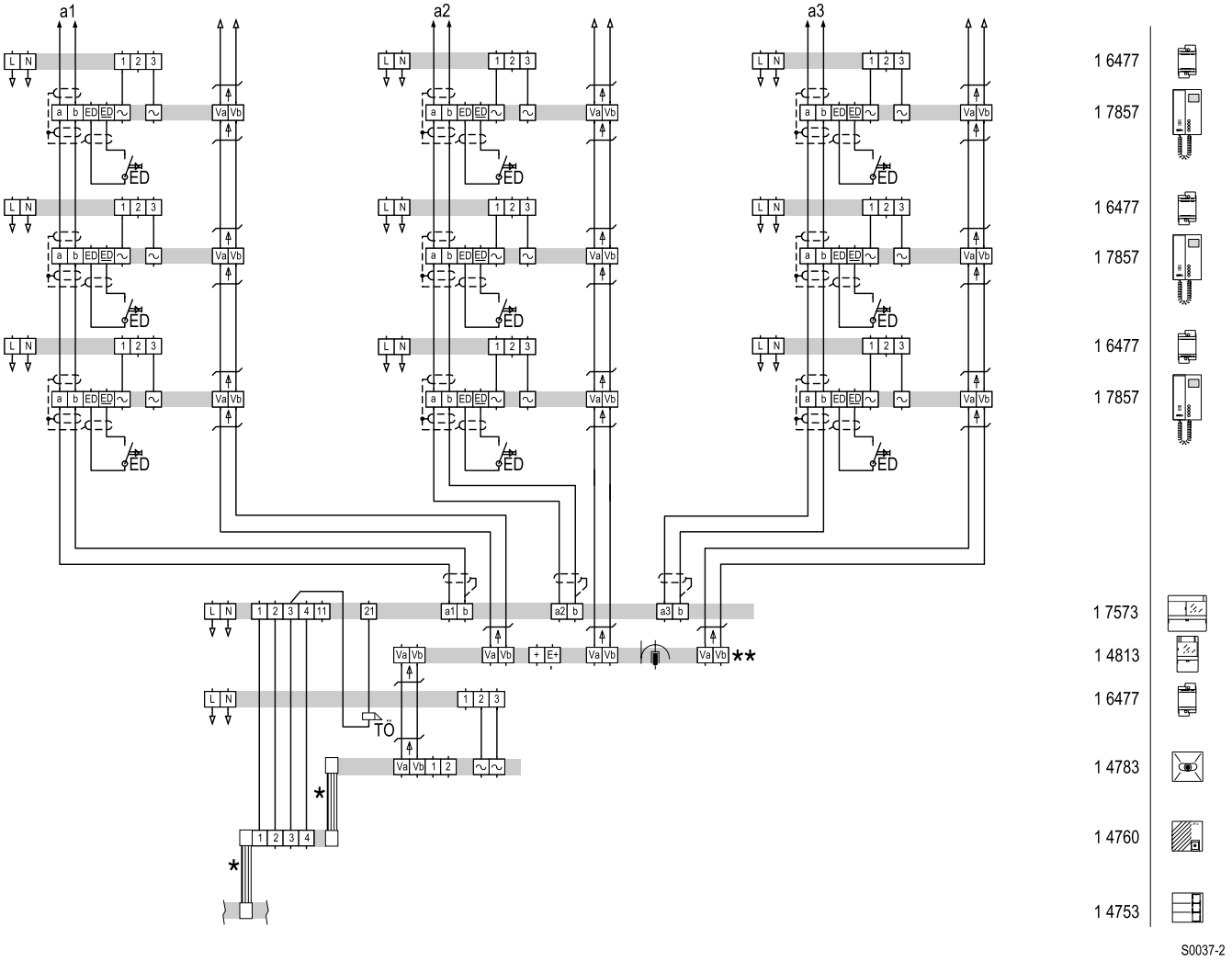
2) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

Note:
In TwinBus video door intercom systems that consist of no more than a colour camera 1 4783, 1 4787, 1 4788, 1 4789, 1 4883, 1 7652 and one video intercom unit 1 7835, 1 7845, 1 7855, 1 7857, power to both these devices can be supplied by the same mains transformer 1 6477.

Multi-family residence with three main bus lines and no internal communication



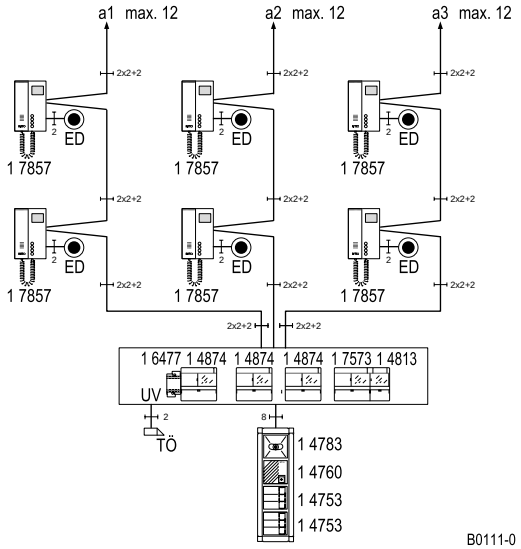
Block diagram: multi-family residence with three main bus lines and no internal communication (decentralised power feed).



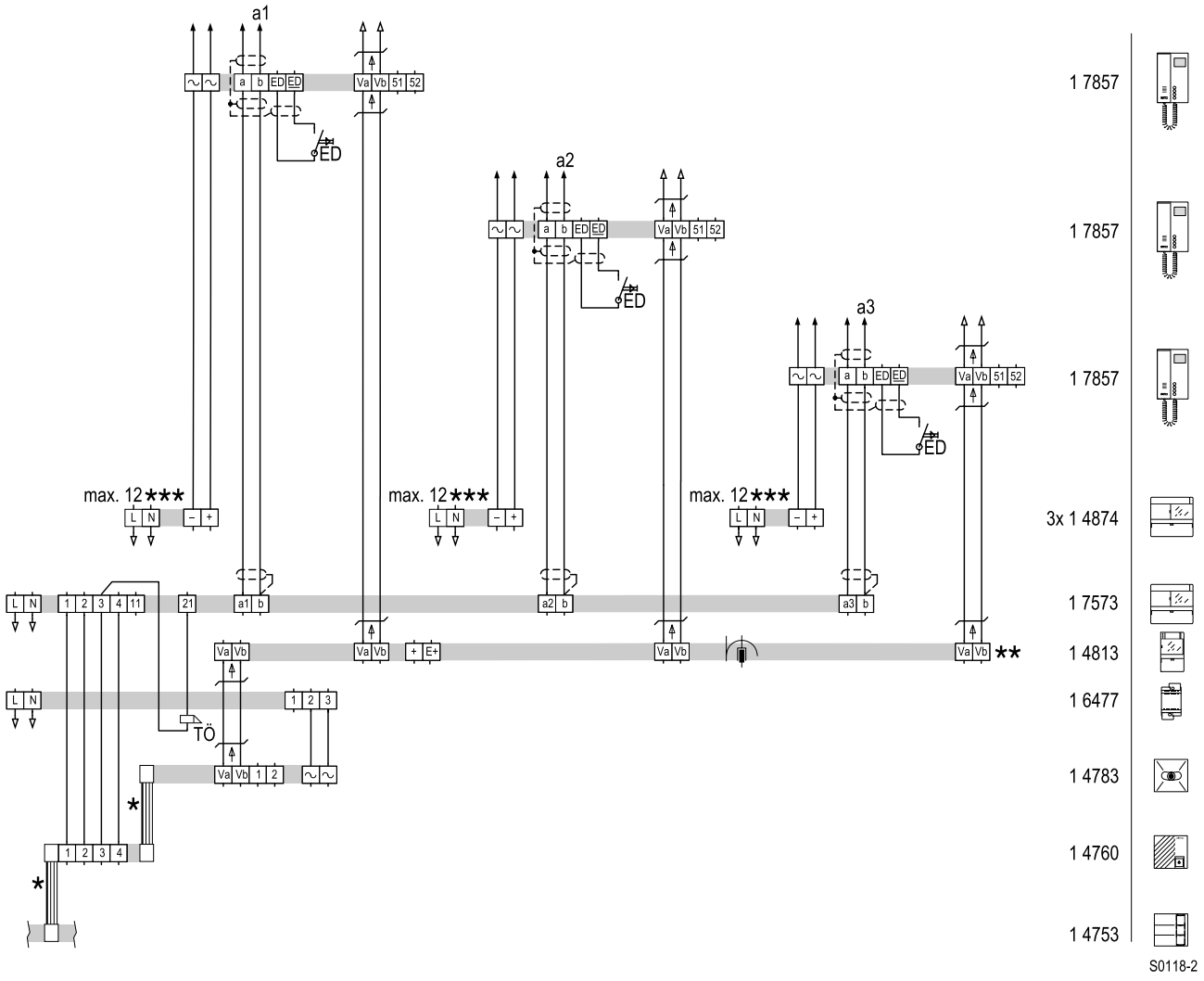
* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** Please note the system bus connection – see “System bus” on page ☞ **10**.

Circuit diagram: multi-family residence with three main bus lines (decentralised power supply).



Block diagram: multi-family residence with three main bus lines and no internal communication (central power feed).



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** Please note the system bus connection – see “System bus” on page ☞ **10**.

***Max. 12 indoor video stations (without manual switch-on rights and without parallel operation).

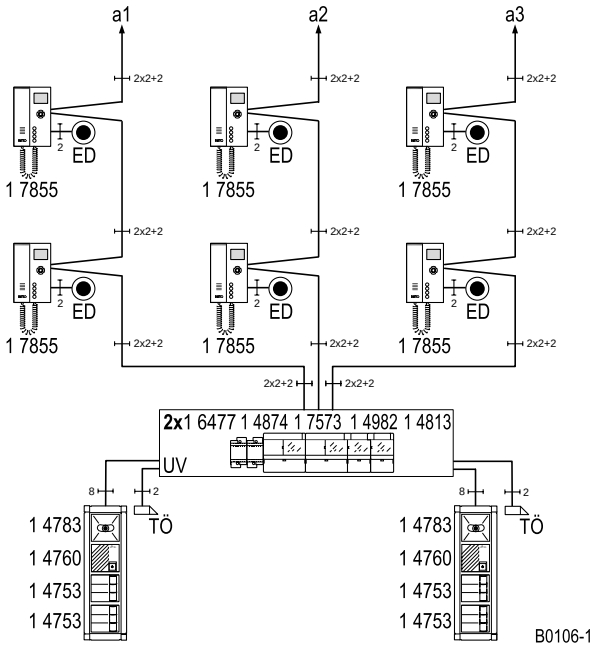
Circuit diagram: multi-family residence with three main bus lines (central power supply).

Starting up

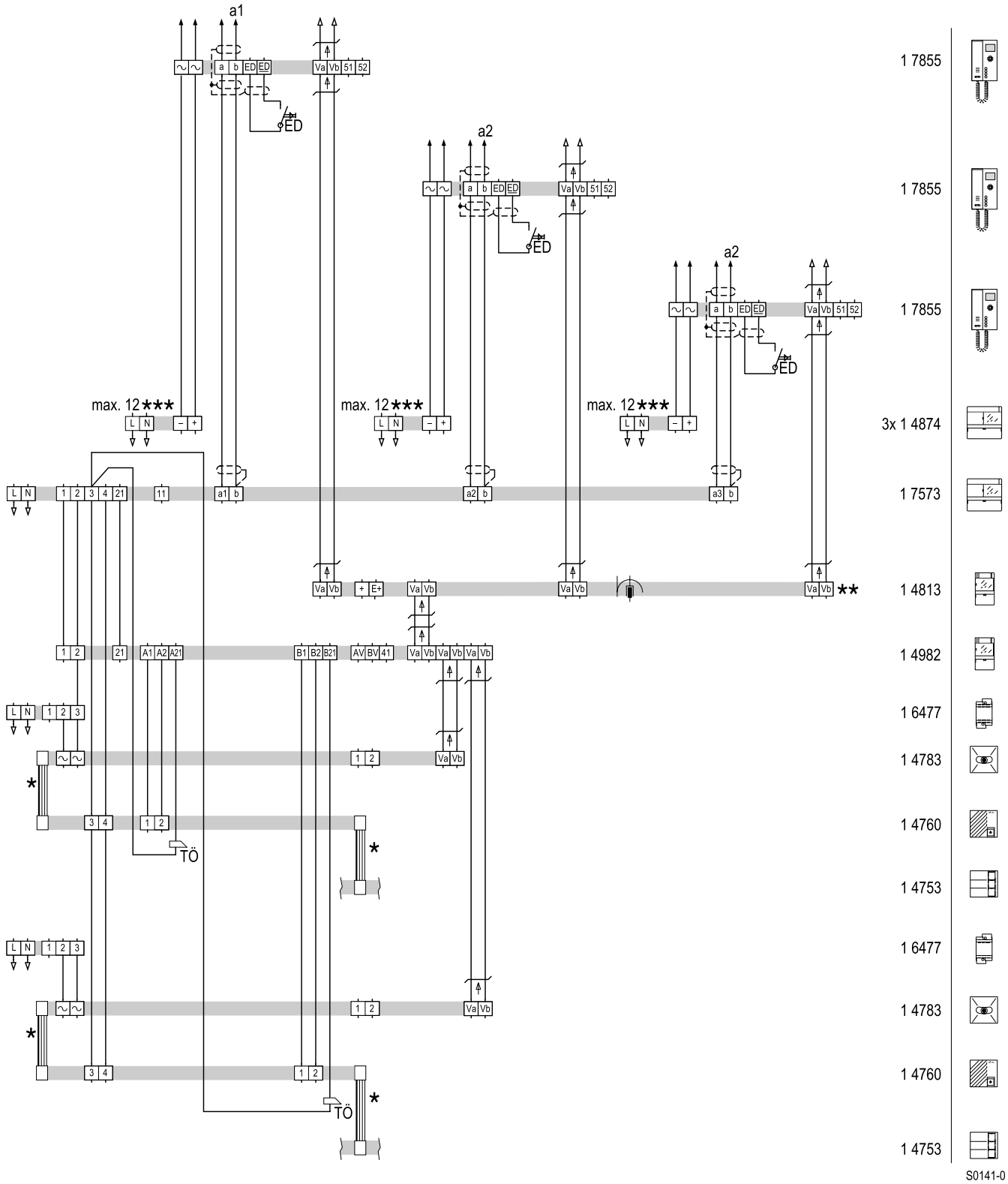
Operation		Device
1.	Switch on	Customer line safety switch
2.	Deactivate adjustment protection[1)]	TwinBus power supply unit 1 7573
3.	Programming the main doorbell[2)]	Assigning main door station and intercom units
4.	Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
5.	Activate adjustment protection if required	TwinBus power supply unit 1 7573

1) Deactivated by the contractor.
2) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

Multi-family residence with three main bus lines and 2 door stations



Block diagram: multi-family residence with three main bus lines and 2 door stations (central power feed).



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** Please note the system bus connection – see “System bus” on page ☞ **10**.

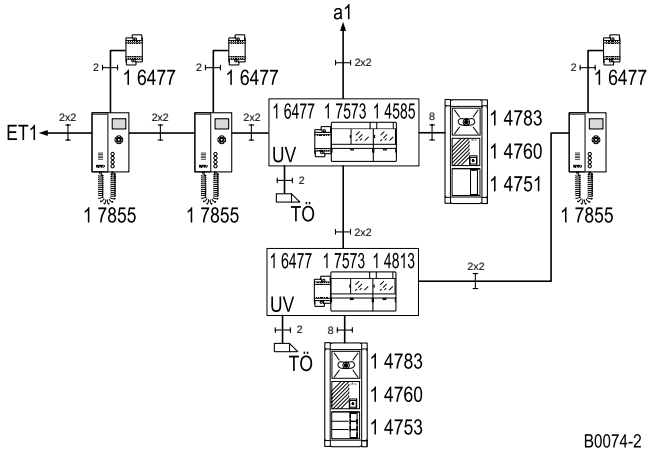
Circuit diagram: multi-family residence with three main bus lines and 2 door stations (central power feed)

Starting up

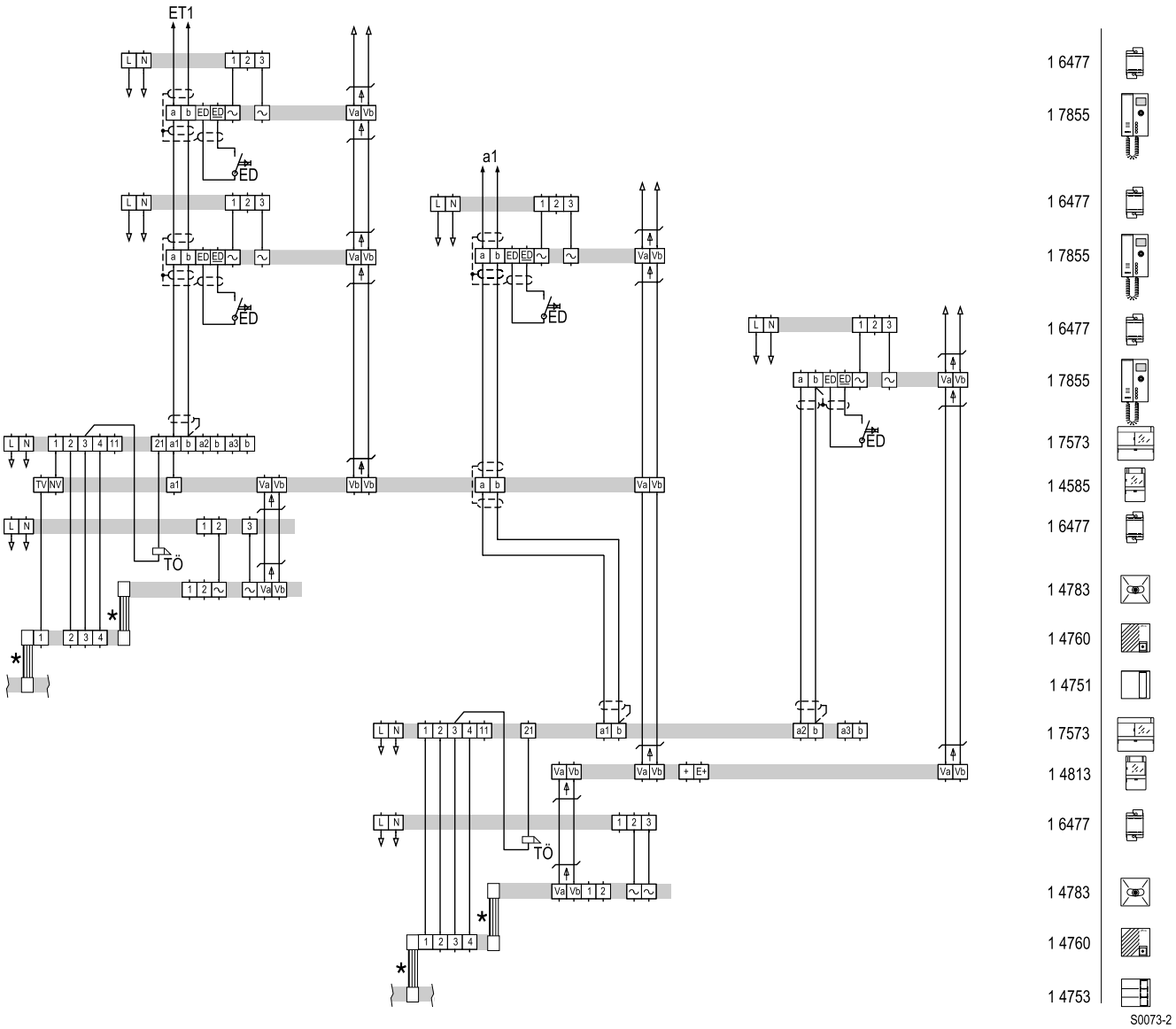
Operation	Device
1. Switch on	Customer line safety switch
2. Start device up[1)]	TwinBus video line distributor 1 4813
3. Deactivate[2)] adjustment protection	TwinBus power supply unit 1 7573
4. Activate door station	Door selector switch 1 4982
5. Programming the main doorbell[3)]	Assign door station and intercoms
6. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
7. Activate adjustment protection if required	TwinBus power supply unit 1 7573

1) Optional.
2) Deactivated by the contractor.
3) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

Multi-family and office building with separate floor access door stations without internal communication



Block diagram multi-family and office building with separate floor access door stations without internal communication.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** to 2nd apartment door

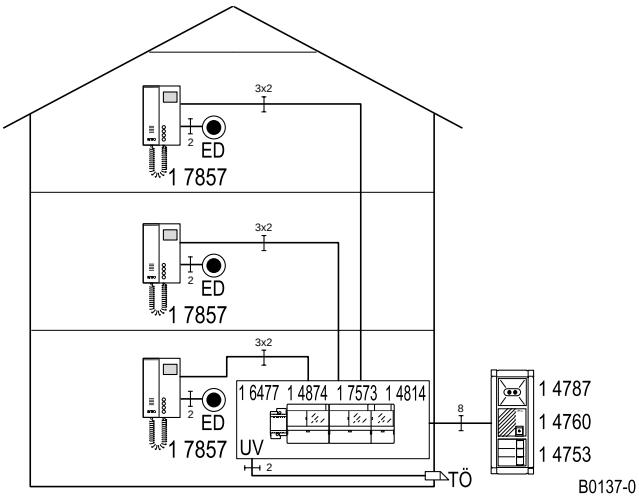
Circuit diagram: multi-family and office building with separate floor door stations (decentralised power feed)

Starting up

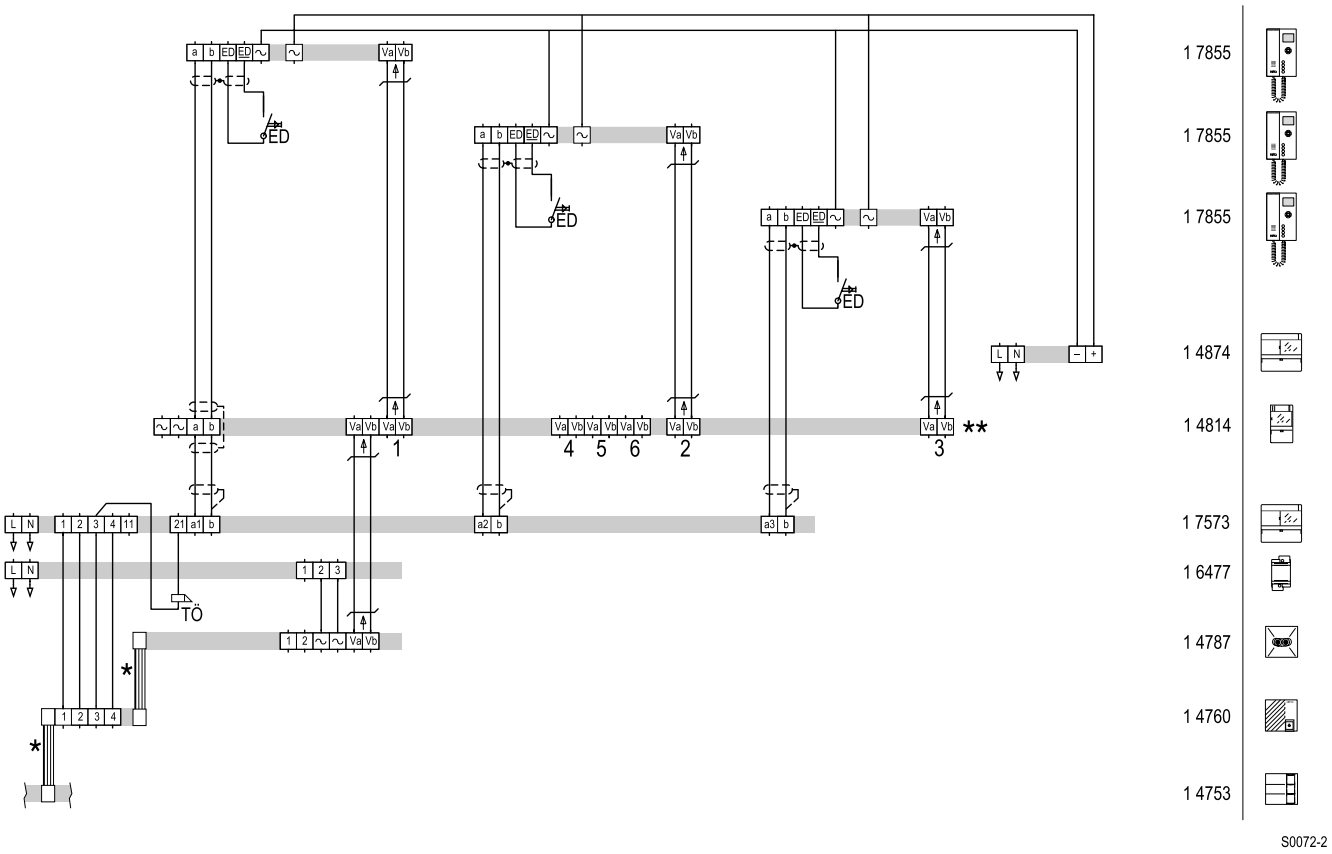
Operation	Device
1. Switch on	Customer line safety switch
2. Delete power supply unit memory	TwinBus power supply units 1 7573 for main bus line and floor lines
3. Start device up[1)]	TwinBus camera selector switch 1 4915 TwinBus video line distributor 1 4813 TwinBus coaxial connection adapter 1 4811
4. Deactivate adjustment protection[2)]	TwinBus power supply units 1 7573 for main bus line and floor lines
5. Activate self-programming mode[3)]	Floor control unit 1 4585
6. Activate door station[1)]	Door selector switch 1 4982
7. Programming the main doorbell[4)]	Assign main door station and intercoms to main bus line and floor line
8. Deactivate self-programming mode	Floor control unit 1 4585
9. Program apartment doorbells	Floor door station and intercom units
10. Program switching device[1)]	Switching device 1 4981
11. Adjust door opening time	TwinBus power supply unit 1 7573 at floor and main door, default value 3 s
12. Activate adjustment protection if required	TwinBus power supply unit 1 7573 for main bus line and floor lines

1) Optional.
2) Deactivated by the contractor.
3) Operations 4 to 9 must be repeated for each floor line.
4) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

Video-door intercom system with line switch (star-shaped wiring)



Block diagram: video-door intercom system with line switch.



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** Please note the system bus connection – see “The System bus” on page ☞ **10**.

Circuit diagram: video door intercom system with line switch (central power supply)

Starting up

Operation	Device
1. Switch on	Customer line safety switch
2. Delete power supply unit memory	TwinBus power supply unit 1 7573
3. Deactivate[1)] adjustment protection	TwinBus power supply unit 1 7573
4. Activate self-programming mode	TwinBus line switch 1 4814
5. Programming the main doorbell[2)]	Assign door station and intercoms
6. Deactivate self-programming mode	TwinBus line switch 1 4814
7. Adjust door opening time	TwinBus power supply unit 1 7573, default value 3 s
8. Activate adjustment protection if required	TwinBus power supply unit 1 7573

1) Deactivated by the contractor.

2) More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

2.4 Video-door intercom systems with internal speech communication

Assembly, connection and start-up are the same as for a video door intercom system without internal speech communication. Please follow chapter 2.3.

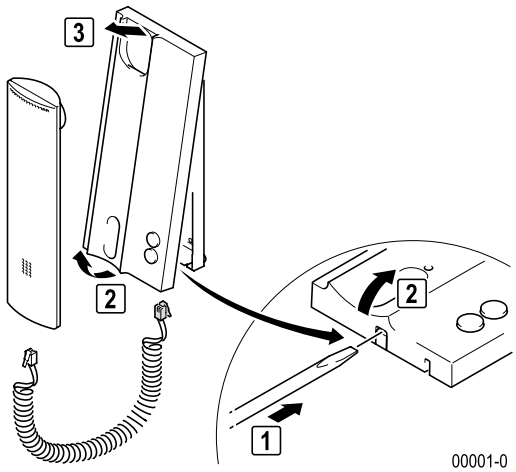
As an additional operation, you must program the internal call number into the indoor video stations or the handsfree video intercom units. More information can be found in the indoor video station “Start-up” section starting on page☞ **46**.

2.5 Indoor telephones, indoor video stations and intercom units

2.5.1 TwinBus indoor telephone 1 7630

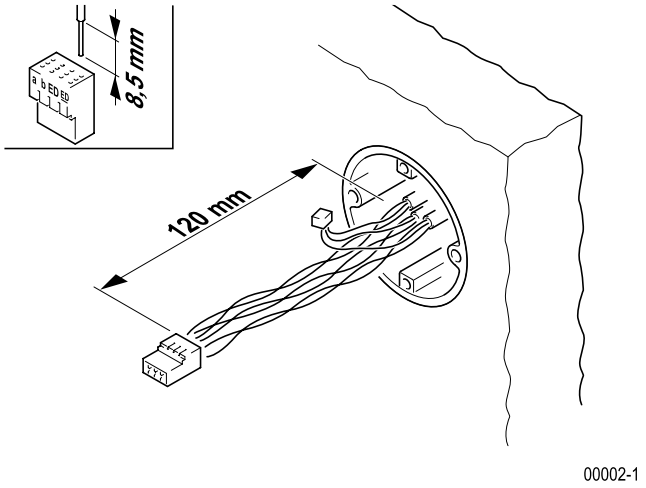
Assembly

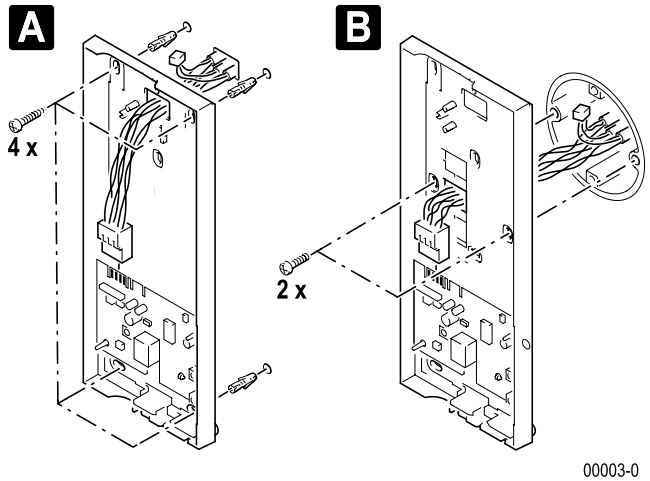
- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device. The operating instructions are printed on the packaging or are enclosed with the unit.

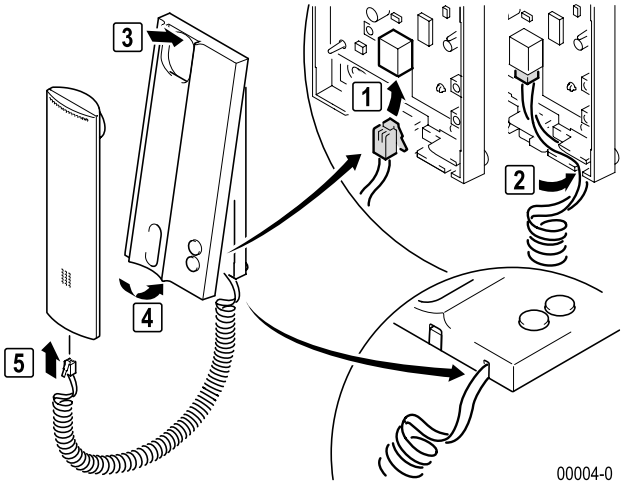


Surface-mounted

- Please remove the clamp from the packaging.

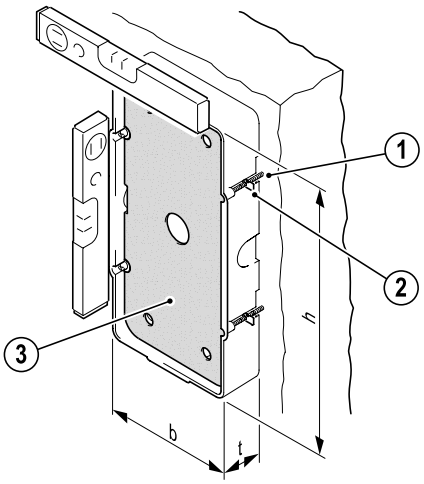






Concealed and cavity wall installation

- Plaster in a 1 7320 flush-mounted frame or attach it using the enclosed cavity wall clamps.

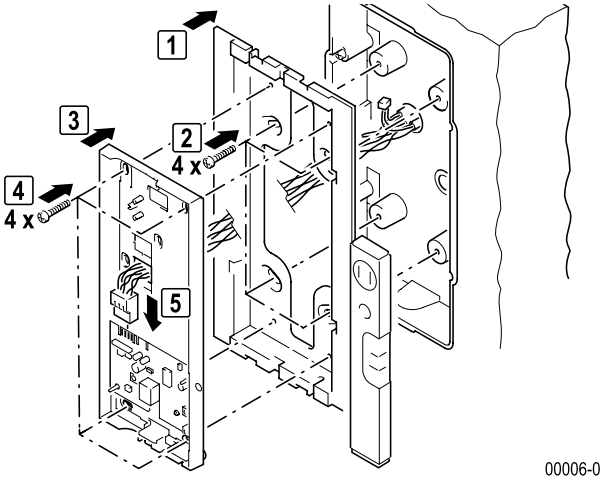


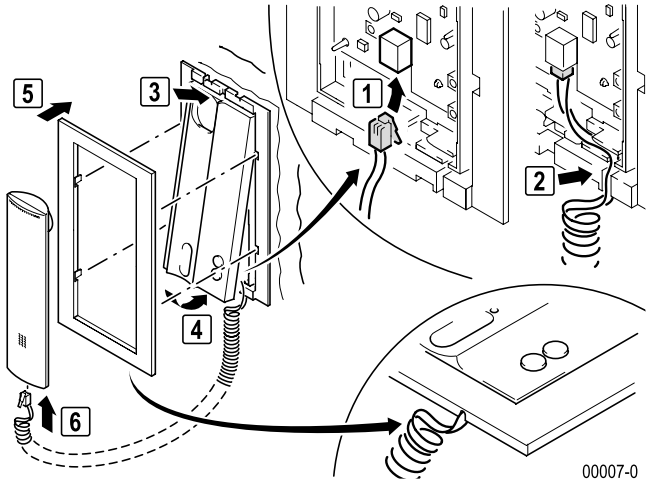
1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

h: 242 mm
b: 122 mm
t: 35 mm

Note:

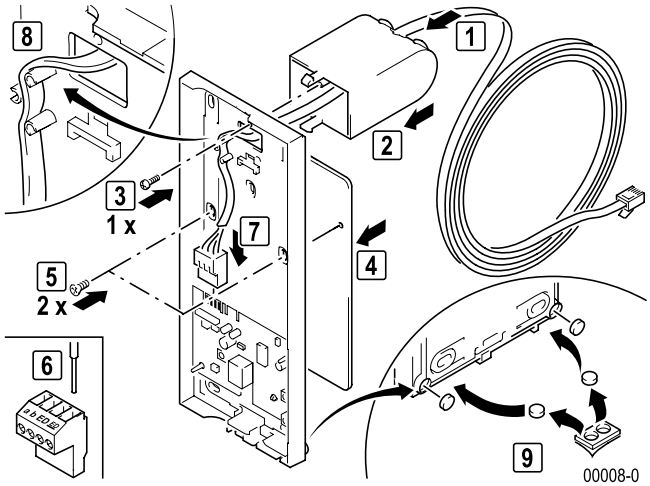
- The plastering protection (3) in the concealed box provides protection from soiling. It should only be removed just before the telephone is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.





Installation as desktop unit

A desktop console 1 7310 and an IAE/UAE box with 8 or 4 are required for installation.



- Connect and install IAE box as shown in table.

Note:

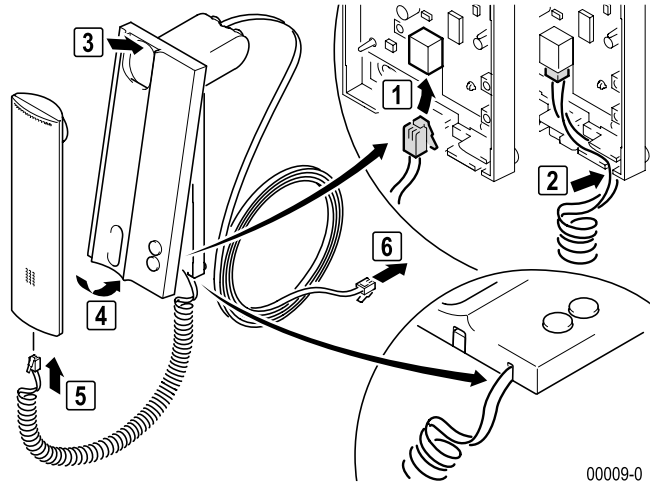
- The white and pink wires can be used for expansion functions.
- Use the enclosed screw clamp for desktop installation.

7310 connection line conductor colour	TwinBus clamp	IAE8	IAE4
white	–	2	–
brown	a	3	3
green	b	4	4
yellow	ED	5	5
grey	ED	6	6
pink	–	7	–

Caution!

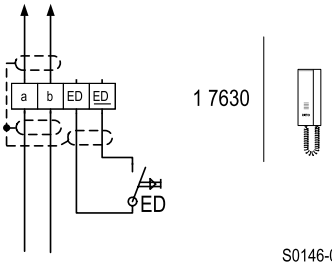
Damage to device.

The western connector of the handset must not be inserted into sockets from other manufacturers or systems.



Connection

Standard connection



Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- Button adapter 1 4645 must be used when multiple indoor telephones operated in parallel are to react to one apartment button (ED).

Starting up

Start-up can take place using the indoor telephone or the apartment button. Start-up using the apartment button is useful if you do not have access to the residential unit.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

The intercom can be used for start-up with two persons.

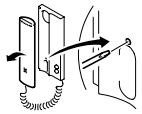
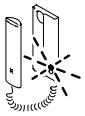
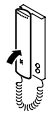
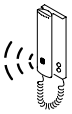
Adjustment protection

The TwinBus power supply unit can be used to give the connected intercom units a setting protection to prevent them from being changed inadvertently - see page ☞ **100**.

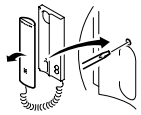
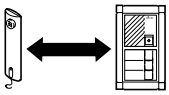
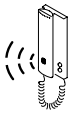
A negative acknowledge tone when the setting button is pressed is an indication that the adjustment protection facility has been activated.

Starting up using the indoor telephone

One-man start-up

Activity	Result
 >Press and hold for 5 s until	  flashes
 Within one minute, press the button to be assigned on the door station 	  acoustic signal for confirmation at indoor telephone and door station

Two-man start-up

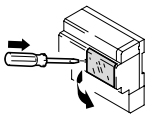
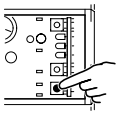
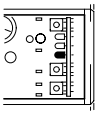
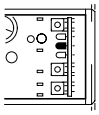
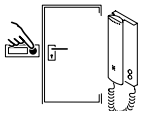
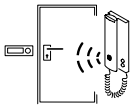
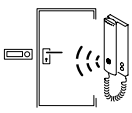
Activity	Result
 >Press and hold for 5 s until	  flashes
 announce button to be assigned via speech connection	
 Within one minute, press the button to be assigned on the door station 	  acoustic signal for confirmation at indoor telephone and door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the telephone memory is full. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at indoor telephone
 Within one minute, press the button to be assigned on the door station	  acoustic signal for confirmation at indoor telephone and door station

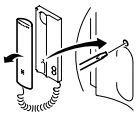
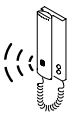
✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the telephone memory is full. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note down any existing customer settings before deleting the settings.

Activity	Result
 +  Press and hold for 5 s until	  Acoustic signal for confirmation

✔ Short tone: Settings have been deleted.
☹ Long tone: Settings have not been deleted.

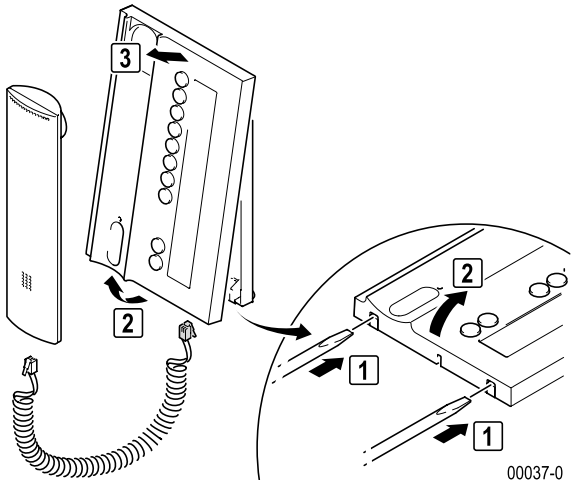
If the settings have not been deleted:

- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- Repeat the procedure.

2.5.2 TwinBus comfort indoor telephone 1 7650

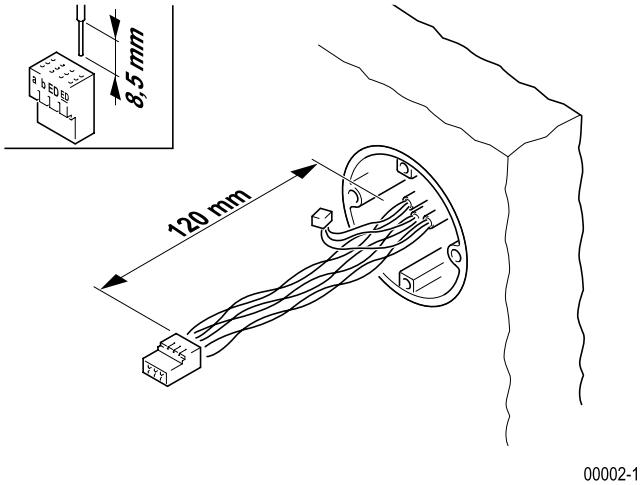
Assembly

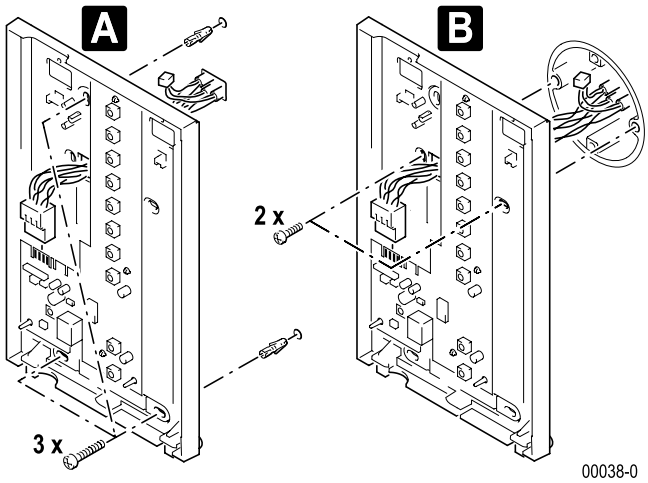
- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device. The operating instructions are printed on the packaging or are enclosed with the unit.



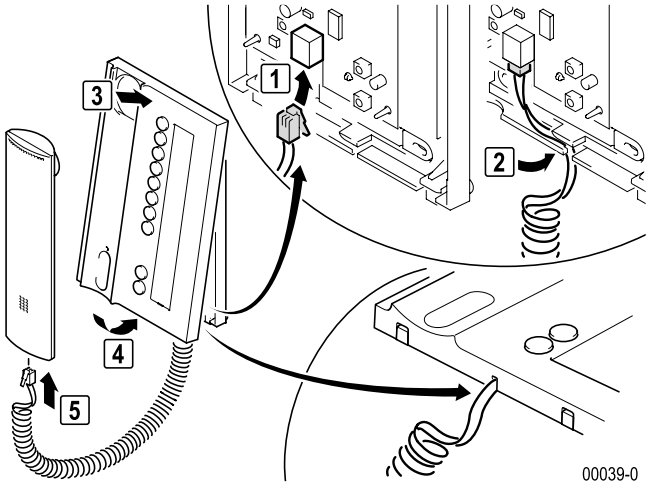
Surface-mounted

- Please remove the clamp from the packaging.



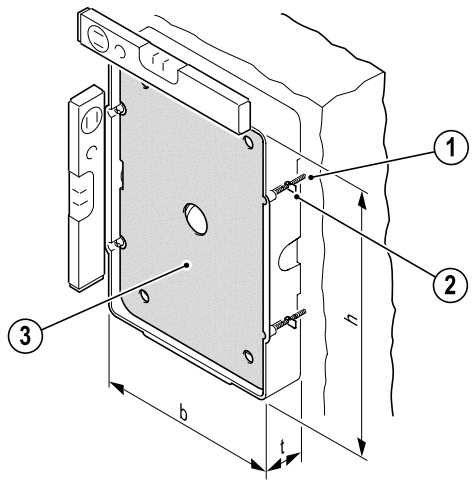


A **Wall mounting** **B** **Switch box mounting**



Concealed and cavity wall installation

A flush-mounted frame 1 7321 is required for installation. The flush-mounted frame is plastered in or attached using the provided cavity wall clamps.



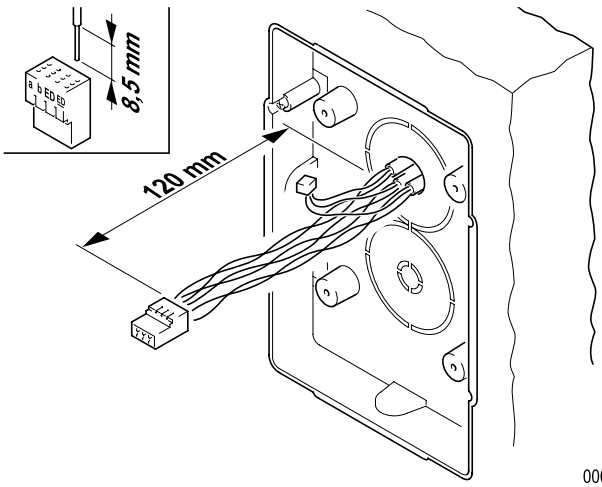
00055-0

1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

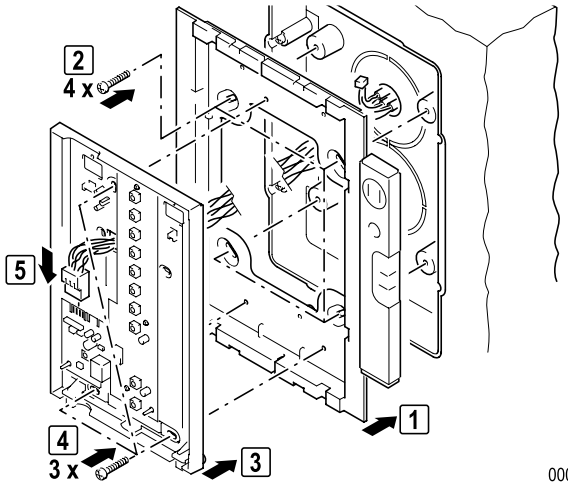
h: 242 mm
b: 169.5 mm
t: 35 mm

Note:

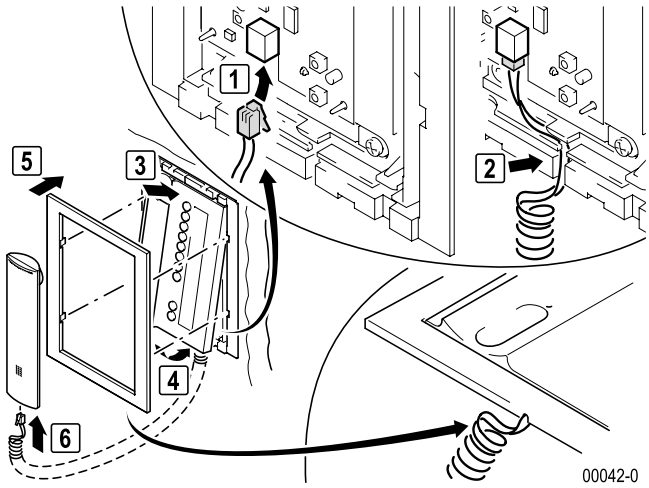
- The plaster protection (3) provides protection from soiling.
  It should only be removed just before the telephone is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.



00040-1

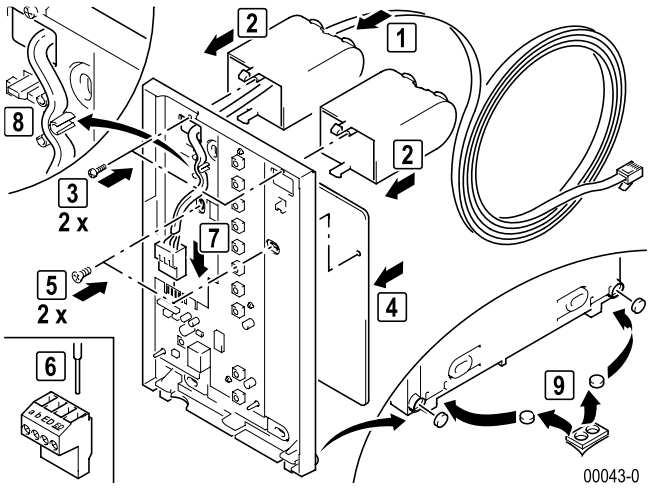


00041-0


1
2
3
4
5
6
00042-0

Installation as desktop unit

A desktop console 1 7310 and an IAE/UAE box with 8 or 4 are required for installation.



- Connect and install IAE box as shown in table.

Note:

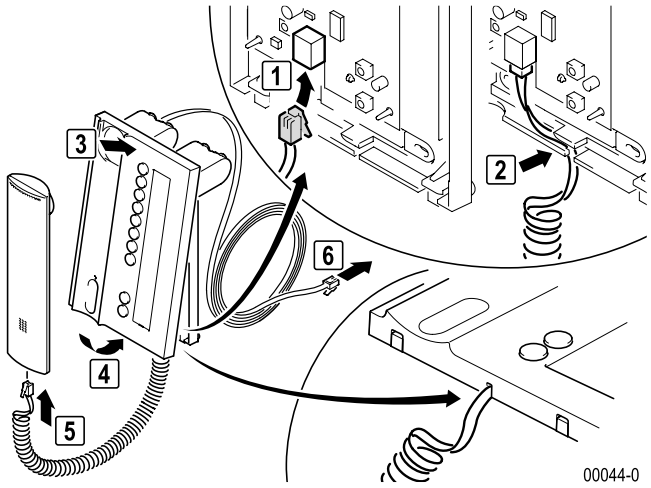
- The white and pink wires can be used for expansion functions – see “TwinBus call interface relay 7646” 1 7646“ on page ☞ **93**.
- Use the enclosed screw clamp for desktop installation.

7311 connection line conductor colour	TwinBus clamp	IAE8	IAE4
white	–	2	–
brown	a	3	3
green	b	4	4
yellow	ED	5	5
grey	ED	6	6
pink	–	7	–

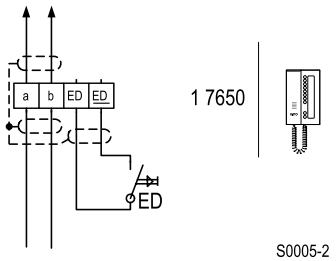
Caution!

Damage to device.

The western connector of the handset must not be inserted into sockets from other manufacturers or systems.



Connection



Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- Button adapter 1 4645 must be used when multiple indoor telephones operated in parallel are to react to one apartment button (ED).

Starting up

Start-up can take place using the indoor telephone or the apartment button. Start-up using the apartment button is useful if you do not have access to the residential unit.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

The intercom can be used for start-up with two persons.

An internal call number must be assigned to each indoor telephone for internal communication. When the internal call number is programmed, the indoor telephone is known to all subscribers connected to the bus line. For example, subscriber 1 is selected by all other subscribers using the button that has been assigned to subscriber 1 as the internal call number. Please label the labelling field of all indoor telephones accordingly – see “Operation, comfort indoor telephone 1 7650“ on page ☞ **160**.

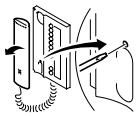
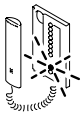
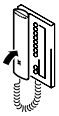
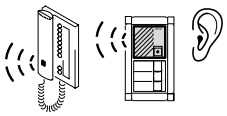
Adjustment protection

The TwinBus power supply unit can be used to give the connected intercom units a setting protection to prevent them from being changed inadvertently - see page ☞ **100**.

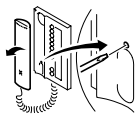
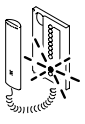
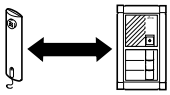
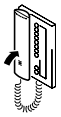
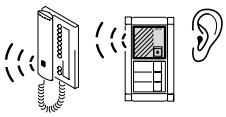
A negative acknowledge tone when the setting button is pressed is an indication that the adjustment protection facility has been activated.

Starting up using the indoor telephone

One-man start-up

Activity	Result
 >Press and hold for 5 s until	  flashes
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor telephone and door station

Two-man start-up

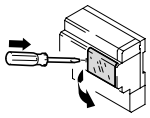
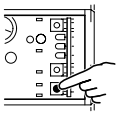
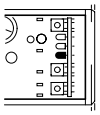
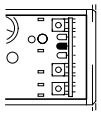
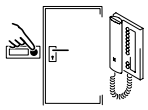
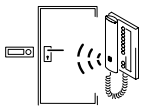
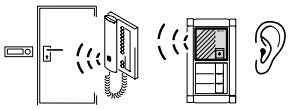
Activity	Result
 >Press and hold for 5 s until	  flashes
 announce button to be assigned via speech connection	
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor telephone and door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the telephone memory is full. If necessary, delete all settings and reprogram the pushbutton that is needed.

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at indoor telephone
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at indoor telephone and door station

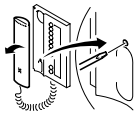
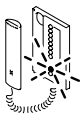
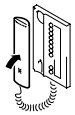
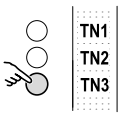
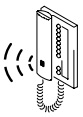
✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

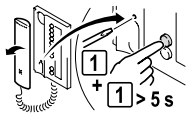
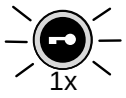
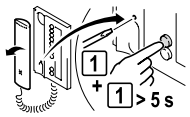
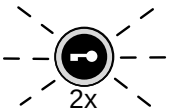
If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the telephone memory is full. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Internal settings

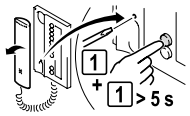
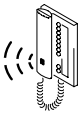
For internal speech communication the indoor telephone must be assigned its own call number. Shown on example of subscriber 3 (TN 3).

Activity	Result
Internal call number	
 >Press and hold for 5 s until	  flashes
	
 Assigning internal call numbers	  acoustic signal for confirmation at indoor telephone

Activity	Result
Automatic door opening (Portamat)	
 >Press and hold for 5 s until	 ON (illuminates)
 >Press and hold for 5 s until	 OFF (flashes)

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note down any existing customer settings before deleting the settings.

Activity	Result
 >Press and hold for 5 s until	  acoustic signal for confirmation at indoor telephone

✔ Short tone: Settings have been deleted.
☹ Long tone: Settings have not been deleted.

If the settings have not been deleted:

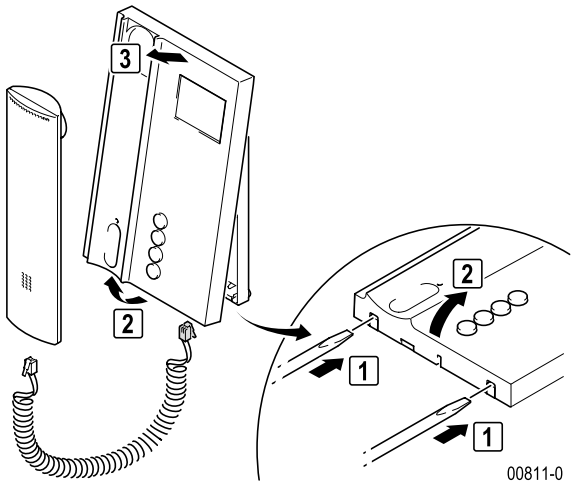
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- Repeat the procedure.

2.5.3 TwinBus indoor video station 1 7857

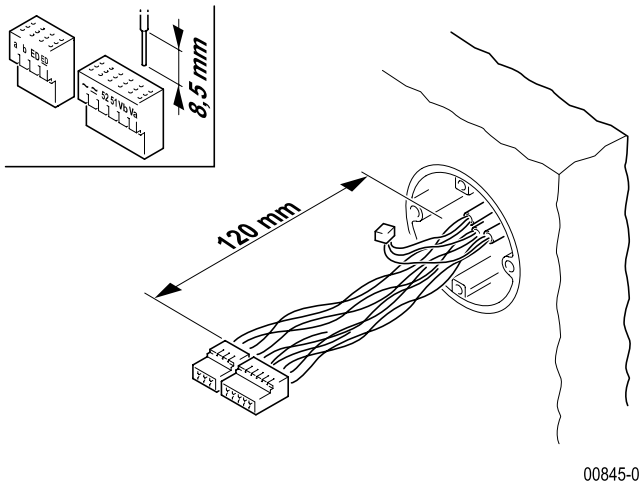
Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device. The operating instructions are enclosed with the device.

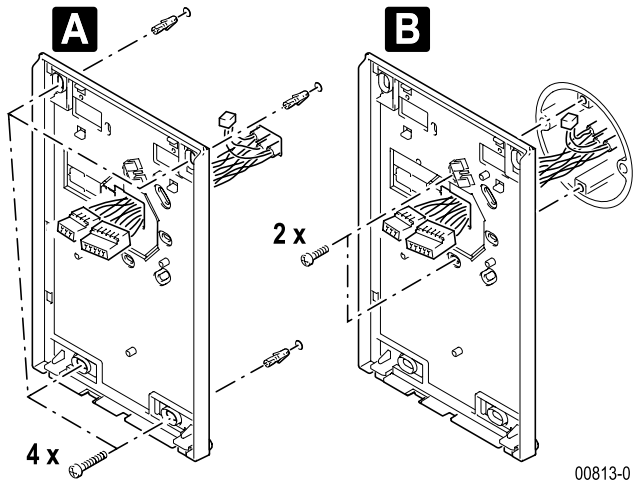
Note:
Before closing the housing, set the terminal resistor to the correct settings – refer "Activate the terminal resistor using the DIP switch on the device" to page 50.



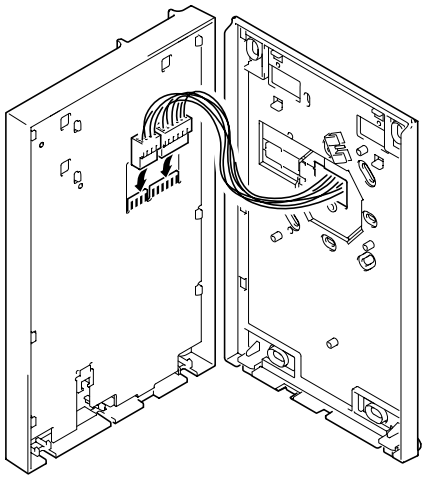
Surface-mounted



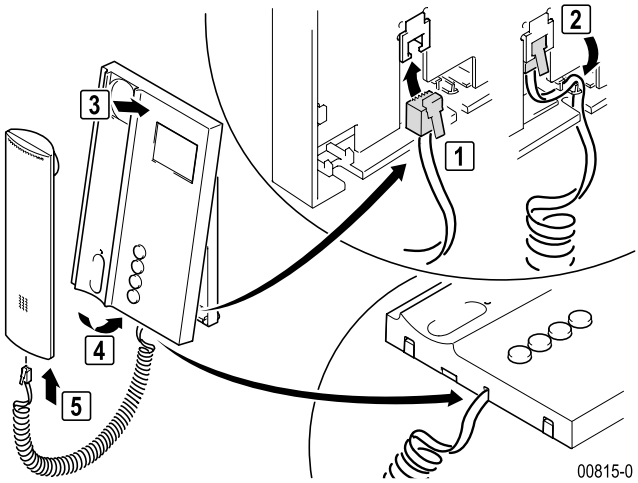
Recommendation:
Use a chipboard screw with a flat countersunk head 4.0 x 35 mm and a matching universal dowel 6 x 35 mm.



A **Wall mounting** **B** **Switch box mounting**



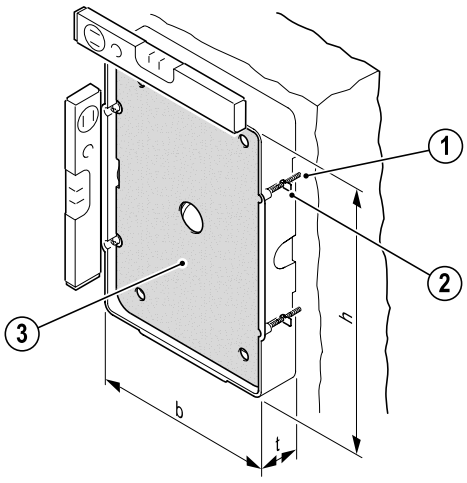
00814-0



00815-0

Concealed and cavity wall installation

A flush-mounted frame 1 7321 is required for installation. The flush-mounted frame is plastered in or attached using the provided cavity wall clamps.



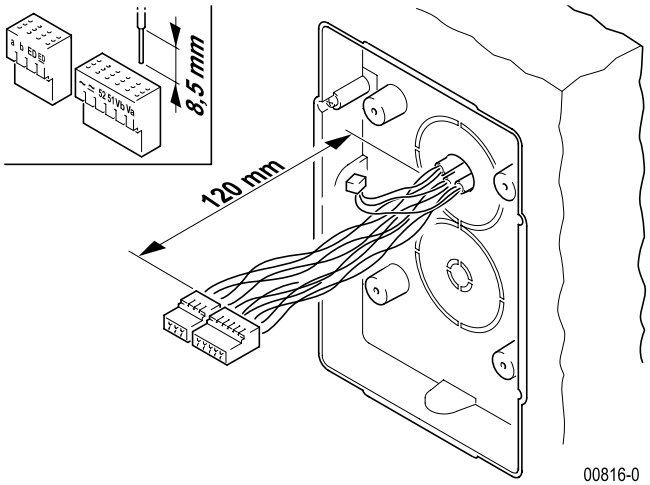
00055-0

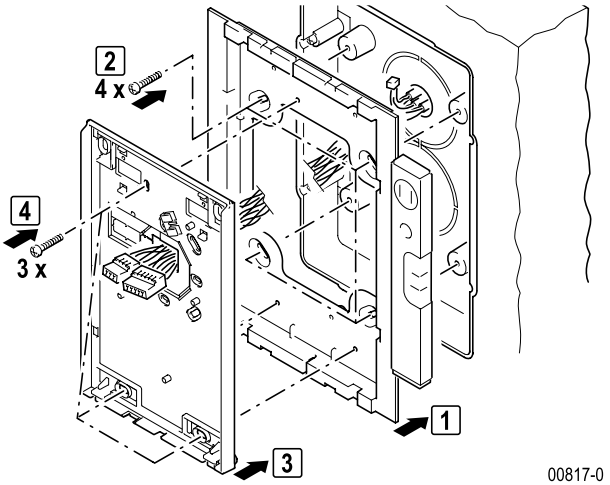
1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

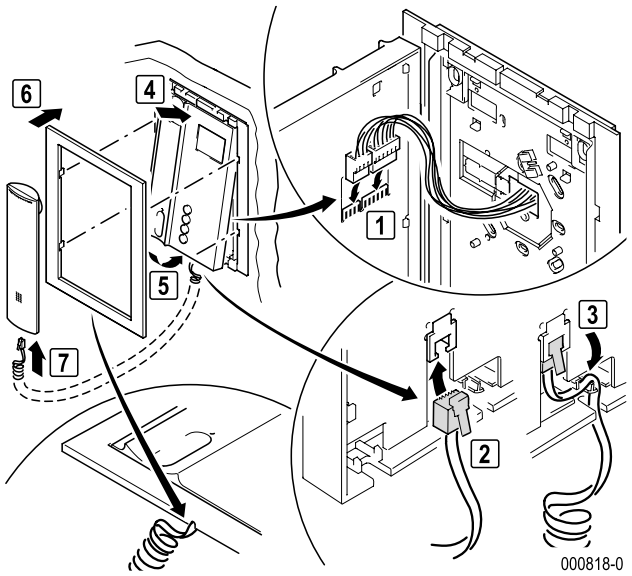
h: 242 mm
b: 169.5 mm
t: 35 mm

Note:

- The plaster protection (3) provides protection from soiling. It should only be removed before the video indoor station is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.

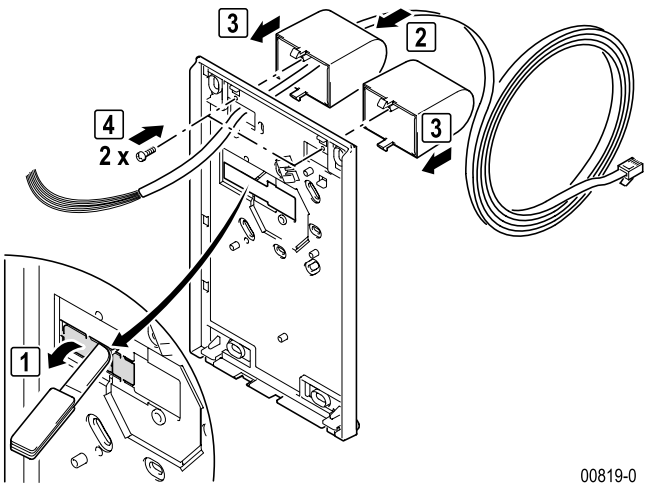


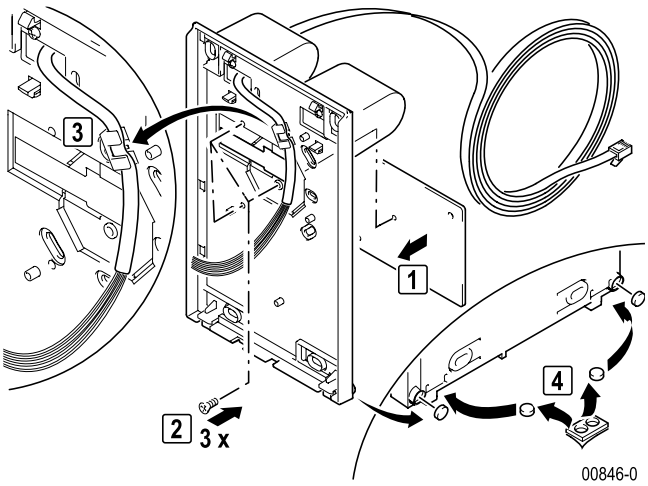


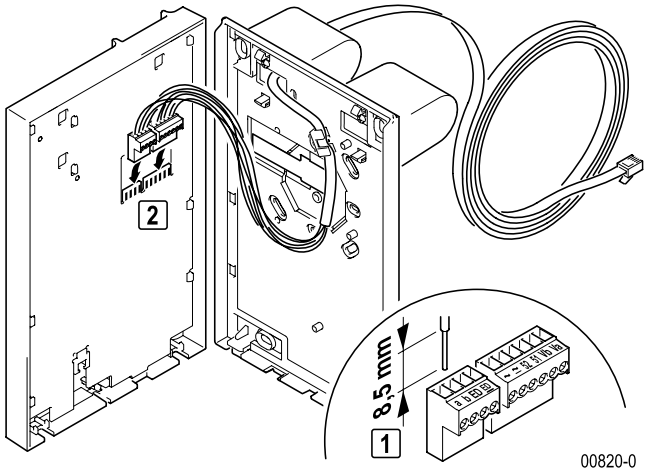


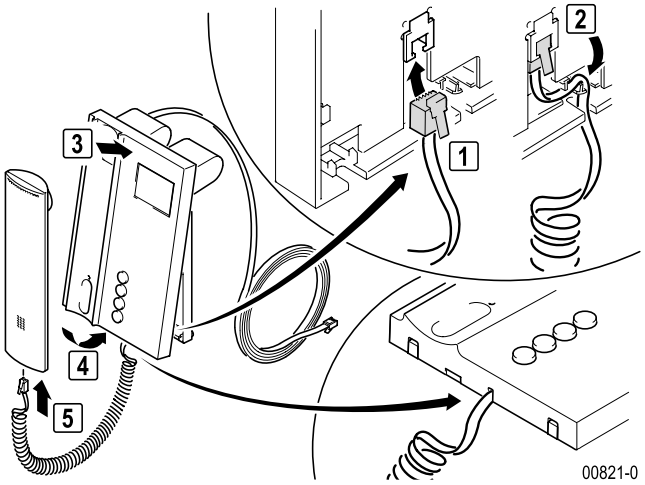
Installation as desktop unit

To install, you require a 1 7313 desktop console and a IAE/UAE8 connection box.









- Connect and install IAE box as shown in the table.

Note:
Use the enclosed screw clamp for desktop installation.

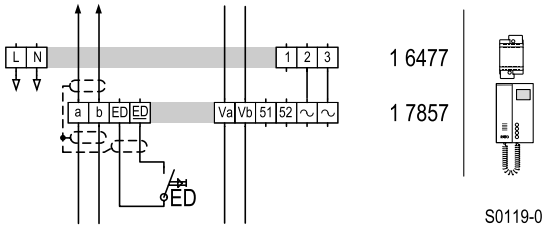
7313 connection line conductor colour	Terminals in the video indoor station.	IAE8
white	a	1
brown	b	2
green	ED	3
yellow	ED	4
grey	Va	5
pink	Vb	6
blue	~	7
red	~	8

Caution!

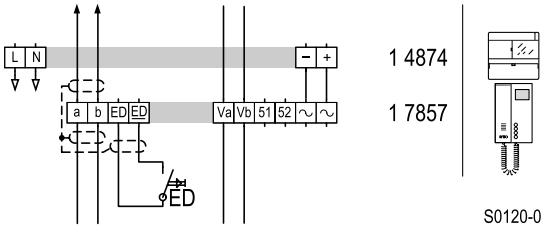
Damage to device.

The western connector of the handset must not be inserted into sockets from other manufacturers or systems.

Connection



Circuit diagram: connection with decentralised power supply.



Circuit diagram: connection with central power supply. Maximum 12 video indoor stations can be supplied from the video 1 4874 power supply unit.

Caution!

Damage to the unit and the connected camera.

No voltage must be applied to terminals Va and Vb.

Starting up

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

You can use the intercom when two persons perform the start-up.

The video connection between the video indoor station and the door station is automatically set up when the bell button is operated at the door station.

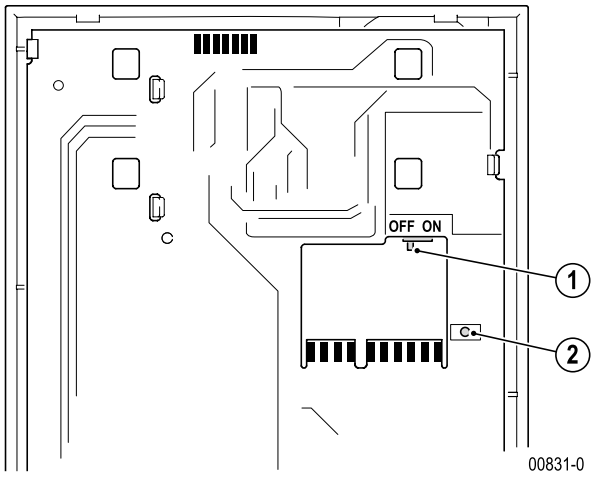
Power to each individual video indoor station can be supplied from the associated 1 6477 mains transformer (decentralised). However, power for up to 12 video indoor stations can also be centrally supplied by the video 1 4874 power supply unit.

Adjustment protection

Via the TwinBus power supply unit, the connected intercom units can be protected against inadvertent changes to the TwinBus settings.

A negative acknowledge tone when the key combination to switch over to the start-up menu is pressed is an indication that adjustment protection has been activated.

Activate the terminal resistor using the DIP switch on the device

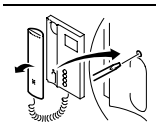
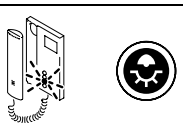
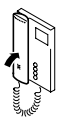
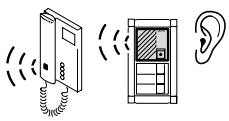


1. DIP switch for activating the terminal resistor (factory setting: OFF)
2. LED (voltage present at Va and Vb)

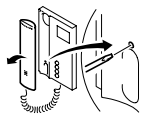
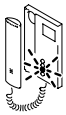
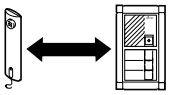
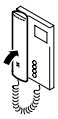
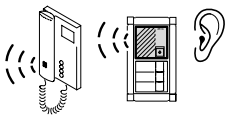
Note:
If the LED (2) illuminates, this means voltage is present at the Va and Vb terminals to the next indoor video station. The indoor video station will not switch on for safety reasons.

Start-up using the video indoor station

One-man start-up

Activity	Result
 >Press and hold for 5 s until	 flashes
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor video station and door station

Two-man start-up

Activity	Result
 >Press and hold for 5 s until	  flashes
 announce button to be assigned via speech connection	
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor video station and door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

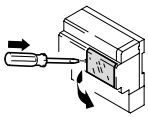
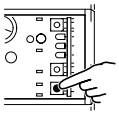
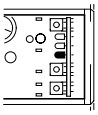
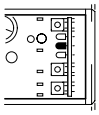
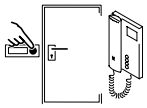
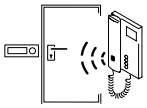
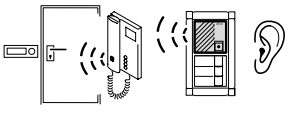
If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- The memory of the indoor video station is full when 10 bell buttons have already been programmed. If necessary, delete all settings and reprogram the pushbutton that is needed.

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at indoor video station
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at indoor telephone and indoor video station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:

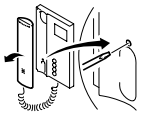
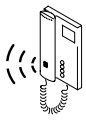
- Repeat the procedure.

If the programming procedure failed:

- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.

Delete settings

The programmed pushbuttons are deleted using this function. If necessary, please note any existing customer settings before deletion.

Activity	Result
 +  Press and hold for 5 s until	  Acoustic signal for confirmation

✔ Short tone: Settings have been deleted.

☹ Long tone: Settings have not been deleted.

If the settings have not been deleted:

- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- Repeat the procedure.

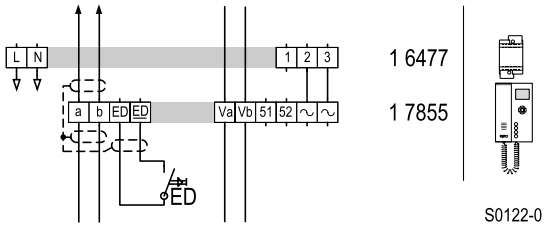
2.5.4 TwinBus comfort indoor video station 1 7855

Assembly

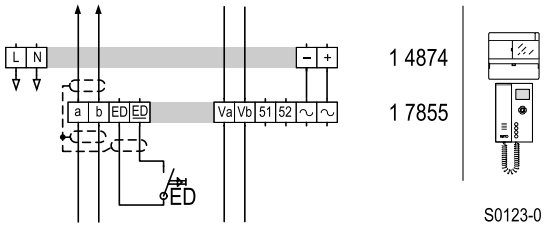
- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.

Note:
The comfort indoor video station 1 7855 is installed in the same way as the indoor video station 1 7857 – refer to page ☞ **46**.

Connection

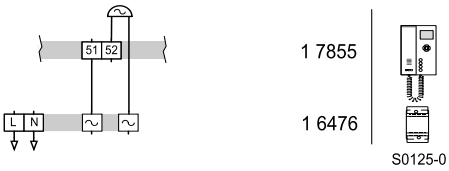


Circuit diagram: connection with decentralised power supply.



Circuit diagram: connection with central power supply. Maximum 12 video indoor stations can be supplied from the video 1 4874 power supply unit.

Circuit diagram: switch, for instance, a floor door opener using the special button.



Circuit diagram: actuate an external signal encoder via a call interface relay.

Circuit diagram: trigger automatic door opening using the apartment button.

Note:
To actuate a floor access door opener or an external signal encoder or automatic door opening using the apartment button, configure the switching contact as described on page ☞ **57**.

Starting up

Note:
You can use the USB interface outside of the TwinBus system to create a pre-configuration. To do so, use the USB parameterising tool 1 7831.
However, you cannot use the USB interface to pre-configure the bell button assignment.

Use the on-display menu of the comfort indoor video station to perform start-up.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

You can use the intercom when two persons perform the start-up.

Adjustment protection

Via the TwinBus power supply unit, the connected intercom units can be protected against inadvertent changes to the TwinBus settings.

You cannot open the start-up menu unless adjustment protection has been deactivated.

A negative acknowledge tone when the key combination to switch over to the start-up menu is pressed is an indication that adjustment protection has been activated.

Start-up using the comfort indoor video station

Activity	Result
+ > 5 sec. Press the selection key and one of the special keys	The display shows the start-up menu.

Note:
settings, such as selecting the call tone, are set in the "operating menu."

Menu control

Button	Function
	Control keys Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	Selection key Use the selection key to activate the menu item highlighted by ">." A new menu with additional selection options may open depending on the menu item.

Start-up menu

Use the start-up menu to perform start-up and adjust the settings.

- Open the start-up menu.

Starting up
Basic settings
Bell buttons
Special keys
Switching contact
Internal call
Rights
Reset
Info
Exit

Menu item "Basic settings"

Basic settings
Set language
Terminal resistor
Call differentiation
Back

Menu item	Setting options
Set language	Selection of menu language Factory setting: German
Terminal resistor	On/off Factory setting: Off
Call differentiation	On/off Factory setting: On

Note:
To signal calls from several main doors or from an apartment button with the same call tone, select "OFF" from the menu item "Call differentiation."

Menu item "Bell buttons"

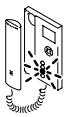
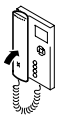
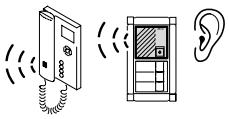
Basic settings
Program bell buttons
Delete bell buttons
Back

Menu item	Setting options
Program bell buttons	Activate programming status
Delete bell buttons	Delete all door calls

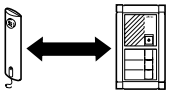
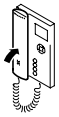
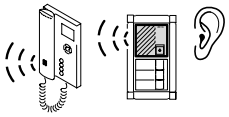
- If necessary, please note any existing customer settings before deletion.

Program bell buttons

One-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	  flashes
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor telephone and indoor video station

Two-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	  flashes
 announce button to be assigned via speech connection	
 Within one minute, press the button to be assigned on the door station 	 acoustic signal for confirmation at indoor telephone and indoor video station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

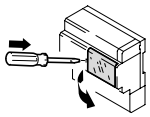
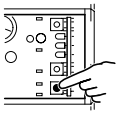
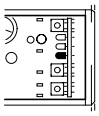
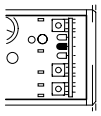
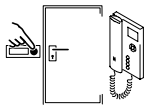
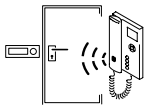
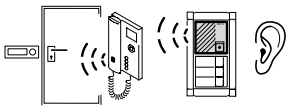
If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- The memory of the comfort indoor video station is full when 10 bell buttons have already been programmed. If necessary, delete all settings and reprogram the pushbutton that is needed.

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at indoor video station
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at indoor video station and door station

✔ Short tone: Device is ready for operation.

☹ No tone: Time limit exceeded.

☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- Check the TwinBus power supply unit whether the adjustment protection is activated – refer to the system manual.

Menu item "Special keys"

Selection special key
Button 1
Button 2

Special key
Not used
Switch camera
Switching contact
Internal call
Switching command
Back

Menu item	Setting options
Not used (factory setting)	–
Switch camera	–
Switching contact	–
Internal call	Number of the subscriber to be called Factory setting: subscriber 1
Switching command	Switching commands 1 to 8 Factory setting: Switching command 1

Note:
The switching contact function can only be assigned to button 1 (top button).

Note:
The special keys can be assigned for each individual user. We recommend that you assign functions to these buttons which you use regularly.

Menu item "Switching contact"

Switching contact
Not used
Potential-free button
Call interface relay
ED automating door opening
Back

Menu item	Setting options
Not used (factory setting)	–
Potential-free button	–
Call interface relay	Switching and delay time
ED automating door opening	Switching and delay time

Menu item "Internal call"

Internal call
On
Off
Back

Menu item	Setting options
On (factory setting)	Subscribers 1 to 8 Factory setting: subscriber 1
Off	–

Note:
If internal call is switched on, you must assign the comfort indoor video station its own internal call number.

Menu item "Rights"

Rights
Switch-on rights
Automatic door opener
Back

Menu item	Setting options
Switch-on rights	On/off Factory setting: Off
Automatic door opener	On/off with delay time Factory setting: Off

Note:
If switch-on rights have been activated, you can press the control key to establish a video connection to the door station irrespective of whether a door call is received or not.

Menu item "Reset"

Reset
Yes
No
Back

Use the reset function to restore the factory settings.

- If necessary, please note any existing customer settings before deletion.

Menu item "Info"

Select the menu item "Info" to view the article number, the firmware release and the hardware status.

Menu item "Exit"

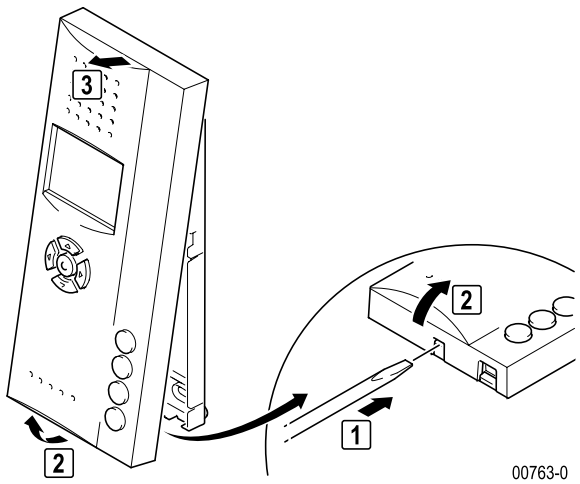
Use the menu item "Exit" to close the start-up menu after you have adjusted all settings.

2.5.5 TwinBus handsfree video intercom unit 1 7835

Assembly

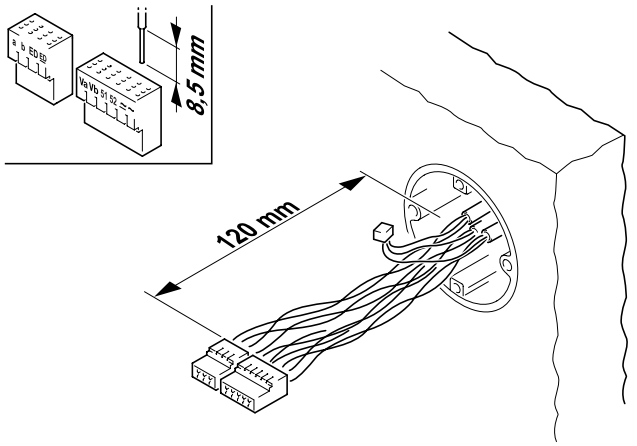
- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.

Note:
the speech quality depends on the installation of the device. Install the handsfree video intercom unit at the operator's eye level. When used in combination with the staircase door station, the handsfree video intercom unit must not be coupled acoustically with the staircase door station. Acoustic couplings are created, for example, by wide joint clearances in doors or air drains in conduits for electrical wiring.

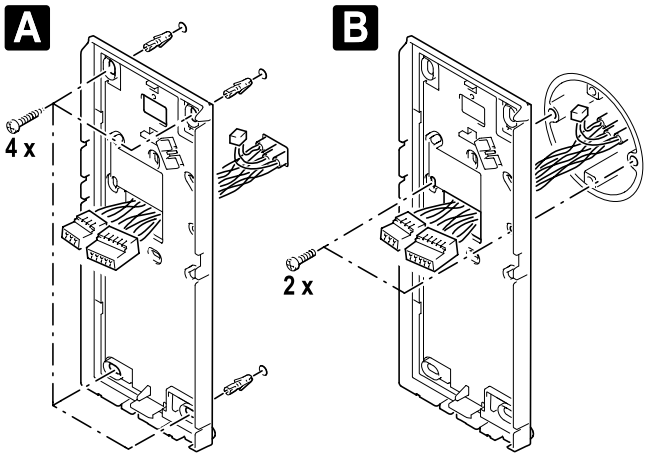


Surface-mounted

- Please remove the clamps from the packaging.



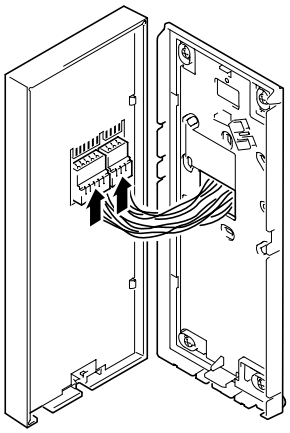
00764-0



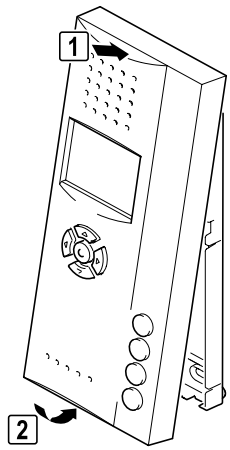
00765-0

A Wall mounting **B Switch box mounting**

Recommendation:
Use a chipboard screw with a flat countersunk head 4.0 x 35 mm and a matching universal dowel 6 x 35 mm.



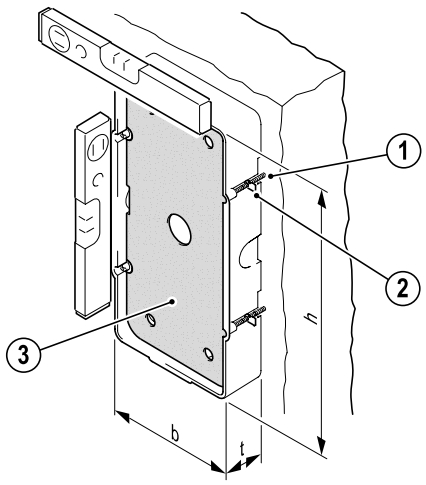
00766-0



00792-0

Concealed and cavity wall installation

A flush-mounted frame 1 7320 is required for installation. The flush-mounted frame is plastered in or attached using the provided cavity wall clamps.

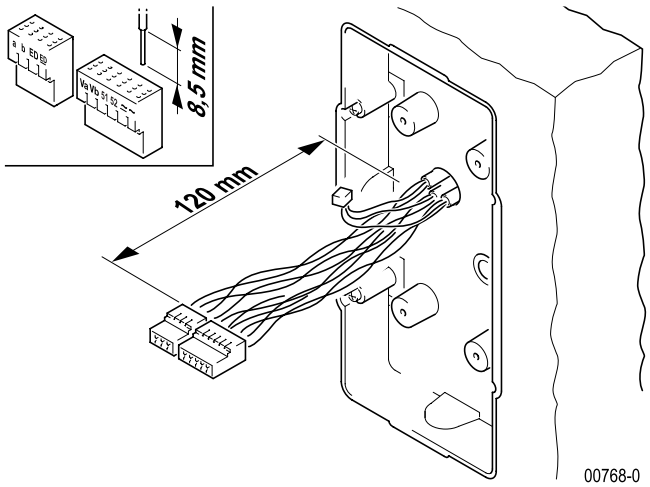


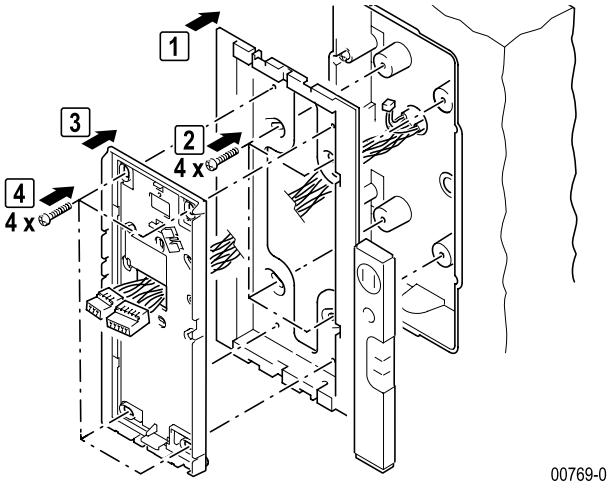
1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

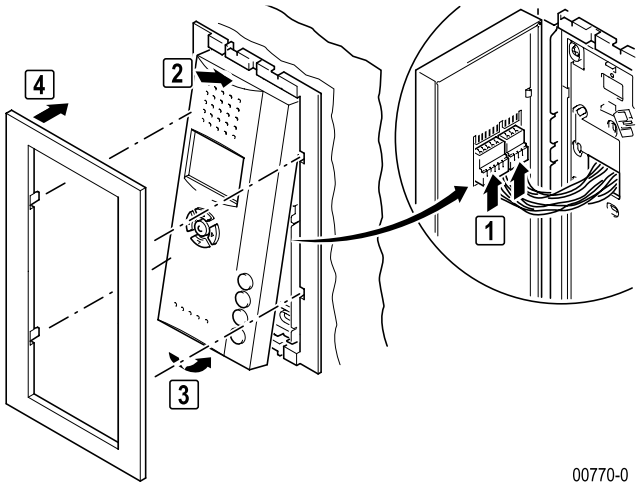
h: 242 mm
b: 122 mm
t: 35 mm

Note:

- The plaster protection (3) provides protection from soiling. It should only be removed just before the handsfree intercom unit is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.

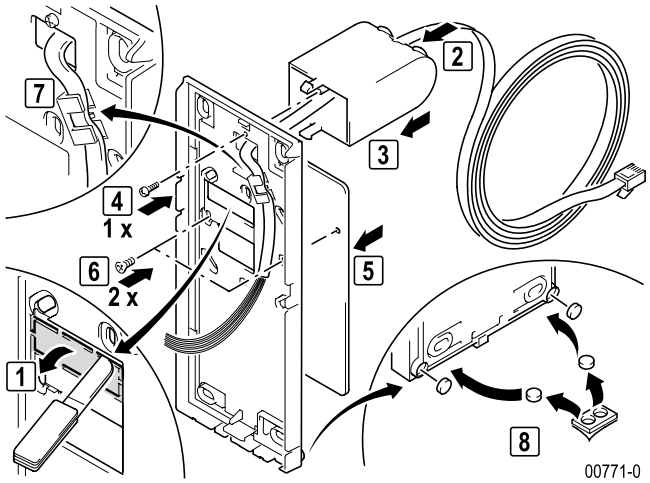


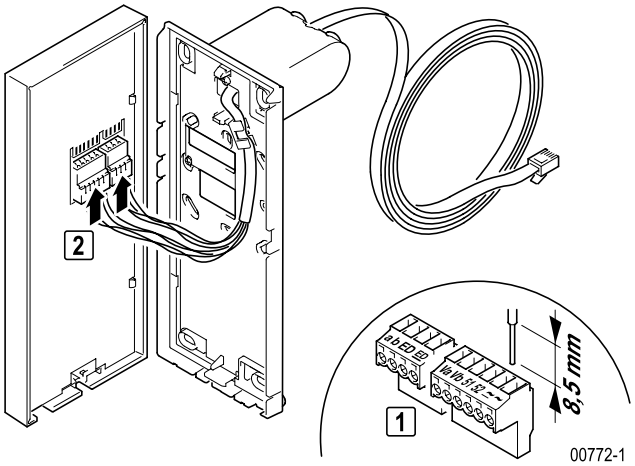




Installation as desktop unit

To install, you require a 1 7313 desktop console and a IAE/UAE 8 connection box.





- Connect and install IAE box as shown in table.

Caution!

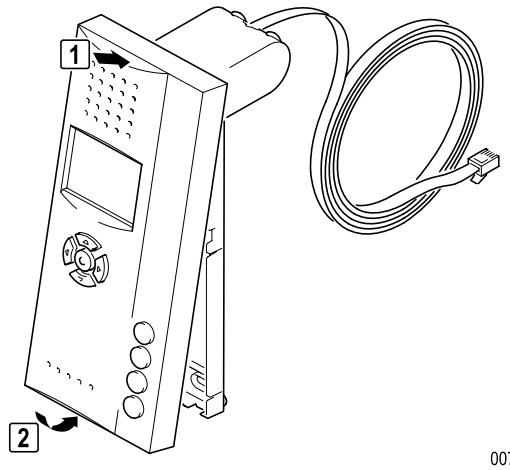
Damage to the unit and the connected camera

No voltage must be applied to terminals Va and Vb.

Note:
Use the enclosed screw clamp for desktop installation.

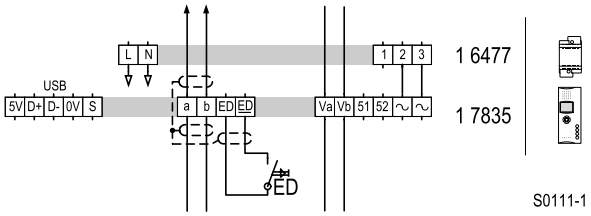
7313 connection line conductor colour	Terminals in the handsfree video intercom unit	IAE 8
white	a	1
brown	b	2
green	ED	3
yellow	ED	4
grey	Va	5
pink	Vb	6

7313 connection line conductor colour	Terminals in the handsfree video intercom unit	IAE 8
blue	~	7
red	~	8



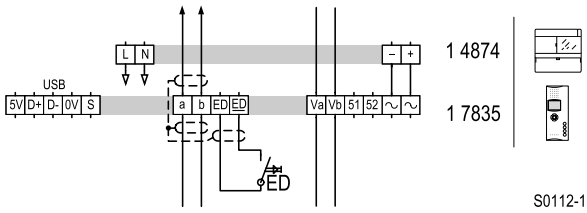
00767-0

Connection



S0111-1

Circuit diagram: connection with decentralised power supply.

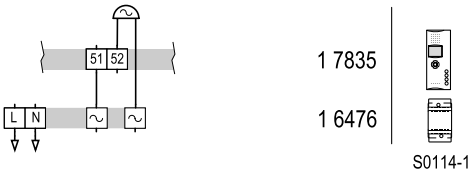


S0112-1

Circuit diagram: connection with central power supply. A maximum of 12 handsfree video intercom units can be supplied from the video 1 4874 power supply unit.

S0113-1

Circuit diagram: switch, for instance, a floor door opener using the special button.



S0114-1

Circuit diagram: actuate an external signal encoder via a call interface relay.

Circuit diagram: trigger automatic door opening using the apartment button.

Starting up

Note:
You can use the USB interface outside of the TwinBus system to create a pre-configuration. To do so, use the USB parameterising tool.
However, you cannot use the USB interface to pre-configure the bell button assignment.

Use the on-display menu of the handsfree video intercom unit to perform start-up.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

You can use the intercom when two persons perform the start-up.

Adjustment protection

Via the TwinBus power supply unit, the connected intercom units can be protected against inadvertent changes to the TwinBus settings.

You cannot open the start-up menu unless adjustment protection has been deactivated.

A negative acknowledge tone when the key combination to switch over to the start-up menu is pressed is an indication that adjustment protection has been activated.

Start-up using the handsfree video intercom unit

Activity	Result
+ > 5 sec. Press the selection key and one of the special keys	The display shows the start-up menu.

Note:
settings, such as selecting the call tone, are set in the "operating menu."

Menu control

Button	Function
	Control keys Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	Selection key Use the selection key to activate the menu item highlighted by ">." A new menu with additional selection options may open depending on the menu item.

Start-up menu

Use the start-up menu to perform start-up and adjust the settings.

- Open the start-up menu.

Starting up
Basic settings
Bell buttons
Special key
Switching contact
Internal call
Rights
Factory settings
Info
Exit

Menu item "Basic settings"

Basic settings
Set language
Terminal resistor
Call differentiation
Back

Menu item	Setting options
Set language	Selection of menu language Factory setting: German
Terminal resistor	On/off Factory setting: Off
Call differentiation	On/off Factory setting: On

Note:
To signal calls from several main doors or from an apartment button with the same call tone, select "OFF" from the menu item "Call differentiation."

Menu item "Bell buttons"

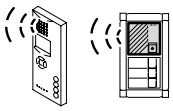
Basic settings
Program bell buttons
Delete bell buttons
Back

Menu item	Setting options
Program bell buttons	Activate programming status
Delete bell buttons	Delete all door calls

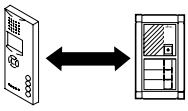
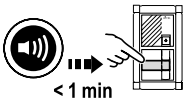
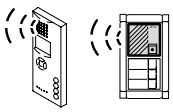
- If necessary, please note any existing customer settings before deletion.

Program bell buttons

One-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	  flashes
Within one minute, press the button to be assigned on the door station	   acoustic signal for confirmation at handsfree video intercom unit and door station

Two-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	  flashes
 Establish speech connection	
 announce button to be assigned via speech connection	
 Disconnect speech connection and press the bell button at the door station within a minute	  acoustic signal for confirmation at handsfree video intercom unit and door station

✔ Short tone: Device is ready for operation.

☹ No tone: Time limit exceeded.

☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- The memory of the handsfree video intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all settings and reprogram the pushbutton that is needed.

Menu item "Special key"

Special key
Off
Switch camera
Switching contact
Internal call
Switching command
Back

Menu item	Setting options
Off (factory setting)	–
Switch camera	–
Switching contact	–
Internal call	Number of the subscriber to be called Factory setting: subscriber 1
Switching command	Switching commands 1 to 8 Factory setting: Switching command 1

Note:
The special key can be assigned for each individual user. We recommend that you assign functions to this button which you use regularly.

Menu item "Switching contact"

Switching contact
Off
Potential-free button
Call interface relay
ED automating door opening
Back

Menu item	Setting options
Off (factory setting)	–
Potential-free button	–
Call interface relay	Switching and delay time
ED automating door opening	Switching and delay time

Menu item "Internal call"

Internal call
On
Off
Back

Menu item	Setting options
On	Subscribers 1 to 8 Factory setting: subscriber 1
Off (factory setting)	–

Note:
If internal call is switched on, you must assign the handsfree video intercom unit its own internal call number.

Menu item "Rights"

Rights
Switch-on rights
Automatic door opener
Back

Menu item	Setting options
Switch-on rights	On/off Factory setting: Off
Automatic door opener	On/off with delay time Factory setting: Off

Note:
If switch-on rights have been activated, you can press the control key to establish a video connection to the door station no matter if a door call is received or not.

Menu item "Factory settings"

Load factory settings
Yes
No
Back

Use the reset function to restore the factory settings.

- If necessary, please note any existing customer settings before deletion.

Menu item "Info"

Select the menu item "Info" to view the article number, the firmware release and the hardware status.

Menu item "Exit"

Use the menu item "Exit" to close the start-up menu after you have adjusted all settings.

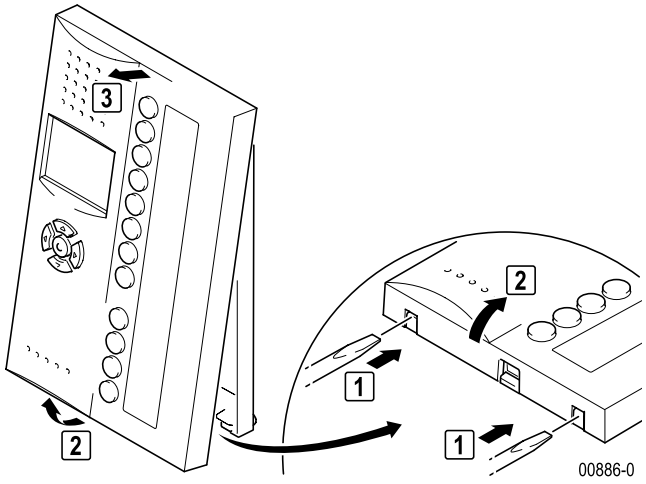
2.5.6 TwinBus comfort handsfree video intercom unit 1 7845

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.

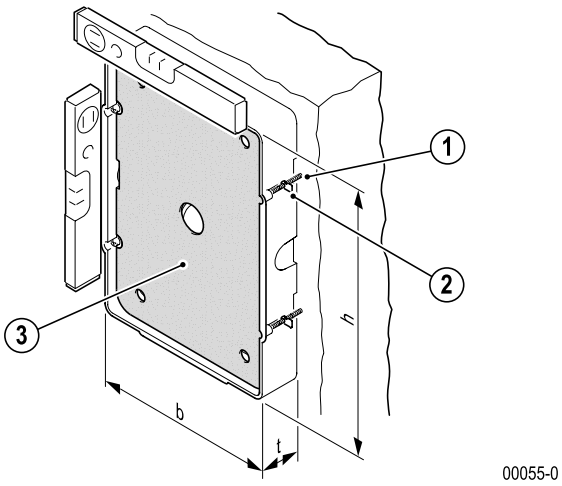
Note:
The comfort handsfree video intercom unit 1 7855 is installed in the same way as the handsfree video intercom unit 1 7835 – refer to page ☞ **58**.

Note:
the speech quality depends on the installation of the device. Install the handsfree video intercom unit at the operator's eye level. When used in combination with the staircase door station, the handsfree video intercom unit must not be coupled acoustically with the staircase door station. Acoustic couplings are created, for example, by wide joint clearances in doors or air drains in conduits for electrical wiring.



Concealed and cavity wall installation

A flush-mounted frame 1 7321 is required for installation. The flush-mounted frame is plastered in or attached using the provided cavity wall clamps.

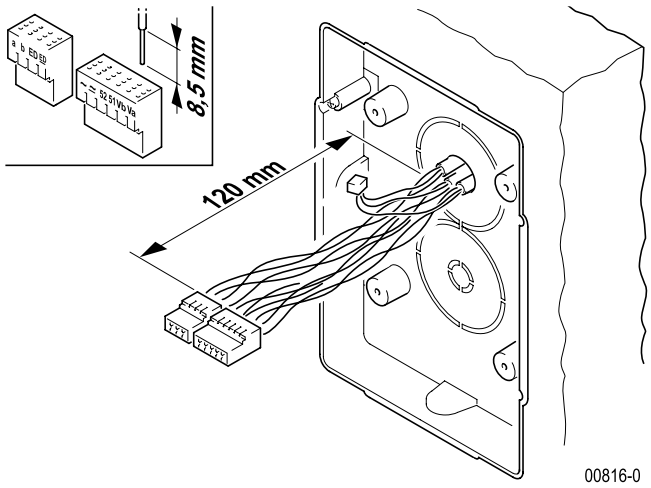


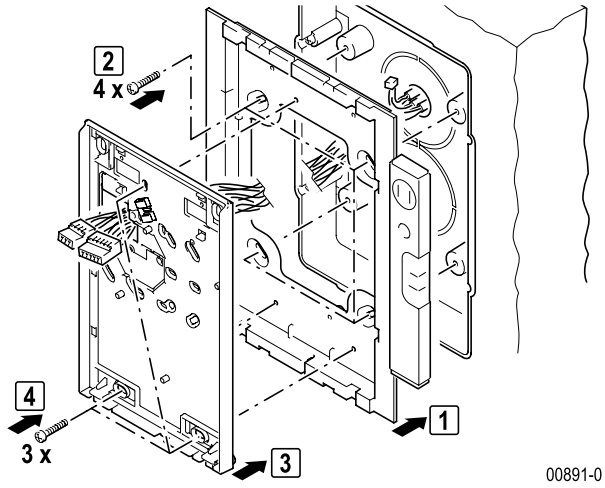
1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

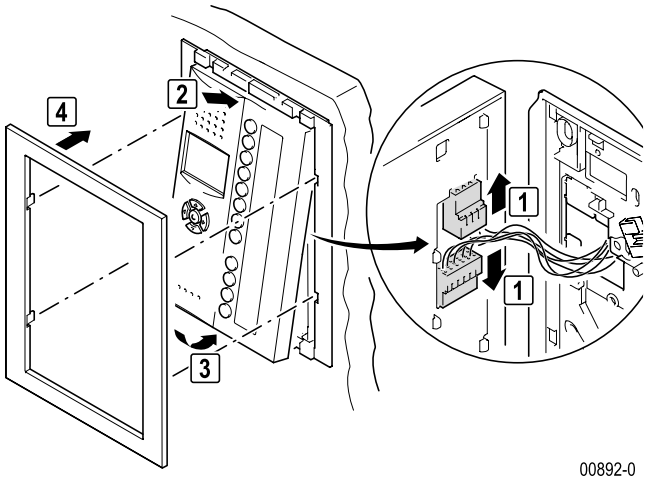
h: 242 mm
b: 169.5 mm
t: 35 mm

Note:

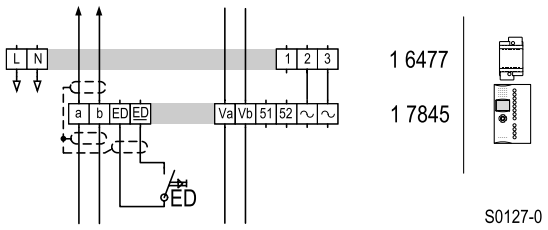
- The plaster protection (3) provides protection from soiling. It should only be removed just before the handsfree video intercom unit is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.



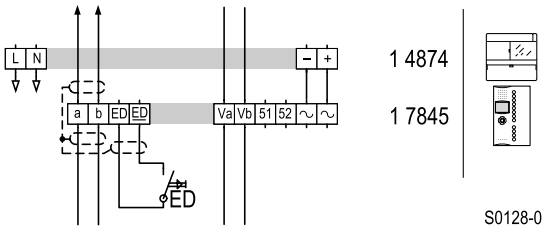




Connection

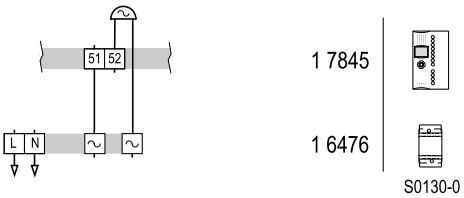


Circuit diagram: connection with decentralised power supply.



Circuit diagram: connection with central power supply.
A maximum of 12 handsfree video intercom units can be supplied from the video 1 4874 power supply unit.

Circuit diagram: switch, for instance, a floor door opener using the special button.



Circuit diagram: actuate an external signal encoder via a call interface relay.

Circuit diagram: trigger automatic door opening using the apartment button.

Note:

- To actuate a floor access door opener or an external signal encoder or automatic door opening using the apartment button, configure the switching contact. Refer to Page ☞ **74**.

Starting up

Note:
You can use the USB interface outside of the TwinBus system to create a pre-configuration. To do so, use the USB parameterising tool.
However, you cannot use the USB interface to pre-configure the bell button assignment.

Use the on-display menu of the comfort handsfree video intercom unit to perform start-up.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

You can use the intercom when two persons perform the start-up.

Adjustment protection

Via the TwinBus power supply unit, the connected intercom units can be protected against inadvertent changes to the TwinBus settings.

You cannot open the start-up menu unless adjustment protection has been deactivated.

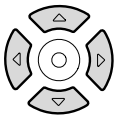
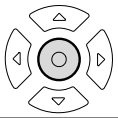
A negative acknowledge tone when the key combination to switch over to the start-up menu is pressed is an indication that adjustment protection has been activated.

Start-up using the handsfree video intercom unit

Activity	Result
+ > 5 sec. Press the selection key and one of the special keys	The display shows the start-up menu.

Note:
settings, such as selecting the call tone, are set in the "operating menu."

Menu control

Button	Function
	**Control keys** Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	**Selection key** Use the selection key to activate the menu item highlighted by ">." A new menu with additional selection options may open depending on the menu item.

Start-up menu

Use the start-up menu to perform start-up and adjust the settings.

- Open the start-up menu.

Starting up
Basic settings
Bell buttons
Special key
Comfort buttons
Switching contact
Internal call
Rights
Factory settings
Info
Exit

Menu item "Basic settings"

Basic settings
Set language
Terminal resistor
Call differentiation
Back

Menu item	Setting options
Set language	Selection of menu language Factory setting: German
Terminal resistor	On/off Factory setting: Off
Call differentiation	On/off Factory setting: On

Note:
To signal calls from several main doors or from an apartment button with the same call tone, select "OFF" from the menu item "Call differentiation."

Menu item "Bell buttons"

Basic settings
Program bell buttons

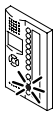
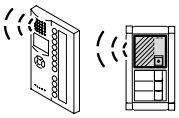
Basic settings
Delete bell buttons
Back

Menu item	Setting options
Program bell buttons	Activate programming status
Delete bell buttons	Delete all door calls

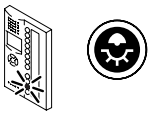
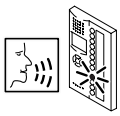
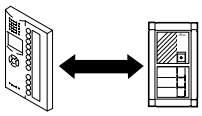
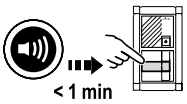
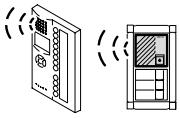
- If necessary, please note any existing customer settings before deletion.

Program bell buttons

One-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	  flashes
 Within one minute, press the button to be assigned on the door station	  acoustic signal for confirmation at handsfree video intercom unit and door station

Two-man start-up

Activity	Result
Activate the programming status via the menu item Program bell buttons **Program bell buttons** Programming status active Programmed door calls: x Back with <OK>	 flashes
 Establish speech connection	
 announce button to be assigned via speech connection	
 Disconnect speech connection and press the bell button at the door station within a minute	  acoustic signal for confirmation at handsfree video intercom unit and door station

✔ Short tone: Device is ready for operation.

☹ No tone: Time limit exceeded.

☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- The memory of the comfort handsfree video intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all settings and reprogram the pushbutton that is needed.

Menu item "Special key"

Special key
Off
Switch camera
Switching contact
Internal call
Switching command
Back

Menu item	Setting options
Off (factory setting)	–
Switch camera	–
Switching contact	–
Internal call	Number of the subscriber to be called Factory setting: subscriber 1
Switching command	Switching commands 1 to 8 Factory setting: Switching command 1

Note:
The special key can be assigned for each individual user. We recommend that you assign functions to this button which you use regularly.

Menu item "Comfort buttons"

Use this menu item to assign functions to 8 special keys.

Comfort buttons
8 switching commands
4 internal buttons/switching commands
8 internal calls

When selecting internal options, you can also switch the call memory function on or off.

Call memory function: if no connection can be established after an internal call, the internal call is stored in the call memory of the device receiving the call. This is indicated by illumination of the call button assigned to the sending device.

The stored calls can be deleted by returning the corresponding call.

Menu item "Switching contact"

Switching contact
Off
Potential-free button
Call interface relay
ED automating door opening
Back

Menu item	Setting options
Off (factory setting)	–
Potential-free button	–

Menu item	Setting options
Call interface relay	Switching and delay time
ED automating door opening	Switching and delay time

Menu item "Internal call"

Internal call
On
Off
Back

Menu item	Setting options
On	Subscribers 1 to 8 Factory setting: subscriber 1
Off (factory setting)	–

Note:
If internal call is switched on, you must assign the comfort handsfree video intercom unit its own internal call number.

Menu item "Rights"

Rights
Switch-on rights
Automatic door opener
Back

Menu item	Setting options
Switch-on rights	On/off Factory setting: Off
Automatic door opener	On/off with delay time Factory setting: Off

Note:
If switch-on rights have been activated, you can press the control key to establish a video connection to the door station no matter if a door call is received or not.

Menu item "Factory settings"

Load factory settings
Yes
No
Back

Use the reset function to restore the factory settings.

- If necessary, please note any existing customer settings before deletion.

Menu item "Info"

Select the menu item "Info" to view the article number, the firmware release and the hardware status.

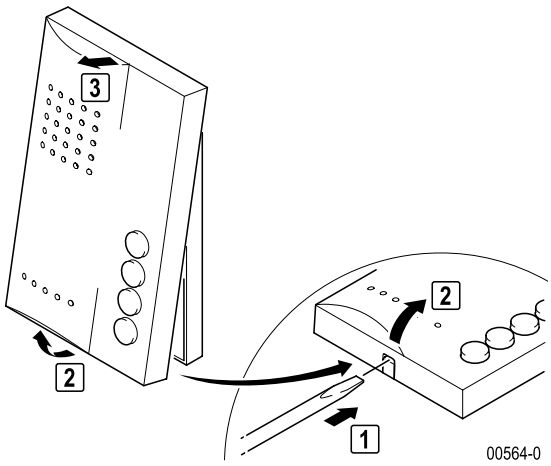
Menu item "Exit"

Use the menu item "Exit" to close the start-up menu after you have adjusted all settings.

2.5.7 TwinBus compact intercom unit 1 7132

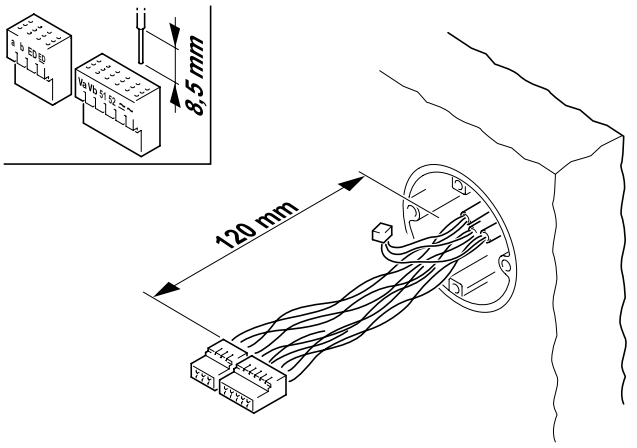
Assembly

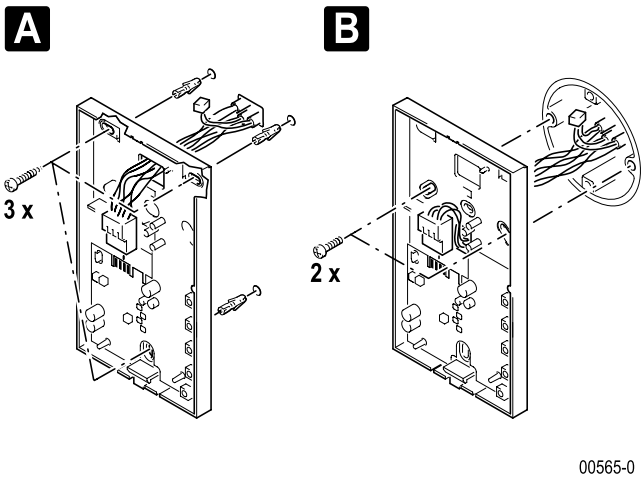
- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.



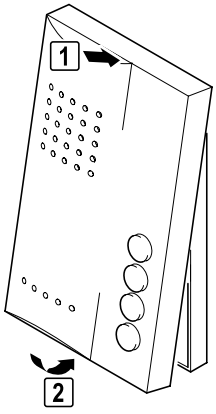
Surface-mounted

- Please remove the clamp from the packaging.



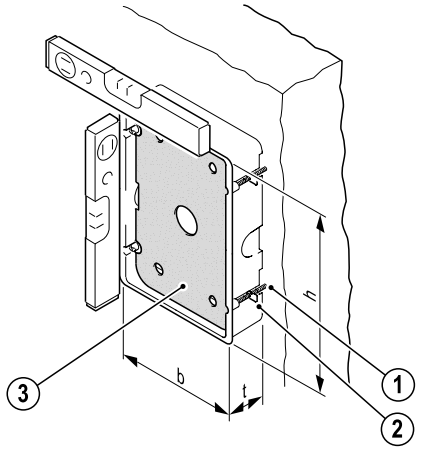


A **Wall mounting** **B** **Switch box mounting**



Concealed and cavity wall installation

- Plaster in a 1 7322 flush-mounted frame or attach it using the enclosed cavity wall clamps.



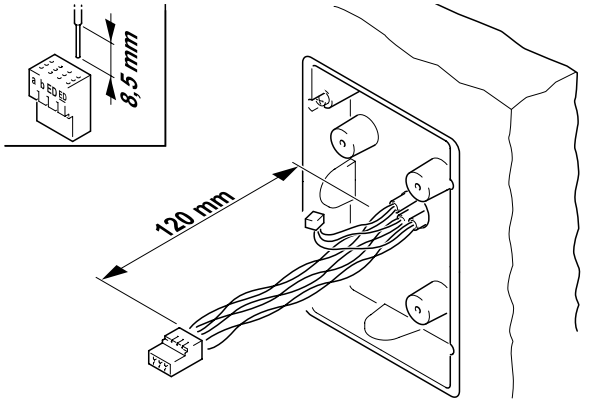
00702-0

1. Cavity wall clamps
2. Fastening screws for cavity wall clamps
3. Plastering protection

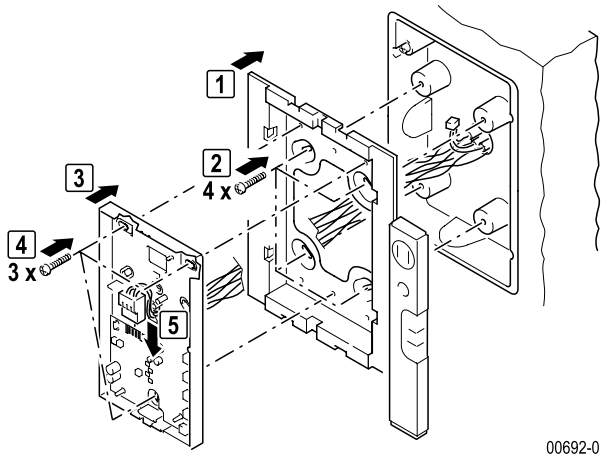
h: 174 mm
b: 122 mm
t: 35 mm

Note:

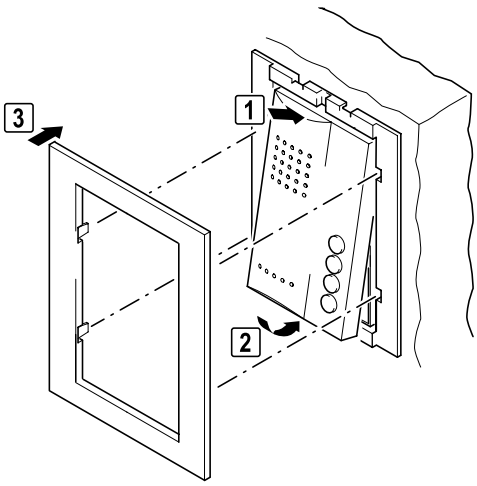
- The plastering protection (3) in the concealed box provides protection from soiling. It should only be removed just before the handsfree intercom unit is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.



00701-0



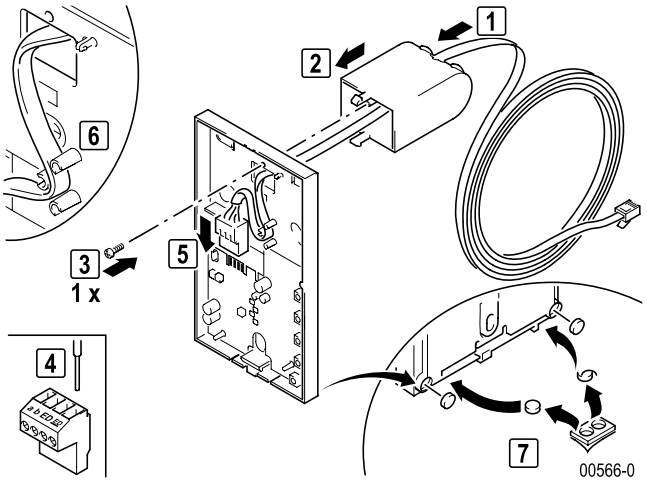
00692-0



00693-0

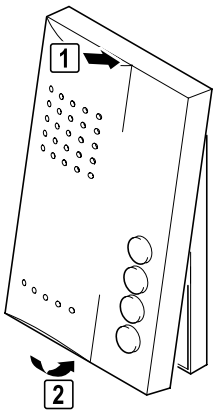
Installation as desktop unit

A desktop console 1 7310 and an IAE/UAE box with 8 or 4 connections are required for installation.



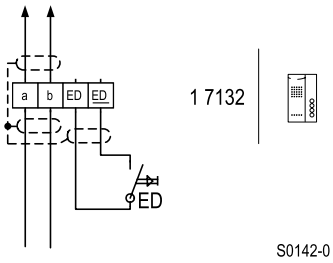
- Connect and install IAE box as shown in table.

7310 connection line conductor colour	TwinBus clamp	IAE8	IAE4
white	–	2	–
brown	a	3	3
green	b	4	4
yellow	ED	5	5
grey	ED	6	6
pink	–	7	–



00567-0

Connection



Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- The button adapter 1 4645 must be used for the parallel operation of several compact intercom units that are supposed to respond to a floor push button (ED).

Starting up

Start-up can be performed using the compact intercom unit or using the floor push button. Start-up using the apartment button is useful if you do not have access to the residential unit.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

The intercom can be used for start-up with two persons.

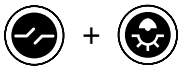
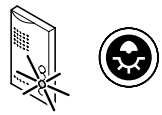
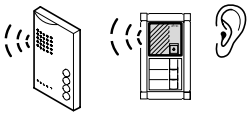
Adjustment protection

The TwinBus power supply unit can be used to give the connected intercom units a setting protection to prevent them from being changed inadvertently - see page ☞ **100**.

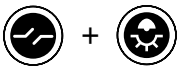
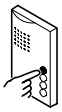
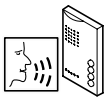
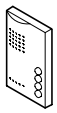
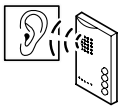
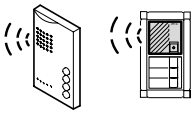
A negative acknowledge tone when the setting button is pressed is an indication that the adjustment protection facility has been activated.

Start-up using the compact intercom unit

One-man start-up

Activity	Result
 >Press and hold for 5 s until	 flashes
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

Two-man start-up

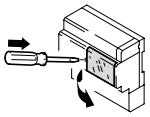
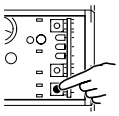
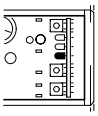
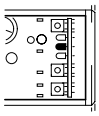
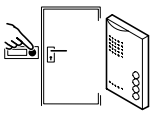
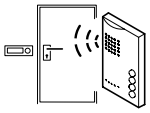
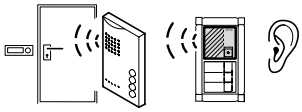
Activity	Result
 >Press and hold for 5 s until	 flashes
 Establish speech connection	 speech connection to door station
 Release intercom button	 speech connection from door station
  End the conversation and, within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- The memory of the compact intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at intercom unit
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- The memory of the compact intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note any existing customer settings before deletion.

Activity	Result
 >Press and hold for 5 s until	 Acoustic signal for confirmation

✔ Short tone: Settings have been deleted.
☹ Long tone: Settings have not been deleted.

If the settings have not been deleted:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- Repeat the procedure.

2.5.8 TwinBus handsfree intercom unit 1 7230

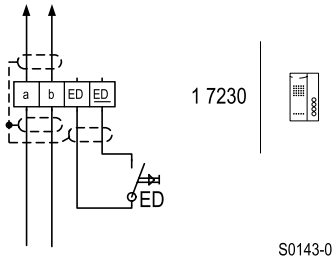
Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.

Note:
The handsfree intercom unit 1 7230 is installed in the same way as the compact intercom unit 1 7132 – refer to page ☞ **76**.

Note:
the speech quality depends on the installation of the device. Install the handsfree intercom unit at the operator's eye level. When used in combination with the staircase door station, the handsfree intercom unit must not be coupled acoustically with the staircase door station. Acoustic couplings are created, for example, by wide joint clearances in doors or air drains in conduits for electrical wiring.

Connection



Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- Button adapter 1 4645 must be used when multiple indoor telephones operated in parallel are to react to one apartment button (ED).

Starting up

Start-up can take place using the handsfree intercom unit or the apartment button. Start-up using the apartment button is useful if you do not have access to the residential unit.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

The intercom can be used for start-up with two persons.

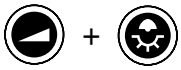
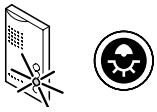
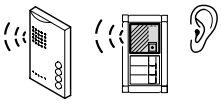
Adjustment protection

The TwinBus power supply unit can be used to give the connected intercom units a setting protection to prevent them from being changed inadvertently.

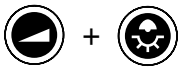
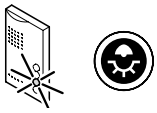
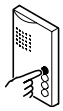
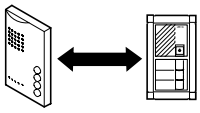
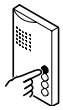
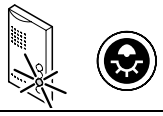
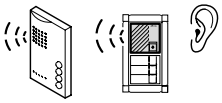
A negative acknowledge tone when the setting button is pressed is an indication that the adjustment protection facility has been activated.

Start-up using the handsfree intercom unit

One-man start-up

Activity	Result
 >Press and hold for 5s until	 flashes
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

Two-man start-up

Activity	Result
 >Press and hold for 5s until	 flashes
 Establish speech connection	 flashes illuminates
 announce button to be assigned via speech connection	
 End the connection by pressing the intercom button	 flashes
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

✔ Short tone: Device is ready for operation.

☹ No tone: Time limit exceeded.

☹ Long tone: Programming procedure failed.

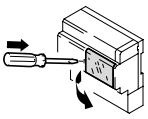
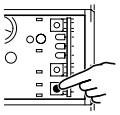
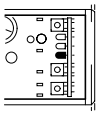
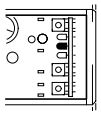
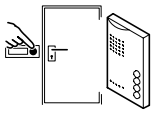
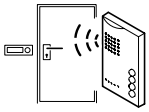
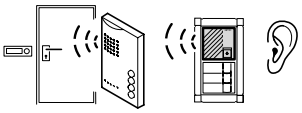
If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- The memory of the comfort handsfree intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at intercom unit
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom unit and door station

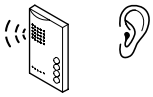
✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- The memory of the comfort handsfree intercom unit is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note any existing customer settings before deletion.

Activity	Result
 >Press and hold for 5 s until	 Acoustic signal for confirmation

✔ Short tone: Settings have been deleted.
☹ Long tone: Settings have not been deleted.

If the settings have not been deleted:
- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- Repeat the procedure.

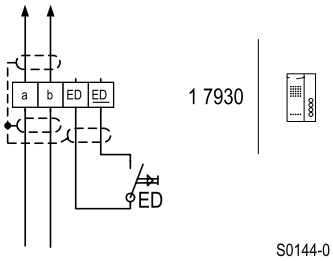
2.5.9 TwinBus signalling device 1 7930

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus device.

Note:
The signalling device 1 7930 is installed in the same way as the compact intercom unit 1 7132 – refer to page ☞ **76**.

Connection



Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- Button adapter 1 4645 must be used when multiple signalling devices operated in parallel are to react to one apartment button (ED).

Starting up

Start-up can be performed using the signalling device or the apartment button. The start-up using the apartment button is very useful if you do not have any access to the dwelling.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

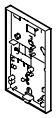
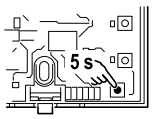
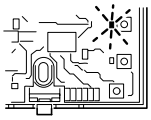
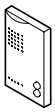
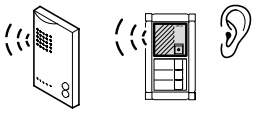
Adjustment protection

The TwinBus power supply unit can be used to give the connected signalling devices a setting protection to prevent them from being changed inadvertently.

You can recognise an activated setting protection by the negative acknowledge tone when you press the setting key, the red LED flashes twice briefly.

Starting up using the signalling device

One-man start-up

Activity	Result
 Open device	
 Press and hold the programming button for 5 s until	 LD 2 flashes
 Connect device	
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at signalling device and door station

✔ Short tone: Device is ready for operation.

☹ No tone: Time limit exceeded.

☹ Long tone: Programming procedure failed.

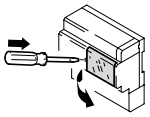
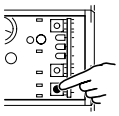
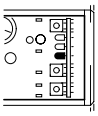
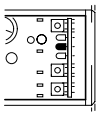
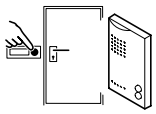
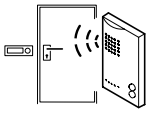
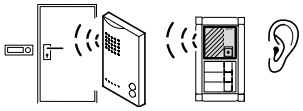
If the time limit has been exceeded:

- Repeat the procedure.

If the programming procedure failed:

- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- The memory of the signalling device is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Start-up using the apartment button

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at intercom unit
 Within one minute, press the button to be assigned on the door station	 Acoustic signal for confirmation

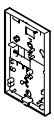
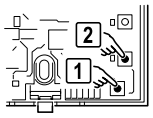
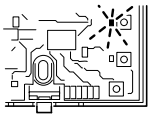
✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- The memory of the signalling device is full when 10 bell buttons have already been programmed. If necessary, delete all the settings and reprogram the bell button that is needed (only possible if you have access to the apartment).

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note down any existing customer settings before deleting the settings.

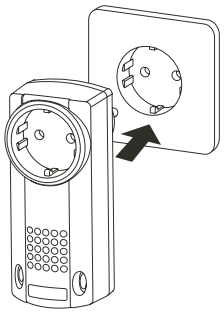
Activity	Result
 Open device	
 Press and hold for approx. 5 s until	 LD 1 flashes 1 x

✔ the top, red LED briefly flashes once: device is ready for operation.
☹ the top, red LED briefly flashes twice: deletion procedure failed.

If the settings have not been deleted:
- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- Repeat the procedure.

2.5.10 TwinBus radio signalling device 1 7950

Assembly



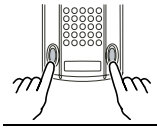
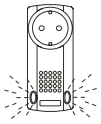
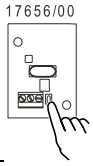
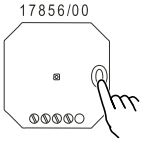
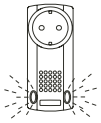
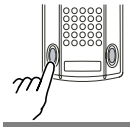
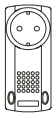
- Remove the TwinBus device and the supplied components from the packaging.
- Plug the radio signalling device into a socket of your choice.
- Transfer the radio codes of the signalling unit of the TwinBus door intercom and video systems to the radio signalling device.
- When selecting a socket, make sure the radio connection between the transmitter unit and the radio signalling device is not affected. Brickwork and other absorbing materials reduce the range of the radio signal.
- Avoid using the device in the vicinity of large metal surfaces or close to the floor. If you have to use the device close to metal surfaces, keep a distance of at least 0.1 m.

Note:

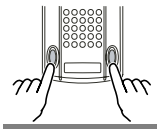
You can use the power output of the radio signalling device as a socket for any electrical device (230 V AC / 50 Hz, up to 16 A).

Starting up

Program transmitter codes

Activity				Result		
	Press and hold buttons for 5 s				Flashing and	 Acoustic signal for confirmation
	or		or 		Illuminating, flashing and	 Acoustic signal for confirmation
	press left button briefly				LEDs go out and	 Acoustic signal for confirmation

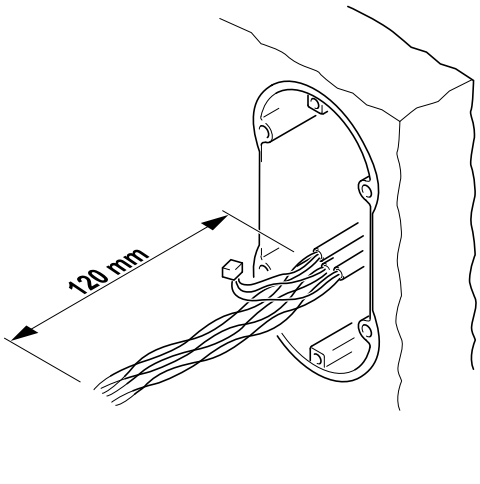
delete transmitter codes

Activity		Result	
	Press and hold buttons for 15 s until		Acoustic signal for confirmation

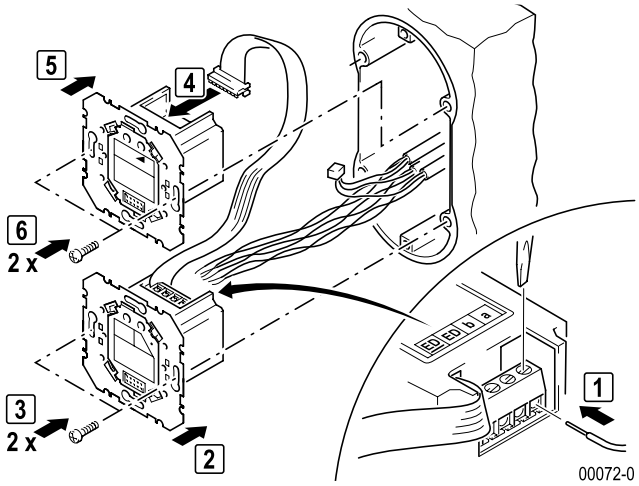
2.5.11 TwinBus intercom station 1 7133, 1 7134, 1 7135, 1 7136

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please provide your customers with a copy of the operating instructions for the TwinBus unit.



00071-0



00072-0

- Fit the loudspeaker cover before starting up.
- After starting up, install the tactile sensor in accordance with the switch manufacturer's instructions.

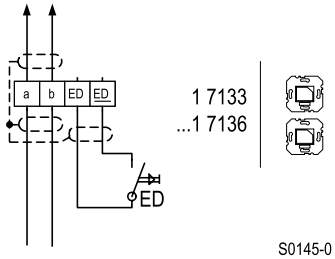
Caution!

Wrong accessory.

Risk of damage to unit and malfunctions.
Use the appropriate accessories.

Key sensors and loudspeaker covers are available:
for 1 7133/00 from Becker GmbH & Co. KG
for 1 7134/00 from Busch-Jaeger Elektro GmbH
for 1 7135/00 from Albert Jung GmbH & Co. KG
for 1 7136/00 from Merten GmbH & Co. KG

Connection



S0145-0

Connections

a, b	bus terminal
ED, ED	apartment button

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.

Starting up

Start-up can be performed using the intercom station or the apartment button. Start-up using the apartment button is useful if you do not have access to the residential unit.

In order to allow the operator to change the call tone of the main bell button, the main bell button must be programmed as the main button when initial setting takes place. The procedure must be repeated for other bell buttons.

The intercom can be used for start-up with two persons.

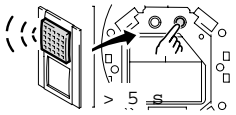
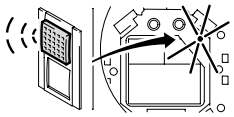
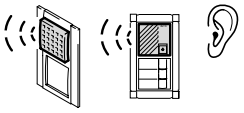
Adjustment protection

The TwinBus power supply unit can be used to give the connected intercom units a setting protection to prevent them from being changed inadvertently - see page ☞ **100**.

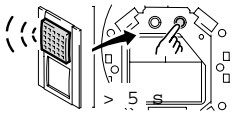
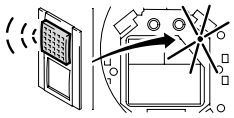
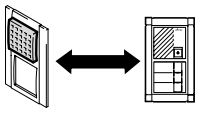
A negative acknowledge tone when the setting button is pressed is an indication that the adjustment protection facility has been activated.

Start-up using the intercom station

One-man start-up

Activity	Result
 >Press and hold for 5 s until	 illuminates
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom station and door station

Two-man start-up

Activity	Result
 5>Press and hold for 5 s until	 illuminates
 announce button to be assigned via speech connection	
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom station and door station

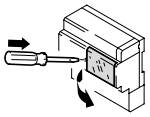
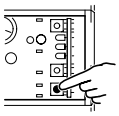
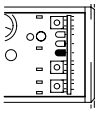
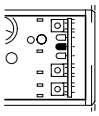
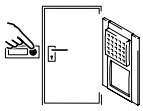
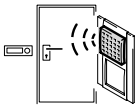
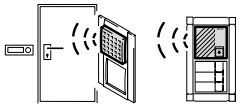
✔ Tone: Device is ready for operation.

☹ No tone: Programming procedure failed.

If the programming procedure failed:

- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the intercom station memory is full. If necessary, delete all settings and reprogram the pushbutton that is needed.

Start-up using the apartment button

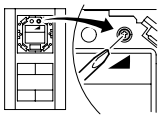
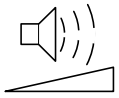
Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes  LED 2 (red) flashes, LD1 goes out
 Within three minutes, go to the apartment button. Press and hold it for 5 s	 acoustic signal for confirmation at intercom station
 Within one minute, press the button to be assigned on the door station	 acoustic signal for confirmation at intercom station and door station

✔ Tone: Device is ready for operation.
☹ No tone: Programming procedure failed.

If the time limit has been exceeded:
- Repeat the procedure.

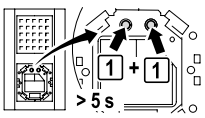
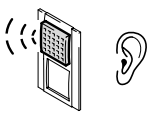
If the programming procedure failed:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- If 10 bell buttons have already been programmed, the intercom station memory is full. If necessary, delete all settings and reprogram the pushbutton that is needed.

Adjust volume (speech)

Activity	Result
 Adjusting the potentiometer	 Volume has been adjusted

Delete settings

This function deletes all settings and programmed bell buttons. If necessary, please note any existing customer settings before deletion.

Activity	Result
 Press and hold buttons for 5s until	 Acoustic signal for confirmation

✔ Tone: Settings have been deleted.
☹ No tone: Settings have not been deleted.

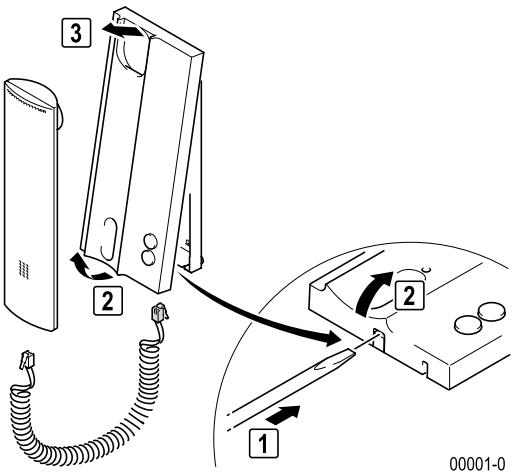
If the settings have not been deleted:
- Check on the TwinBus power supply unit whether the setting protection is activated - see page ☞ **100**.
- Repeat the procedure.

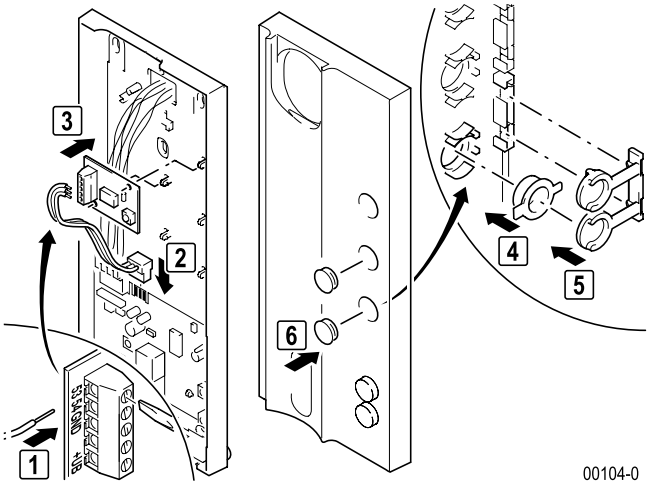
2.6 Accessories for indoor telephones, indoor video stations and intercom units

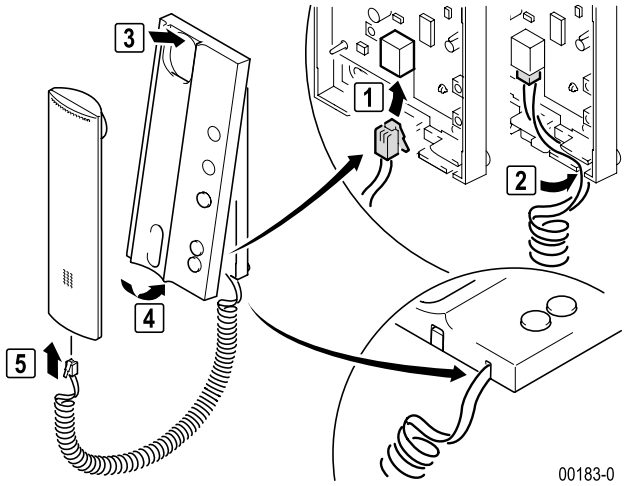
2.6.1 Button 1 7636

Assembly

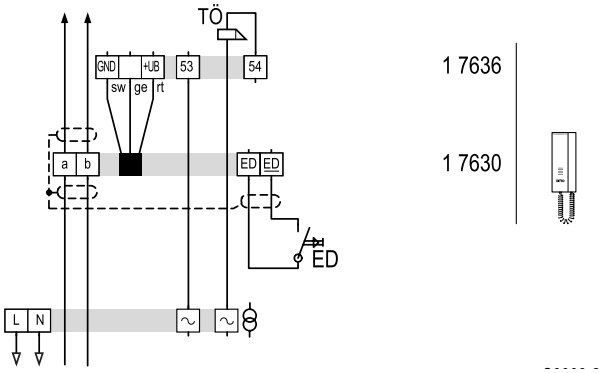
- Remove the TwinBus device and the supplied components from the packaging.







Connection



Connections

a, b	bus terminal
53, 54	switch terminal
sw	black
ge	yellow
rt	red

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.
- Please note that the mains voltage and the SELV (TwinBus line) are laid separately.
- Max. switching power 1 A at 24 V AC/DC.

Starting up

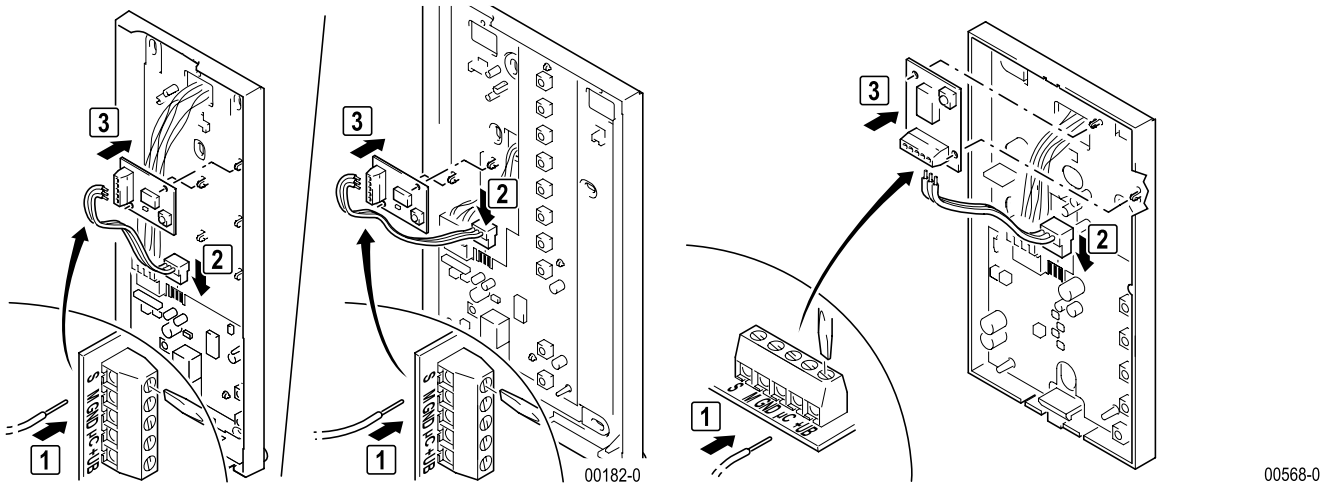
No start-up is required.

2.6.2 TwinBus call interface relay 1 7646

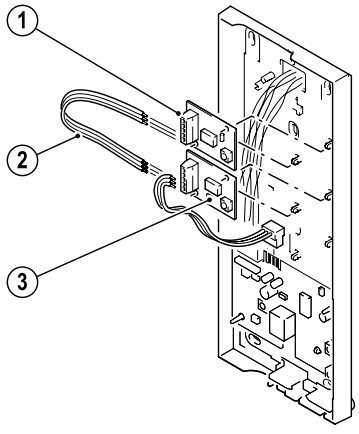
Assembly

- Remove the TwinBus device and the supplied components from the packaging.

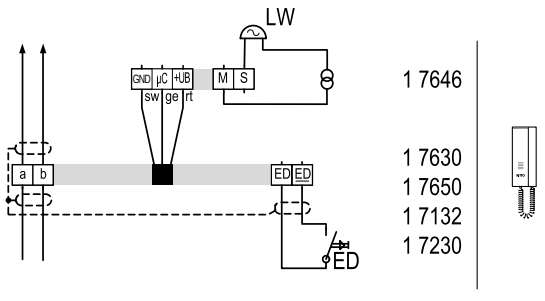
Indoor telephones 1 7630 and 1 7650, intercom units 1 7132 and 1 7230



Note:
For the combination of the call interface relay 1 7646 (1) and a potential-free button 1 7636 (3), terminals GND, µC and +UB must be connected across the joints with the provided cable (2).

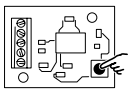
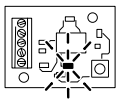


Connection



Wire colour Connecting line	terminal
black (sw)	GND
yellow (ge)	µC
red (rt)	+UB

Starting up

Function	Activity	Result
Switching time setting		
 max. 120 s	 Press setting button	 LED flashes *

* Diode flashes once = 0.5 seconds running time

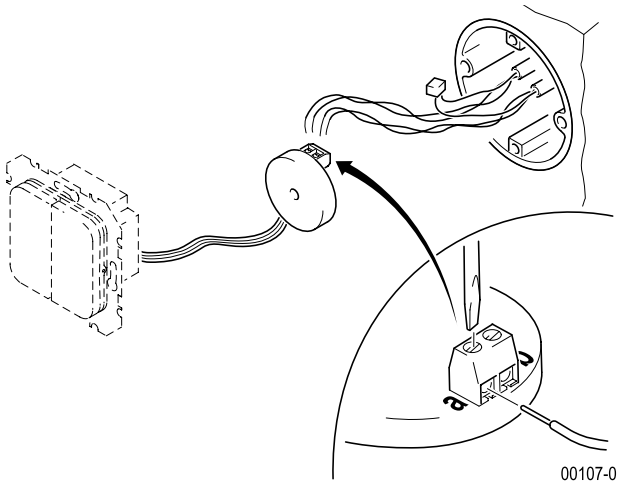
- Max. switching power 1 A at 24 V AC/DC.

Note:
The call interface relay 1 7646 switches only when the receiver has been put down or no speech connection is active.

2.6.3 Button adapter 1 4645

Assembly

- Remove the TwinBus unit from the packaging.

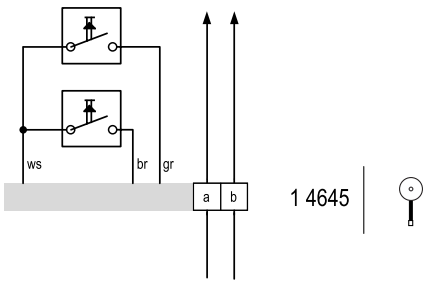


Connection

Caution!

Damage to device

The button adapter is unsuitable for connecting mains voltage.



S0010-3

Connections

a, b	connection to bus
ws	white
br	brown
gr	green

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.

Starting up

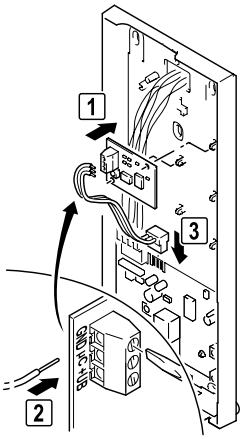
Start-up takes place using the TwinBus unit that is intended to react to the operation of the connected customer-

installed button. The procedure for starting up indoor telephones is the same one that is used when programming a doorbell.

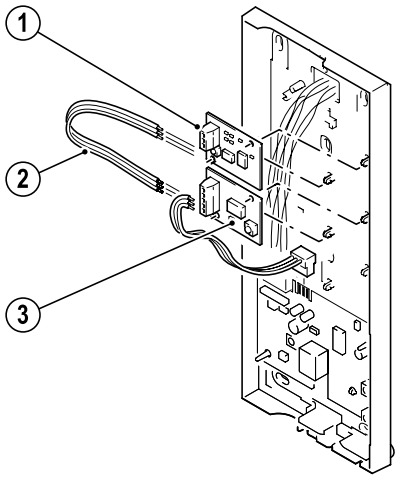
2.6.4 Radio transmitting printed circuit board 1 7656

Assembly example indoor telephone 1 7630

- Remove the unit and the supplied components from the packaging.



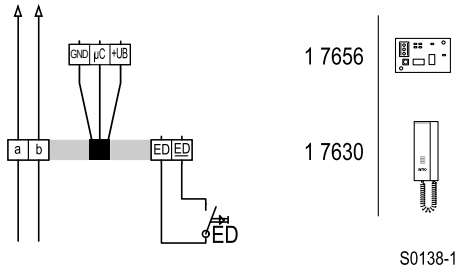
00934-0



00935-0

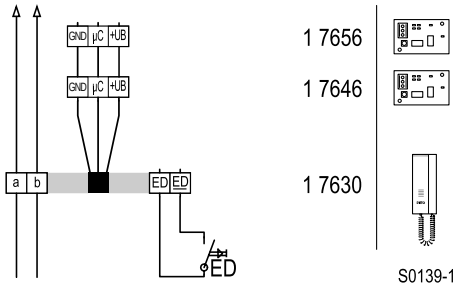
Note:
For the combination of the radio transmitting printed circuit board 1 7656 (1) and an extension printed circuit board, e.g. call interface relay 1 7646 (3), terminals GND, µC and +UB must be connected across the joints with the provided cable (2).

Connection



Wire colour Connecting line	terminal
black (sw)	GND
yellow (ge)	µC
red (rt)	+UB

Circuit diagram:connection to indoor telephone 1 7630.



Wire colour Connecting line	terminal
black (sw)	GND
yellow (ge)	µC
red (rt)	+UB

Circuit diagram:connection to indoor telephone 1 7630 with call interface relay 1 7646.

Starting up

No start-up is required.

2.6.5 TwinBus desktop console 1 7310

Indoor telephone 1 7630 – refer to page ☞ **35**

Compact intercom unit 1 7132 – refer to page ☞ **78**

LD1 and
LD3 go out

2.6.6 TwinBus desktop console 1 7311

Refer to Page ☞ **41**.

2.6.7 TwinBus desktop console Video 1 7313

Installation as desktop unit of TwinBus indoor video station 1 7857 and handsfree video intercom unit 1 7835, 1 7845 and 1 7855 – refer to page ☞ **46**.

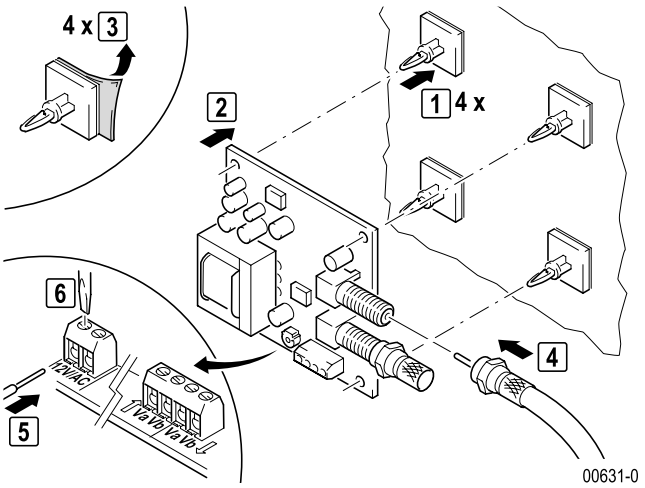
2.6.8 TwinBus flush-mounted frame 1 7320, 1 7321, 1 7323

The installation procedure is described in the respective indoor telephone/indoor video station installation description.

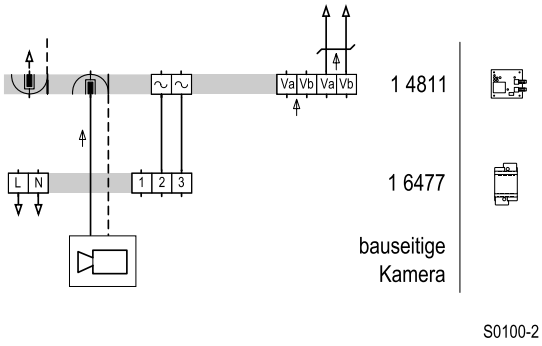
2.6.9 TwinBus coaxial connection adapter 1 4811

Assembly

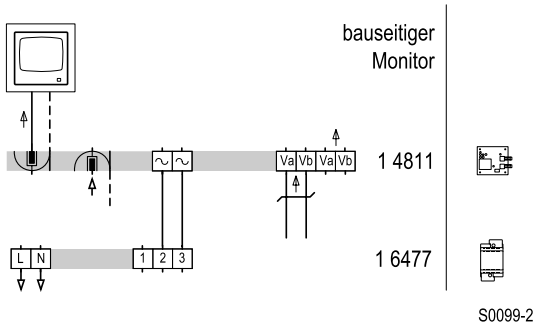
- Remove the TwinBus device and the supplied components from the packaging.



Connection

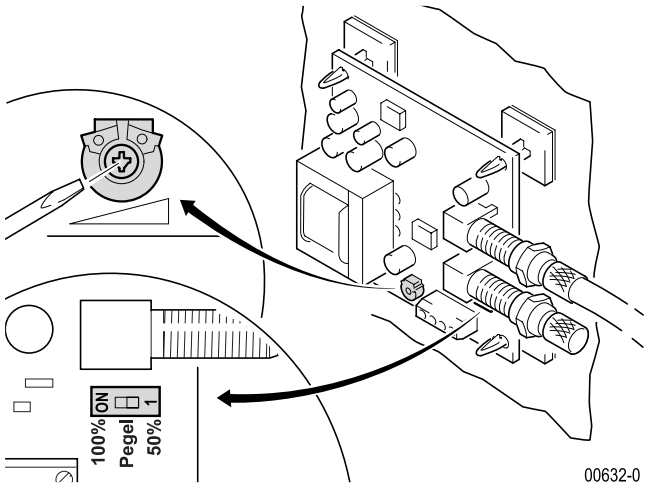


Circuit diagram: connection, for example, of a camera with coaxial connection.



Circuit diagram: connection, for example, of a monitor with coaxial connection.

Starting up

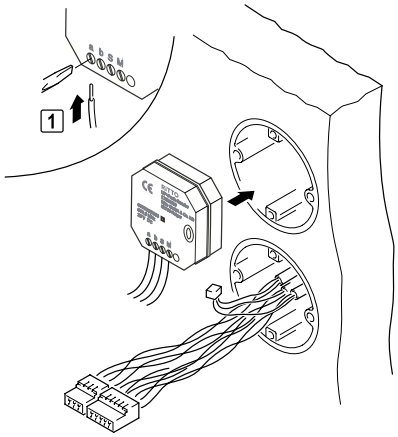


- Set the DIP switches, customisation of the 100% input signal
  corresponds to the undampened signal
  50% corresponds to a halving of the signal voltage
- Adapt signal level at coaxial output using potentiometer (1 Vss to 75 Ω).

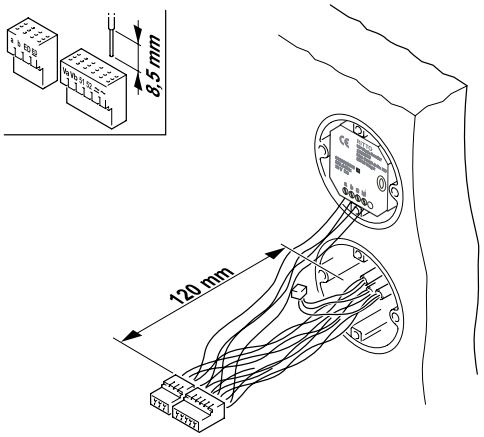
2.6.10 Flush-mounting radio transmitter 1 7856

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Install the flush-mounting radio transmitter in a switch box, e.g. behind the TwinBus indoor video station.

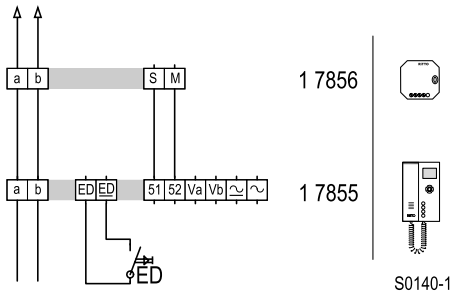


00936-0



00937-0

Connection



S0140-1

Wire colour Connecting line intercom unit	terminal flush-mounting radio transmitter	terminal
red	a	a
black	b	b
white	S	51
yellow	M	52

Note:
The switching contact (terminal 51, 52) must be configured as a call interface relay, refer to "Start-up" section of the indoor video station 1 7855 or the handsfree video intercom unit 1 7835, 1 7845.

Starting up

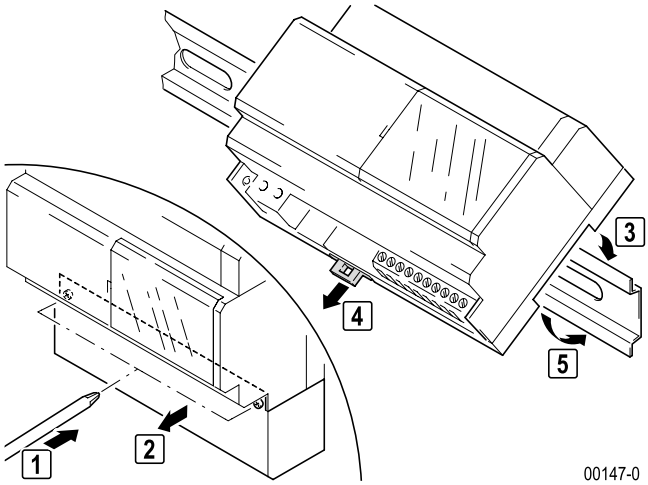
- Press the programming button or the assigned bell button to transmit the radio code.

2.7 TwinBus power supply unit and accessories

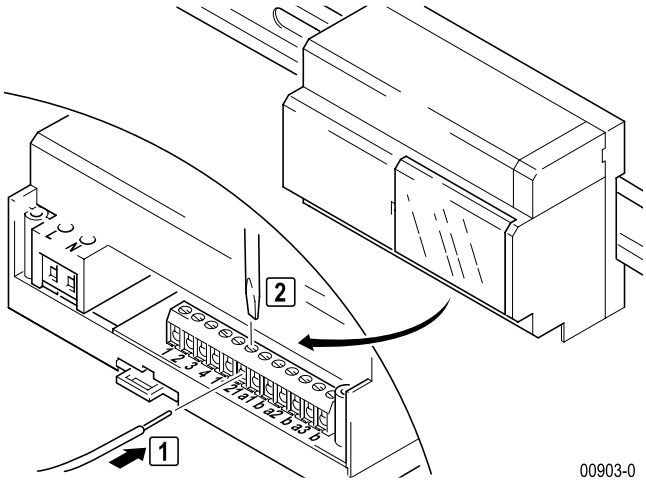
2.7.1 TwinBus power supply unit 1 7573

Assembly

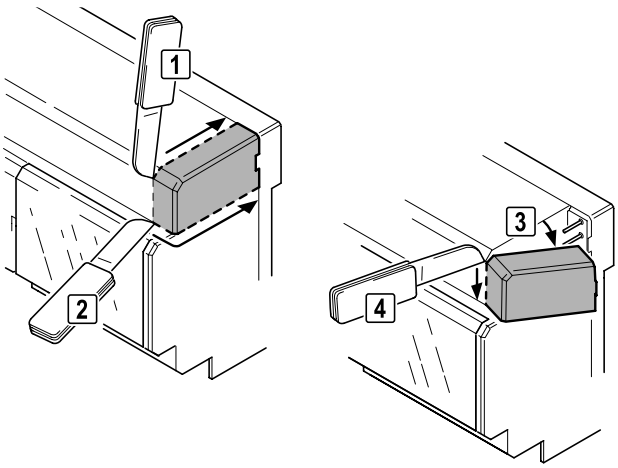
- Remove the TwinBus device and the supplied components from the packaging.



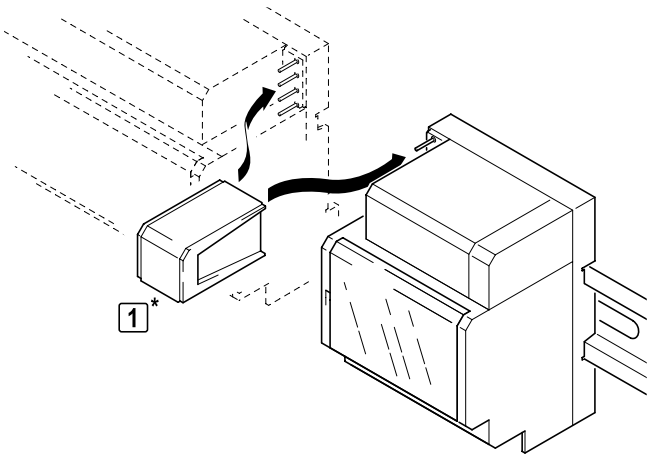
00147-0



00903-0



00904-0



00538-0

Cut off the cover for connecting to additional devices.

Connections

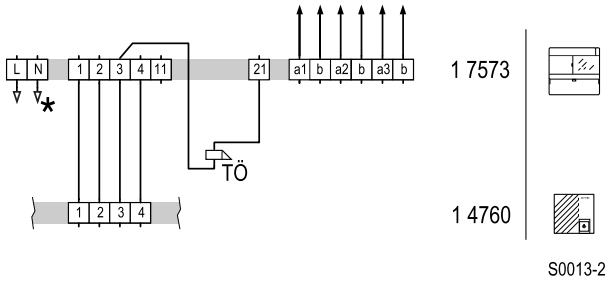
L, N	230 V mains connection
1, 2, 3, 4	Door station, polarized
3, 21	Operate
a1, b	Main bus line 1
a2, b	Main bus line 2
a3, b	Main bus line 3
System bus	for supplying additional devices

Danger!

Risk to life from electric shock.

If the power supply unit is being surface mounted, the terminal cover (2) in figure 00147 must be attached above the 230 V connection.

Connection

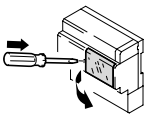
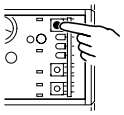
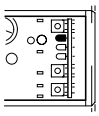
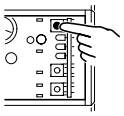
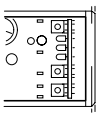


* Provide line safety switch

Starting up

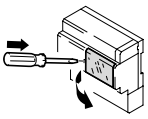
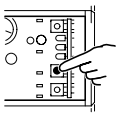
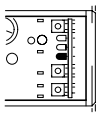
How to program commands into the power supply unit is described during the start-up of the coding module 1 4764 and the access module 1 4768.

Adjustment protection

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press "prog. protection" until	 LD 3 (green) illuminates ON
 Press "prog. protection" until	 LD 3 (green) goes out OFF

Adjust door opening time

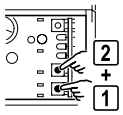
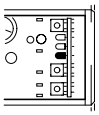
The door opening time can be set within a range of 1 to 120 seconds. The factory setting of the running time is 3 seconds.

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "Z" until	 LD 1 (yellow) flashes *

* 1 x flash = 1 s

More information on the power supply unit can be found in the chapter entitled Service – see page ☞ **183**

Delete settings

Activity	Result
 Press "P" and then "Z" until	 LD 1 briefly illuminates yellow

Note:

Thermal fuses

Instead of conventional melting fuses the TwinBus power supply unit 1 7573 has two electronic fuses that interrupt the respective power circuit if an overload occurs. If one of these fuses activates, the associated voltage indicator LED goes off. Proceed as follows to switch on again:

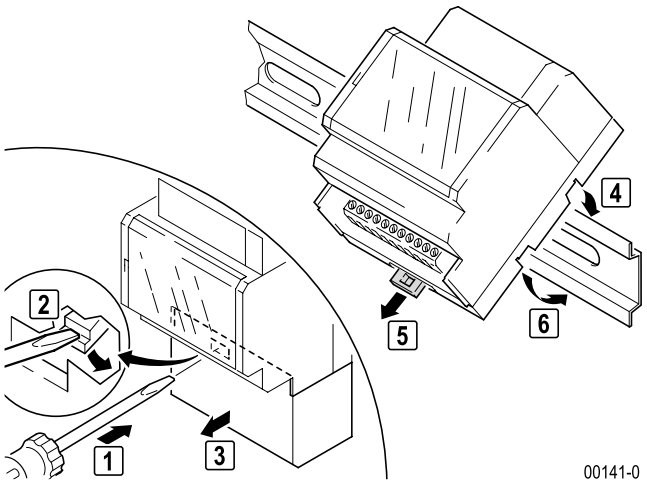
- Switch mains voltage off and leave off for approximately 1 minute.
- Remedy short circuit or overload.
- Switch mains power supply on again.

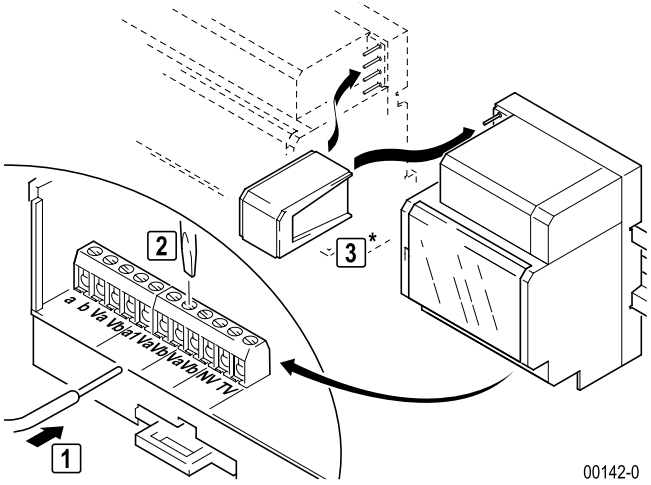
The associated voltage indicator LED illuminates again.

2.7.2 TwinBus floor control unit 1 4585

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



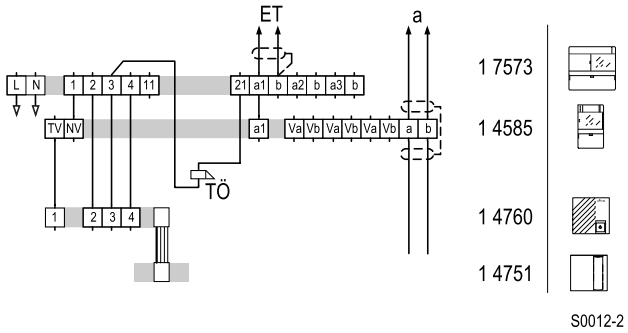


* Cut off the cover for connecting to additional devices.

Connections

a, b	Main bus line
V_a, V_b	Main video bus
a1	Floor control line
V_a, V_b	Floor bus for video
V_a, V_b	Camera, door station
NV	power supply unit
TV	Door station
System bus	for supplying additional devices from power supply unit 1 7573

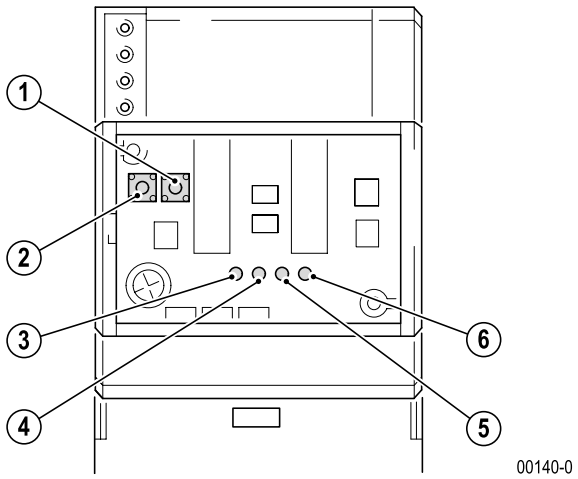
Connection



Circuit diagram::floor line (ET) to main bus (a).

See also circuit diagram "multi-family and office building with separate door stations" on page ☞ **17**.

Starting up



Operating elements

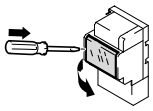
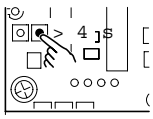
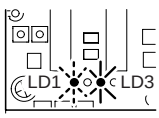
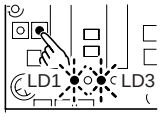
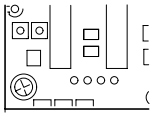
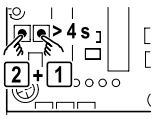
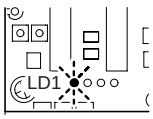
1. Setting button Z
2. Setting button P
3. LED1, programming mode indicator
4. LED2, call indicator
5. LED3, main doorbell ring signal
6. LED4, polarity indicator

Wrong polarity indicator

The red LED (6) illuminates.

- Switch wires at terminals a and b of floor control unit (main bus line).

Adjusting the operating mode

Function	Activity	Result
	 Open plexiglass cover on floor control unit	
Activate programming mode	 Press and hold "Z" for more than 4 s until	 LD1 flashes, LD3 illuminates
Activate normal operation	 Press "Z"	 LD1 and LD3 go out
Delete call numbers	 Press and hold "Z" and then "P" for more than 4 s until	 LD1 flashes 1x

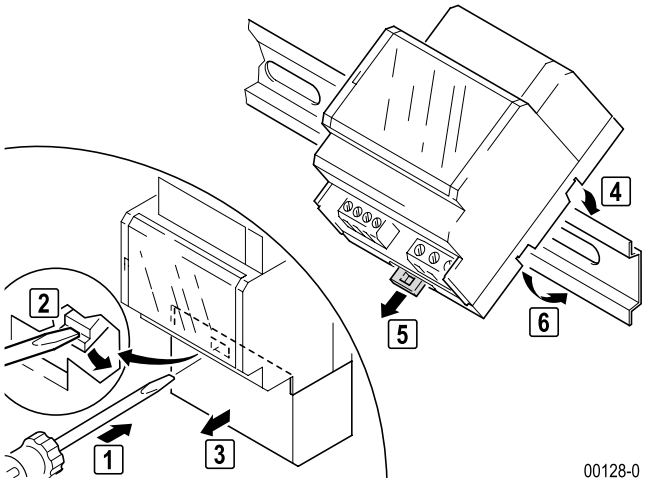
Note:

- Programming mode must be set in order to connect the main door station to an indoor telephone within the floor line. You **must** switch to normal mode after programming.
- The floor door station bell buttons are assigned in normal mode.
- When programming main door bell buttons on floor line indoor telephones, the floor control unit 1 4585 must first be switched to programming mode, then the indoor telephones and indoor video stations must be programmed.

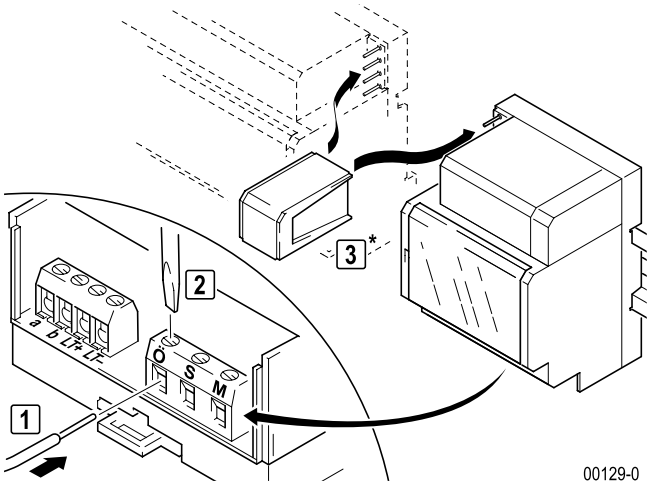
2.7.3 TwinBus switching device 1 4981

Assembly

▸ Remove the TwinBus device and the supplied components from the packaging.



00128-0



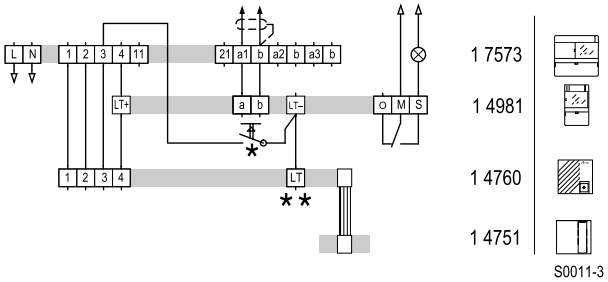
00129-0

* Cut off the cover for connecting to additional devices.

Connections

a, b	Connection to TwinBus
LT+, LT-	Control input, e.g. for bell buttons
S, M, Ö	Relay output (230 V changeover contact)
System bus	for supplying additional devices from power supply unit 1 7573

Connection



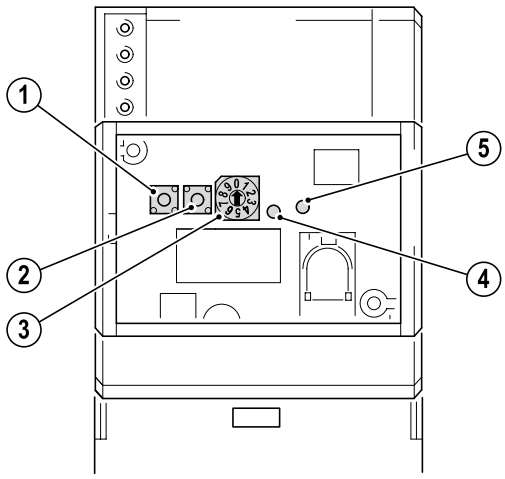
S0011-3

* Optional, customer-installed push button

** Light button on button module

Circuit diagram: switching device with power supply unit, switches consumer up to 230 V, 6 A.

Starting up



Operating elements

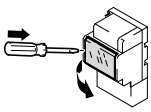
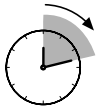
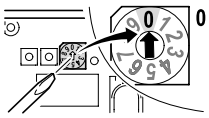
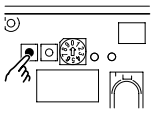
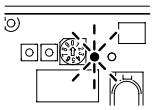
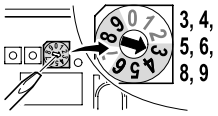
1. Timer button Z
2. Command setting button P
3. Operating mode switch
4. Yellow LED, function indicator settings
5. Green LED, relay on function indicator

Adjusting the operating mode

The switching device has the following operating modes, which can be selected using the operating mode switch:

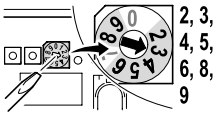
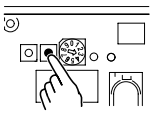
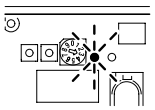
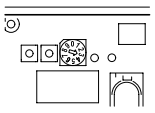
Switch setting	Operating mode	Function
0	OFF/Time setting	Switching device permanently OFF/ Set time mode
1	ON	Switching device permanently ON
2	Current surge switch	Each switching command switches the switching device on or off
3	Time relay (short time)	Each switching command switches the switching device on for the short time that has been set.
4	Time relay (short time) with extension	Each switching command switches the switching device on for the short time that has been set; each switching command that is issued before the timer runs out resets the timer.
5	Time relay (long time)	Each switching command switches the switching device on for the long time that has been set.
6	Time relay (long time) with extension	Each switching command switches the switching device on for the long time that has been set; each switching command that is issued before the timer runs out resets the timer.
7	Remote switch	The switching device switches on for as long as the connected button is pressed. **Note:** No TwinBus control is possible in this operating mode.
8*	Time relay (long time) with extension, switch-off warning	Each switching command switches the switching device on for the long time that has been set; approx. 30 seconds before the time elapses, the switching device switches off briefly 3x; each switching command that is issued before the timer runs out resets the timer.
9*	Time relay (long time) with extension, switch-off warning, continuous light	Each switching command switches the switching device on for the long time that has been set; approx. 30 seconds before the time elapses, the switching device switches off briefly 3x; each switching command that is issued before the timer runs out resets the timer. Independent of the time set, the switching device is switched on for 60 minutes by three switching commands following one another in rapid succession.

* The switch-off warning may shorten the service life of certain illuminants such as fluorescent lamps with conventional ballast.

Function	Activity	Result
	 Open plexiglass cover on switching device	
 1) Set switching time	 0 set position to "0"	
	 Press and hold "Z" until	 LED flashes 2)
	 3, 4, 5, 6, 8, 9 set to position of desired operating mode	

1) The switching time can be set for operating modes 3, 4, 5, 6, 8 and 9. It can be selected from 1 s to 127.5 min (short time: 1 s to 127 s, long time: 30 s to 127,5 min).

2) The yellow LED flashes every second. In operating modes 3 and 4, the switching time is increased by one second every time the LED flashes. In operating modes 5,68 and 9, the switching time is increased by 30 seconds every time the LED flashes. Pressing the "Z" button will overwrite the old time setting.

Function	Activity	Result
Program switching command 3)	 2, 3, 4, 5, 6, 8, 9 set to position of desired operating mode	
	 Press and hold "P" for 5 s until	 LED flashes
	 Within one minute, transmit switching command	 LED goes out,  acoustic signal at door station

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

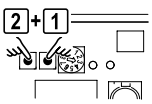
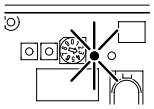
If the time limit has been exceeded:
- Repeat the procedure.

If the programming procedure failed:
- Check at the TwinBus power supply unit whether the adjustment protection has been enabled.
- If 10 bell buttons have already been programmed, the memory of the device is full. If necessary, delete all settings and reprogram all required switching commands.

3) A maximum of 10 switching commands can be set.
A switching command is triggered by a TwinBus unit (e.g. switch light on with light button, control button, internal call button or secret number from coding module).

Delete settings

Use the delete function to delete all set switching commands. The time setting is reset as well.

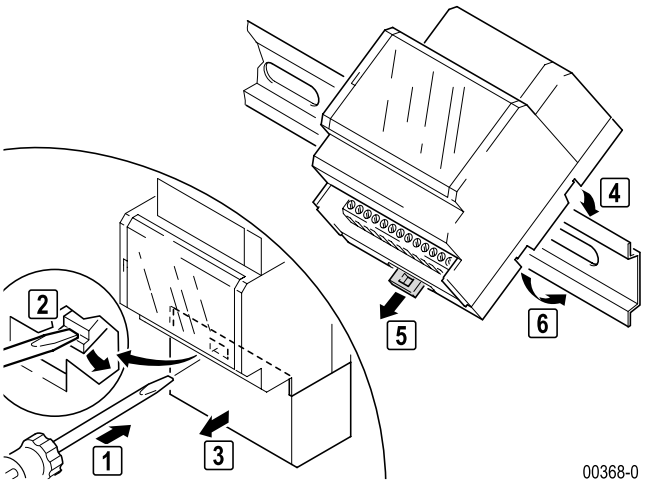
Function		Activity	Result	
Delete settings	4)	 Press "P" and then "Z", and hold both buttons for 5 s		LED illuminates

4) Operating mode switch must not be set to “0” or “7”.

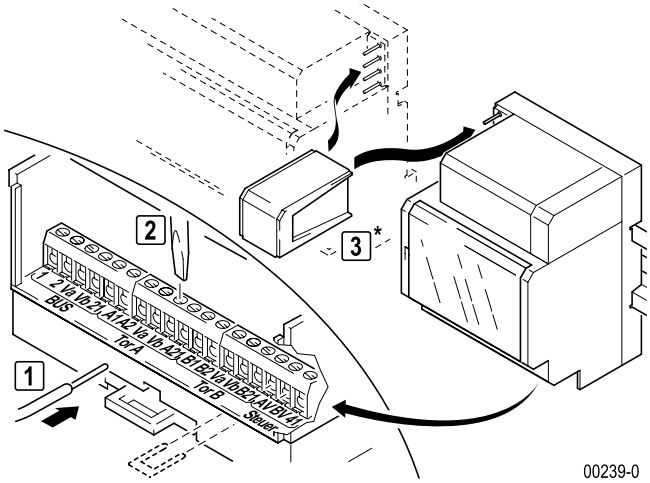
2.7.4 TwinBus door selector switch 1 4982

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



00368-0



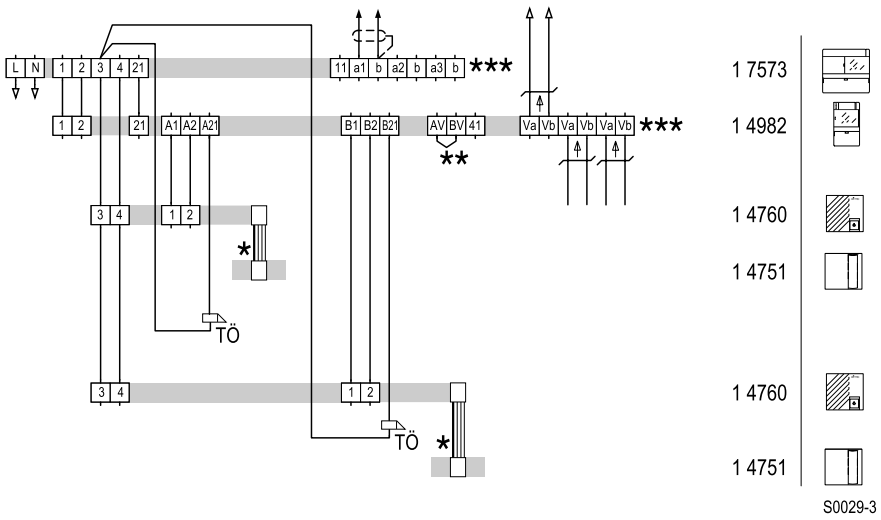
00239-0

* Cut off the cover for connecting to additional devices.

Connections

1, 2, 21	Connect power supply unit and door selector switches in parallel
Va, Vb	Video bus to system
A1, A2, A21	Door station 1 connection
Va, Vb	Video bus to door station 1
B1, B2, B21	Door station 2 connection
Va, Vb	Video bus to door station 2
AV, BV	Operating mode coding using a bridge
41	Reset line

Connection

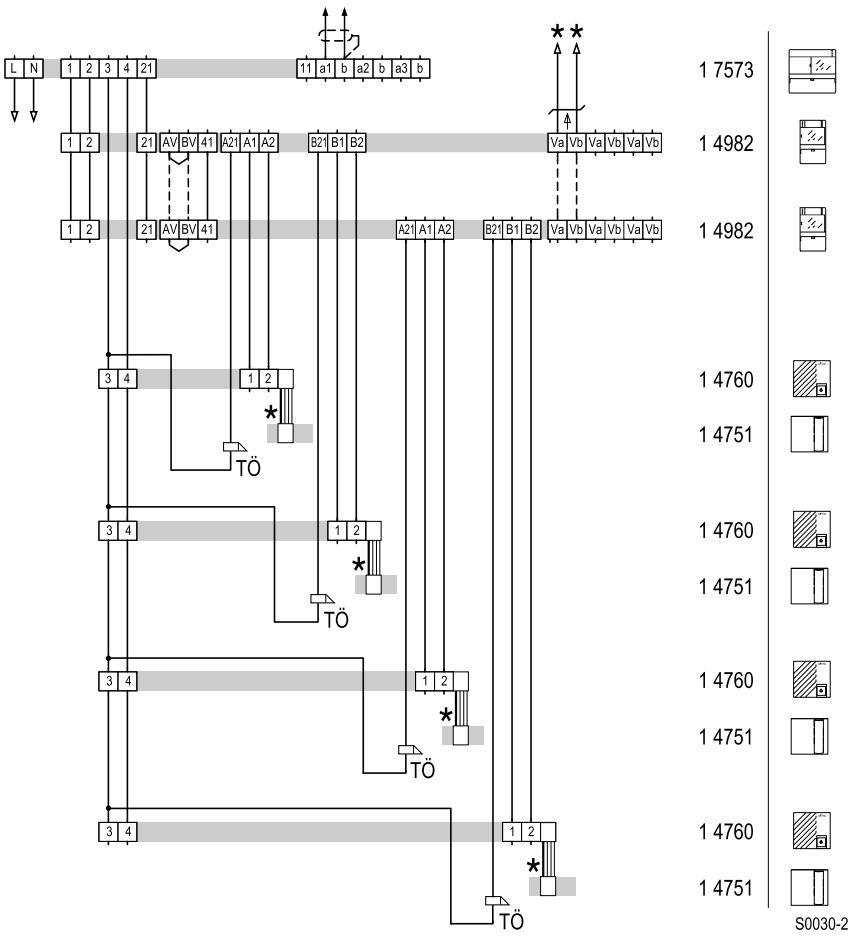


* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** Open: without busy function
Bridged: Busy function

Circuit diagram: two door stations.

See also circuit diagram "One or multi-family residences with extension to two door stations" on page ☞ **15**



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

** The video lines of video systems are connected in parallel.

Circuit diagram: extension by switching door selector switches in parallel.

Note:
If more than one door selector switch is used, line 41 must be connected across the joints.

Setting the operating mode

Door selector switch 1 4982 can operate in operating modes with or without the busy function.

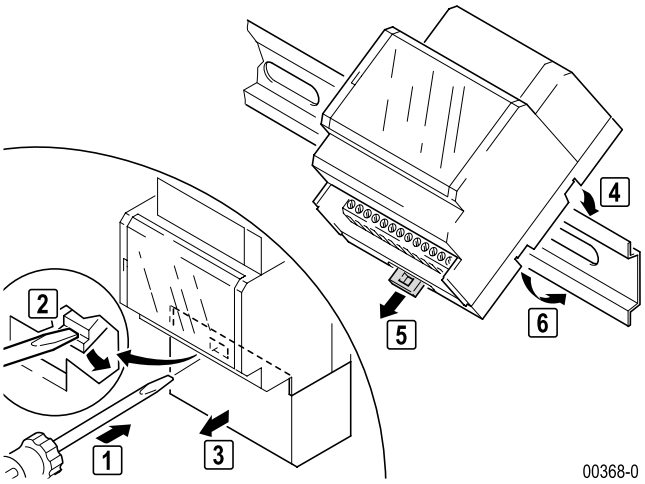
The operating mode is set using a bridge between terminals AV and BV. The busy function operating mode is set with a bridge.

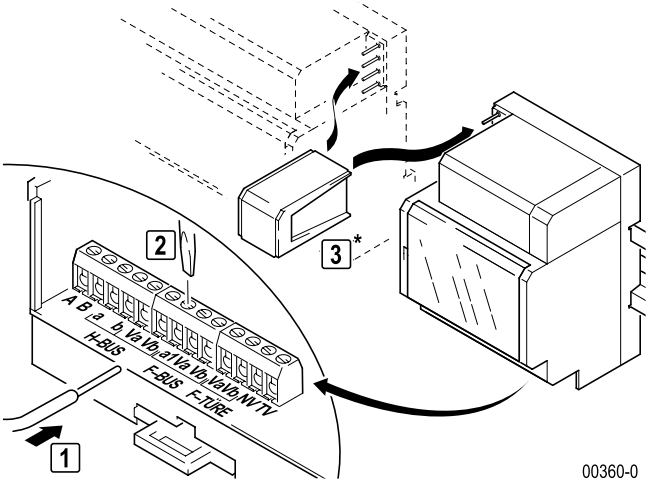
Busy function: ON
An existing link between a door station and the system is maintained. The bell button cannot be operated from another door station for approximately 25 seconds whilst the link exists.

2.7.5 TwinBus area coupler 1 4213

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- Please also follow the provided operating instructions.



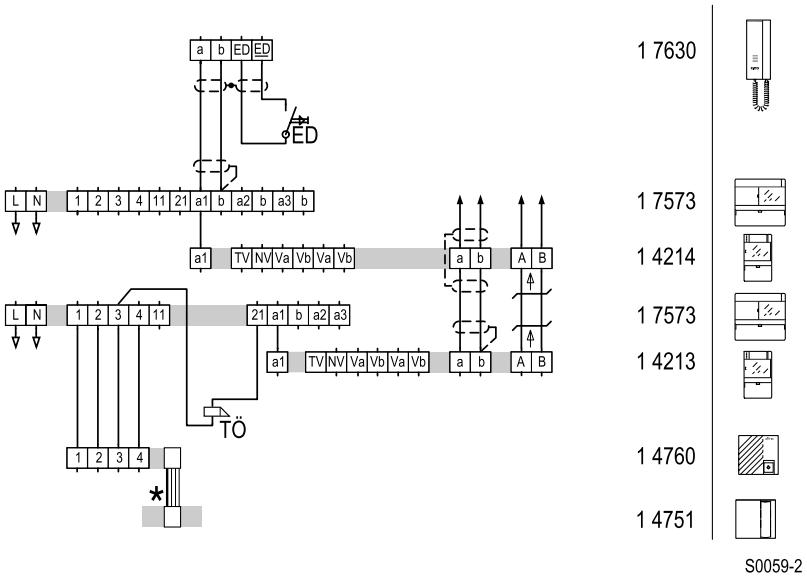


* Cut off the cover for connecting to additional devices.

Connections

A, B	Bus
a, b	Main bus line
V_a, V_b	Main video bus
a1	TwinBus power supply unit, TwinBus
System bus	for supplying additional devices from power supply unit 1 7573

Connection

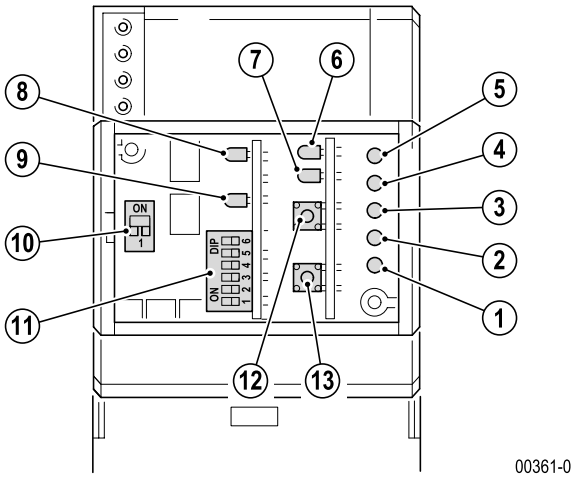


* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: area coupler with line coupler.

Starting up

The central RITTO customer center will assist you in starting up (Tel: +49 (0) 2773 / 812-111).



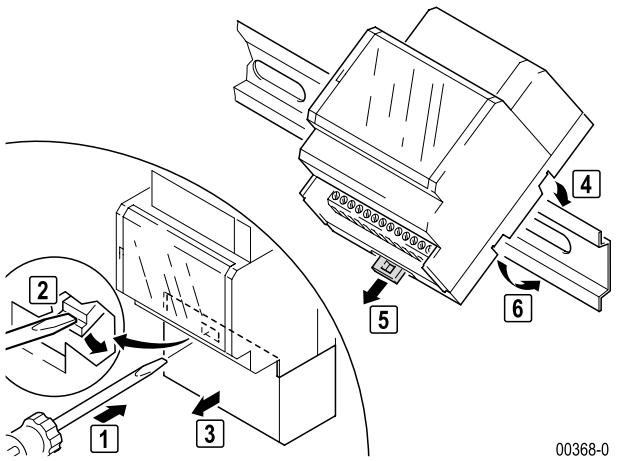
Operating elements

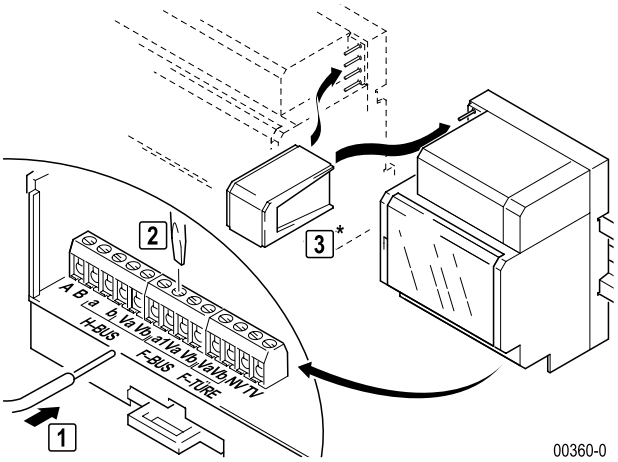
1.	LED	TwinBus false polarity
2.	LED	RS 485 enable
3.	LED	K3 Video
4.	LED	K2 bus decoupling
5.	LED	
6.	LED	Acknowledge signal when programming
7.	LED	Status indicator
8.	LED	Data on RS 485
9.	LED	Ready for operation
10.	Switch	Bus connection ON/OFF
11.	Switch	Bus address
12.	Button	Setting button Z
13.	Button	Setting button P

2.7.6 TwinBus line coupler 1 4214

Assembly

- Remove the TwinBus device and the supplied components from the packaging.





* Cut off the cover for connecting to additional devices.

Connections

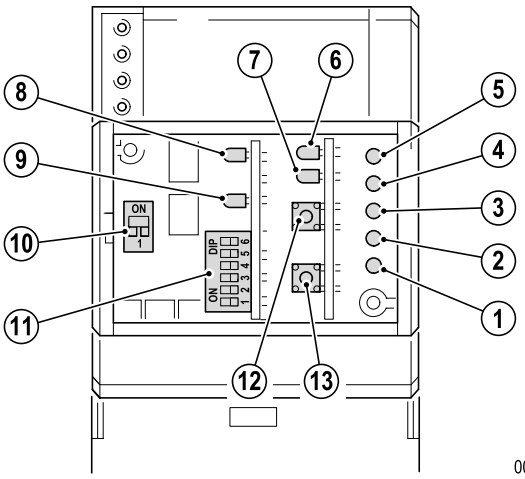
A, B	Bus
a, b	Main bus line
V_a, V_b	Main video bus
a1	TwinBus power supply unit, TwinBus
System bus	for supplying additional devices from power supply unit 1 7573

Connection

See circuit diagram "Area coupler with line coupler" on page ☞ **109**.

Starting up

The central RITTO customer center will assist you in starting up (Tel: +49 (0) 2773 / 812-222).
The documents that are required are enclosed with area coupler 1 4213.



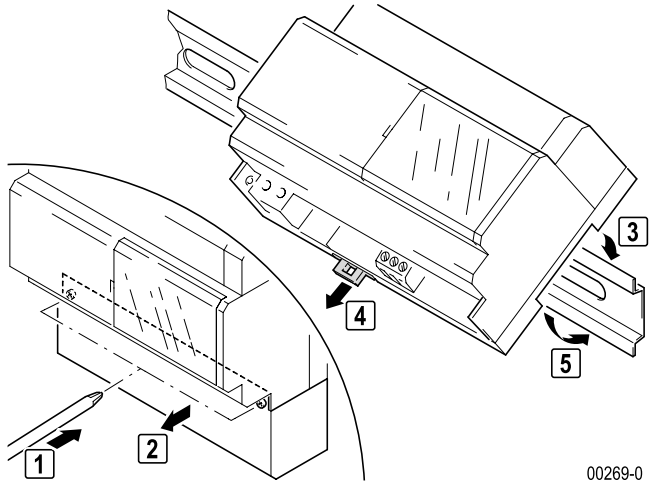
Operating elements

1.	LED	TwinBus false polarity
2.	LED	RS 485 enable
3.	LED	K3 Video
4.	LED	K2 bus decoupling
5.	LED	ETS lock (NV/TV)
6.	LED	Acknowledge signal when programming
7.	LED	
8.	LED	Data on RS 485
9.	LED	Ready for operation
10.	Switch	Bus connection ON/OFF
11.	Switch	Bus address
12.	Button	Setting button Z
13.	Button	Setting button P

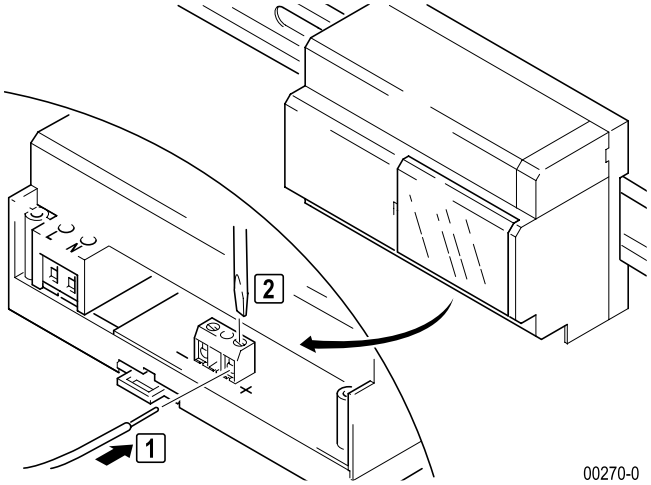
2.7.7 Video power supply unit 1 4874

Assembly

- Remove the unit and the supplied components from the packaging.

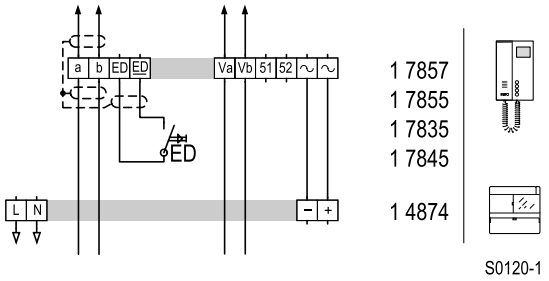


00269-0



00270-0

Connection



S0120-1

Note:

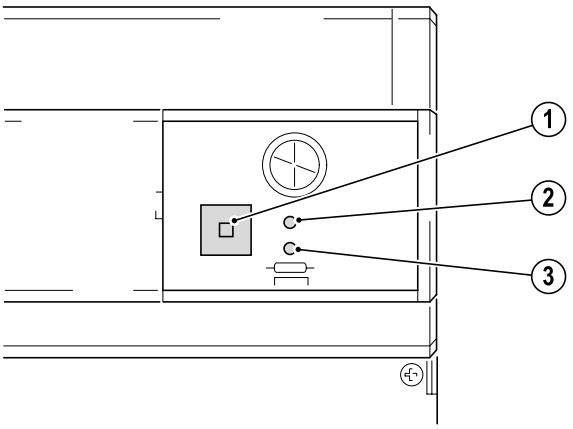
Thermal fuses

The video power supply unit 1 4874 has an electronic fuse that interrupts the power circuit if an overload occurs rather than conventional melting fuses. If this fuse activates, the associated voltage indicator LED goes off. Proceed as follows to switch on again:

- Switch mains voltage off and leave off for approximately 1 minute.
- Remedy short circuit or overload.
- Switch mains power supply on again.

The associated voltage indicator LED illuminates again.

Starting up



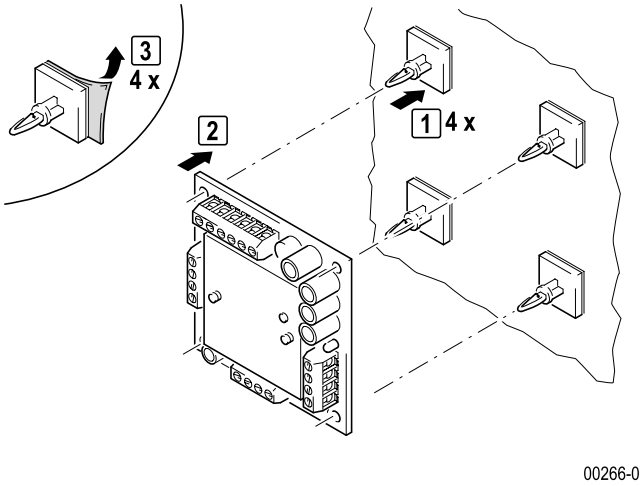
00257-0

- Set the output voltage using the changeover switch (1). Illuminated LED (2) indicates a voltage of 18 V, and LED (3) indicates 24 V.

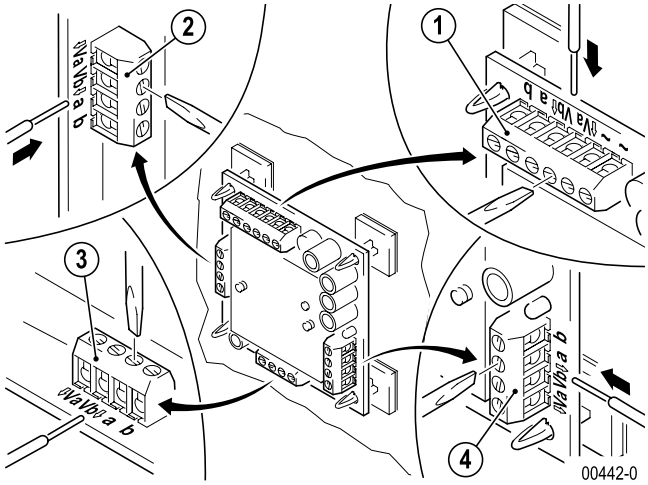
2.7.8 TwinBus video floor distributor 1 4812

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



00266-0

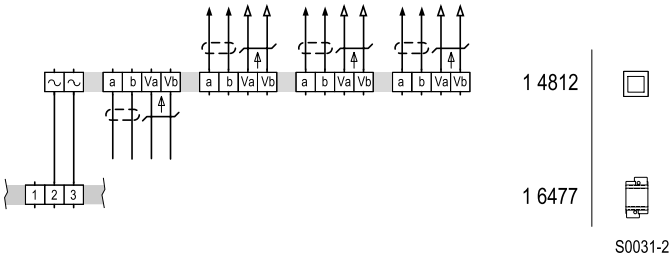


00442-0

Connections

1. Main bus line input, power supply
2. TwinBus audio+video output 1
3. TwinBus audio+video output 2
4. TwinBus audio+video output 3

Connection



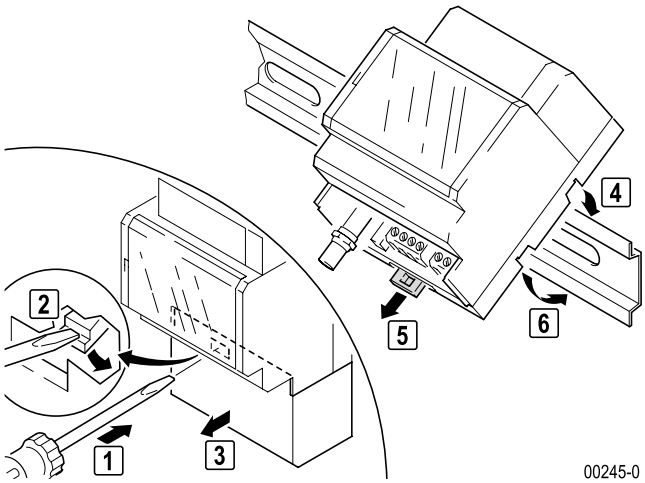
Starting up

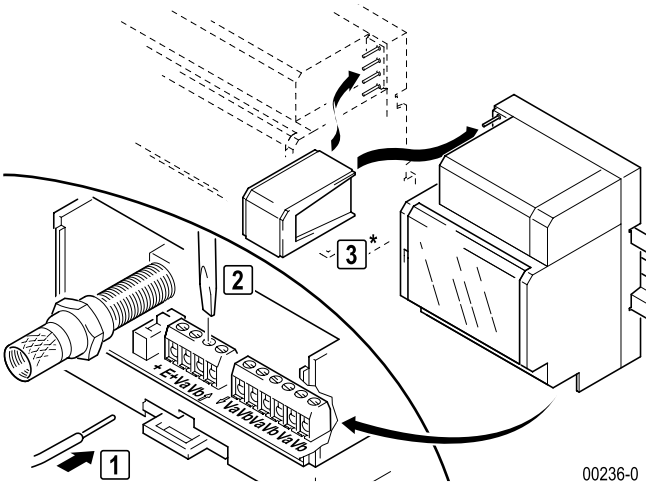
No start-up is required.

2.7.9 TwinBus video line distributor 1 4813

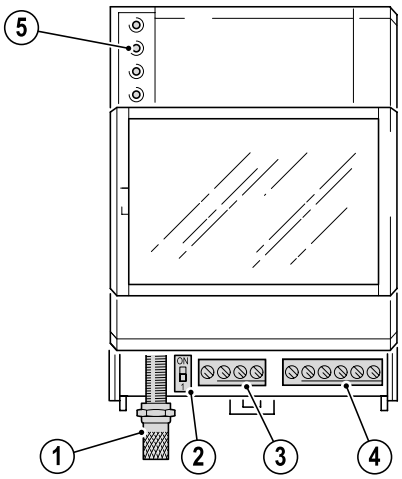
Assembly

- Remove the TwinBus device and the supplied components from the packaging.



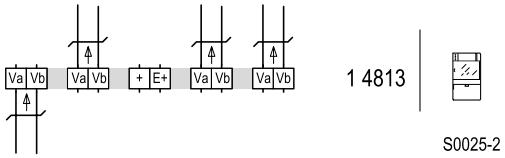


* Cut off the cover for connecting to additional devices



1. Coaxial input
2. Switch for selecting the input signal
3. Bus input
4. 3 video bus outputs
5. System bus

Connection



Power supply via system bus

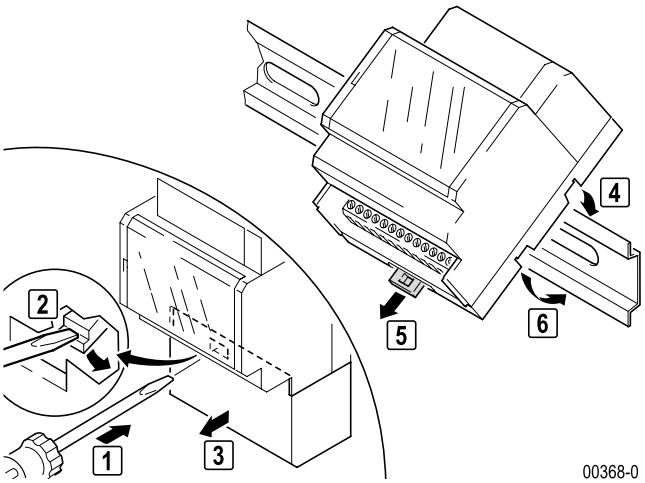
Starting up

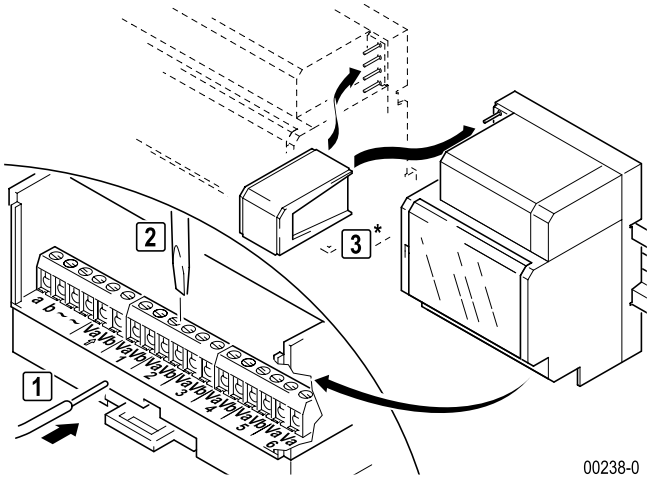
- Set the signal source using bridges + and E+:
  no bridge:: Input signal via TwinBus video line (factory setting).
  with bridge: input signal via coaxial line. DIP switch (2) can be used to adapt the signal of the coaxial input.

2.7.10 TwinBus line switch 1 4814

Assembly

- Remove the TwinBus device and the supplied components from the packaging.

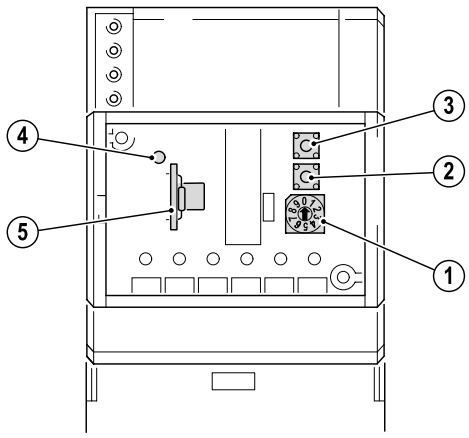




* Cut off the cover for connecting to additional devices.

Connections

a, b	TwinBus
~, ~	Power supply (optional)
V_a, V_b	Video bus, input
V_a, V_b	Video bus, outputs 1 to 6

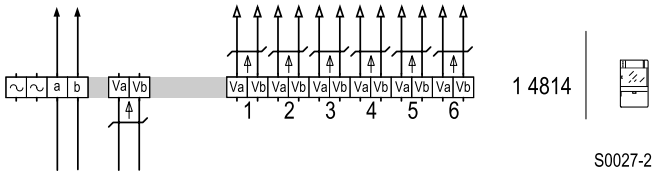


Operating elements

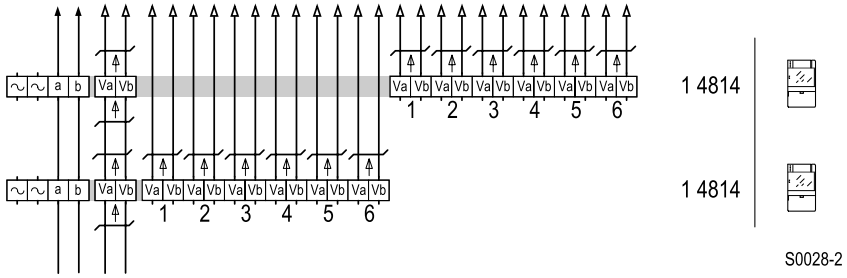
1. Selector switch for video bus outputs 1 to 6
2. Button Z, activate/deactivate self-programming mode
3. Button P, delete door call numbers
4. Yellow LED, self-programming mode signalling
5. Call number memory plug-in card

Connection

Power can also be supplied via the system bus or the mains transformer 1 6477.



Circuit diagram: line switch connection.



Circuit diagram: Cascading with 2 line switches.

Starting up

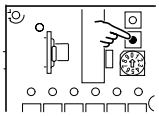
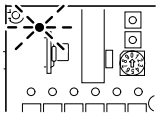
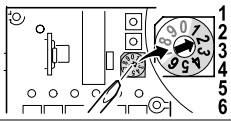
Line switch 1 4814 and the indoor video stations connected to it are programmed to each other during start-up.

All occupied video busses (1 to 6) at the line switch must be selected in sequence and the indoor video stations connected to this videobus must be programmed as described for the relevant indoor video station in order to do this.

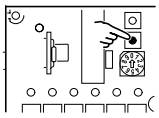
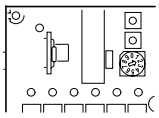
4 addresses can be programmed to the line switch for each video bus.

Several line switches can be combined, meaning that the number of indoor video stations that can be connected is increased. Start-up takes place in the same way as a line switch start-up.

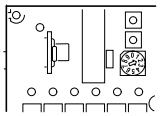
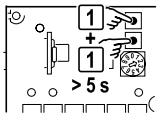
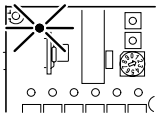
- Set the line switch to self-programming mode.

Activity		Result	
	Press "Z" until		LD illuminates yellow
	Select video bus		

- Program the selected indoor video station as described for the indoor video station.
- Repeat the video bus selection and the programming of the connected indoor videostations for all occupied video busses.
- When all indoor video stations have been programmed, set the line switch to the operating mode.

Activity		Result	
	Press "Z" until		LD goes out

Delete door call number

Activity		Result	
	select line to delete *		
	Press and hold "P" and "Z" at the same time for >5 s		LD illuminates yellow

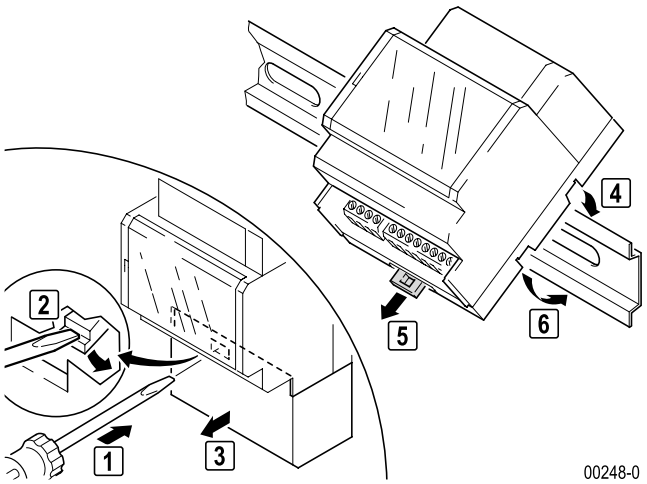
* Select 0 for all lines, otherwise select line to delete.

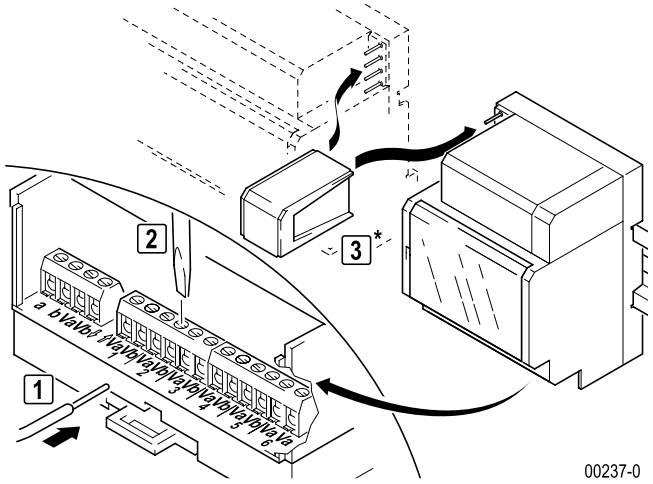
Note:
If a line switch that has already been started up has been replaced, the call number memory can be taken over in the new line switch. The unit does not need to be started up again.

2.7.11 TwinBus camera selector switch 1 4915

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



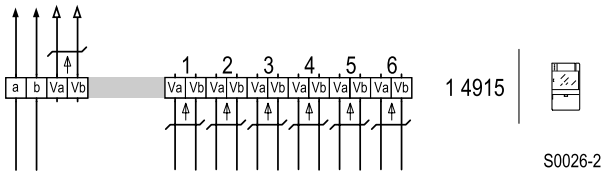


* Cut off the cover for connecting to additional devices

Connections

a, b	TwinBus
V_a, V_b	Video bus, output
V_a, V_b	Video bus, inputs 1 to 6

Connection

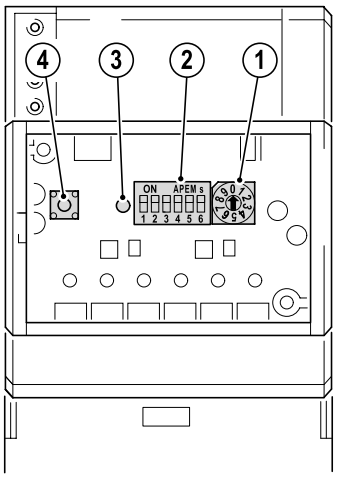


Circuit diagram: connection of up to 6 camera, power supply via system bus.

Starting up

The number of connected cameras must be set using the camera selector switch (DIP switch).

The camera selector switch can be operated in different operating modes. The desired operating mode must be set using the operating mode switch (1). If operating mode (2) is used, the time setting via operating mode 0 must be performed first.



Operating elements

1. Operating mode switch
2. Camera selector switch
3. LED, function indicator
4. Button Z, time setting switch

Operating modes

0 Time setting
Setting the automatic camera switching time for operating mode 3.

1 Test mode
The camera changeover switch can be manually tested using button Z.

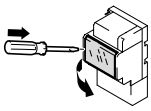
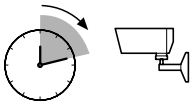
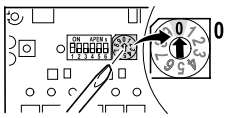
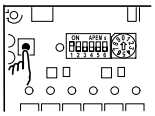
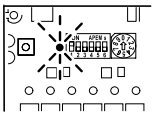
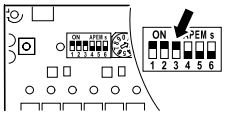
2 Selection mode
The camera is selected at the indoor video station by pressing a button with a fixed assignment. The camera connected to terminals Va1 and Vb1 is activated when the bell button is pressed.

3 Automatic cycle
The cameras are switched over (time controlled).

4 Manual cycle
The cameras are switched over using the on-screen display on the indoor video station.

5 Actuation of cameras 1 4788 and 1 4789
The cameras are switched over using the on-screen display on the indoor video station. The camera module is actuated by pressing the button again within 20 seconds of switching over.

Adjusting the operating mode

Function	Activity	Result
	 Open plexiglass cover on camera selector switch	
Time setting for operating mode 3 	 Select operating mode "0"	
	 Press "Z"	 LD flashes *
Number of cameras 	 Set camera configuration	

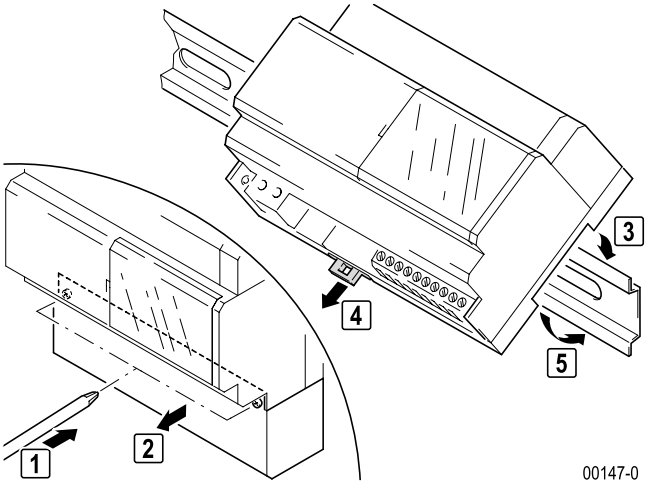
* 1 x flash = 1 s

Note:
When a bell button is pressed, the camera selector switch automatically switches to the signal at input 1.

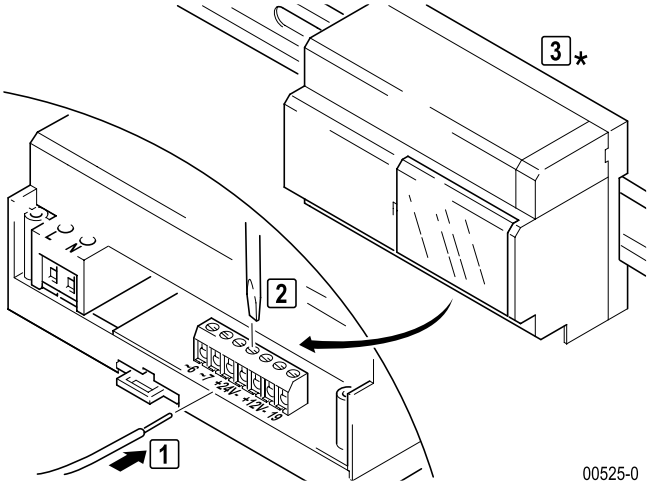
2.7.12 Power supply unit 1 6371

Assembly

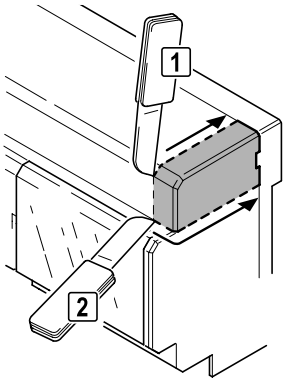
- Remove the unit and the supplied components from the packaging.

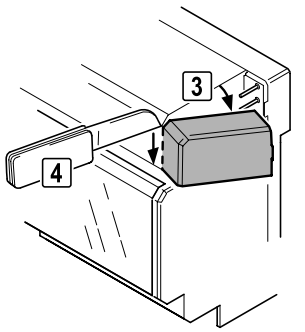


00147-0



00525-0





00904-0

* Cut off the cover for connecting to additional devices.

Connections

L, N	Connection to the mains power
~6	Operating voltage 11 V AC
~7	Operating voltage 11 V AC
+ 12 V	Operating voltage 12 V DC
–	Operating voltage 12 V DC
+ 24 V	Operating voltage 24 V DC
–	Operating voltage 24 V DC
19	Tone generator signal output
System bus	for supplying additional devices

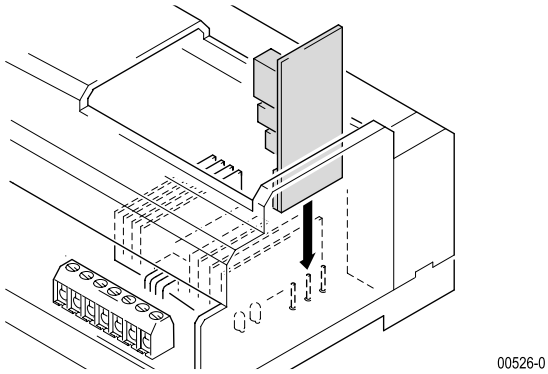
Danger!

Risk to life from electric shock.

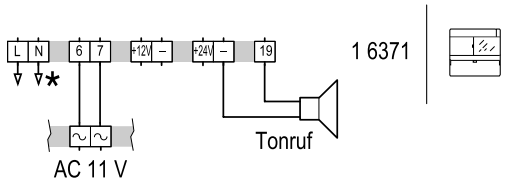
If the power supply unit is being surface mounted, the terminal cover (2) in figure 00147 must be attached above the 230 V connection.

Option: Tone generator

The tone generator 1 6990 provides a signal tone at terminals – and 19.



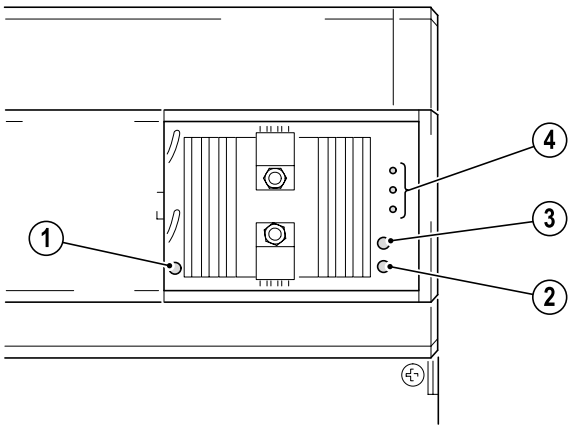
Connection



* Provide line safety switch

Starting up

No start-up is required.



1. LED operating voltage 11 V AC
2. LED operating voltage 12 V DC
3. LED operating voltage 24 V DC
4. Plug-in slot for tone generator

Note:

Instead of conventional melting fuses, power supply unit 1 6371 has two electronic fuses that interrupt the respective power circuit if an overload occurs. If one of these fuses activates, the associated voltage indicator LED goes off. Proceed as follows to switch on again:

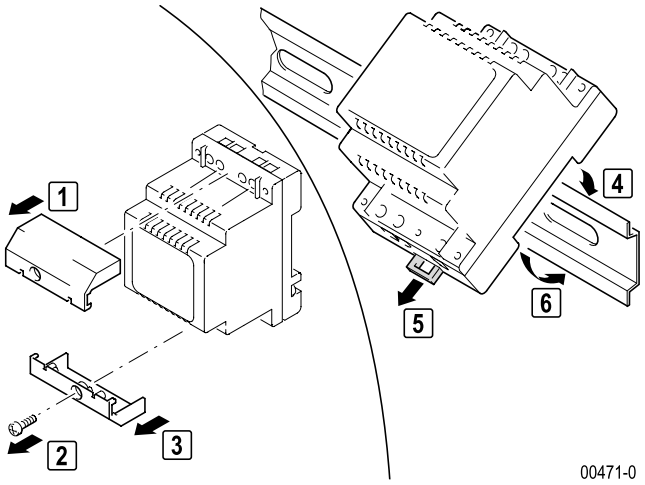
- Switch mains voltage off and leave off for approximately 1 minute.
- Remedy short circuit or overload.
- Switch mains power supply on again.

The associated voltage indicator LED illuminates again.

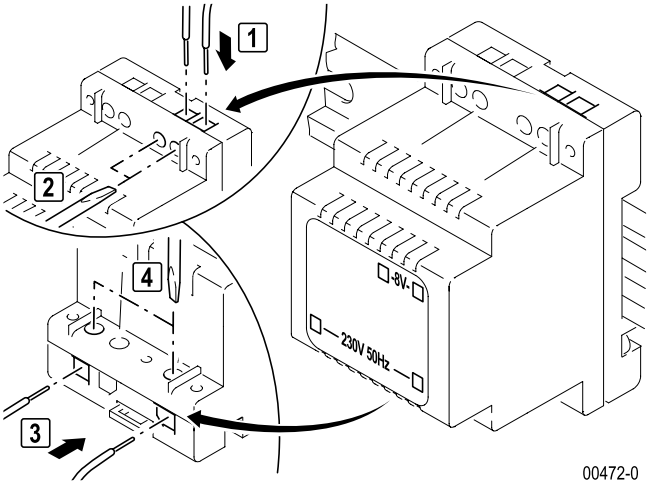
2.7.13 Mains transformer 1 6476

Assembly

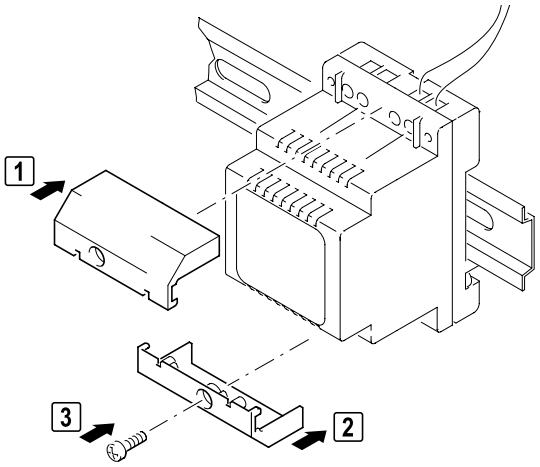
- Remove the unit and the supplied components from the packaging.



00471-0

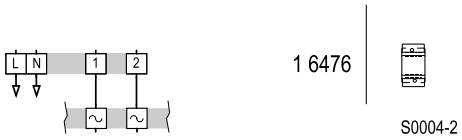


00472-0



00473-0

Connection



S0004-2

Starting up

No start-up is required.

Note:

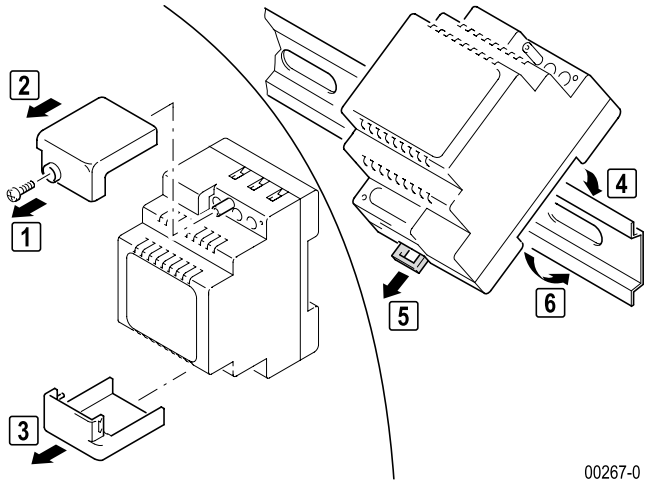
The mains transformer 1 6476 has an electronic fuse that interrupts the power circuit if an overload occurs rather than conventional melting fuses. Proceed as follows to switch on again:

- Switch mains voltage off and leave off for approximately 1 minute.
- Remedy short circuit or overload.
- Switch mains power supply on again.

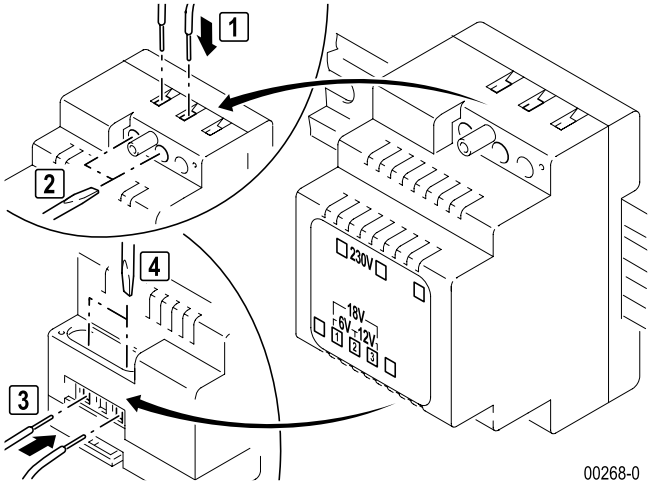
2.7.14 Mains transformer 1 6477

Assembly

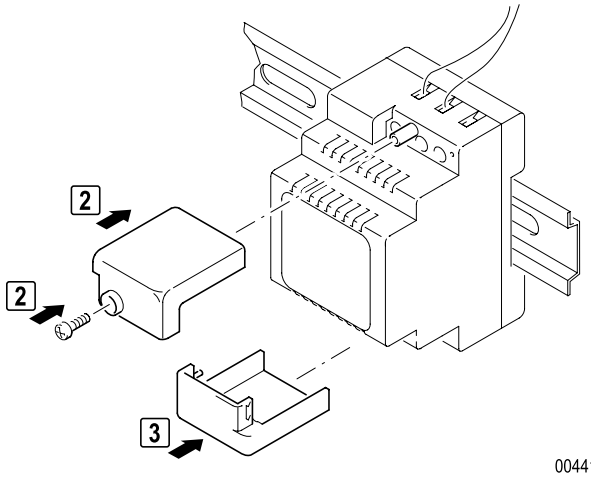
- Remove the unit and the supplied components from the packaging.



00267-0

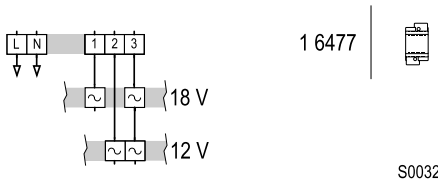


00268-0



00441-0

Connection



S0032-2

Starting up

No start-up is required.

Note:

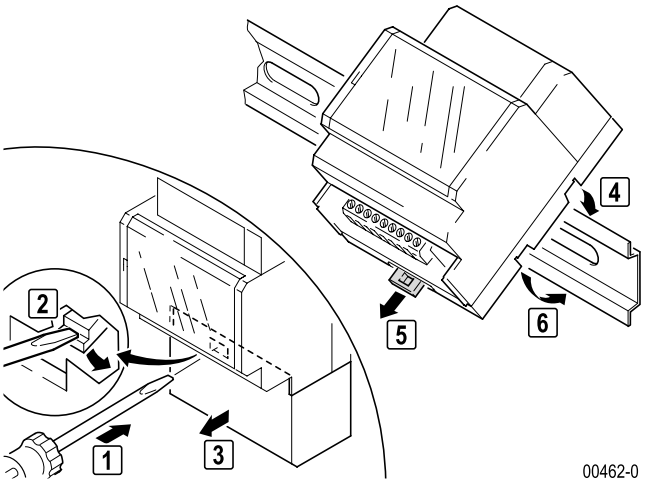
The mains transformer 1 6477 has an electronic fuse that interrupts the power circuit if an overload occurs rather than conventional melting fuses. Proceed as follows to switch on again:

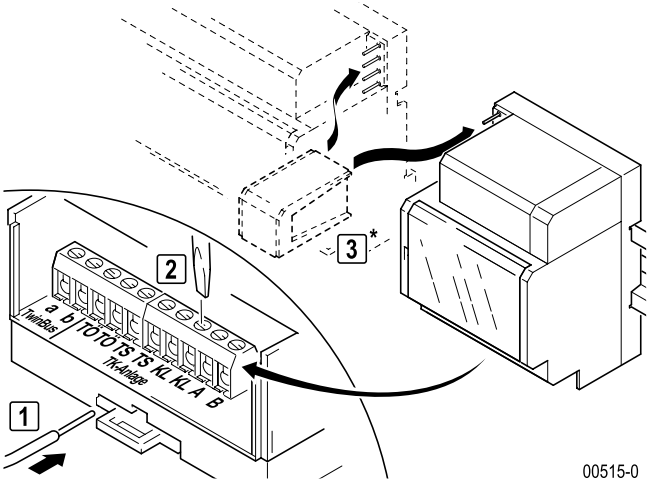
- Switch mains voltage off and leave off for approximately 1 minute.
- Remedy short circuit or overload.
- Switch mains power supply on again.

2.7.15 TwinBus door handsfree amplifier 1 4680

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



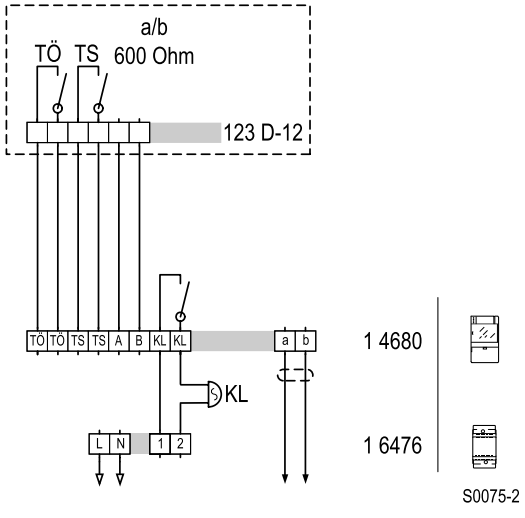


* Cut off the cover for connecting to additional devices.

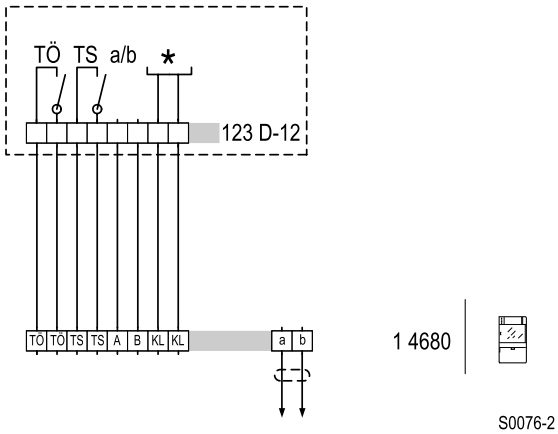
Connections

TÖ, TÖ	Contact (make contact) for operating a door opener relay (potential-free)
TS, TS	Contact (make contact) for switching on the door handsfree amplifier (potential-free)
KL, KL	Contact (make contact) closed with incoming call signal (must be set)
A, B	speech link a, b, DC balanced, 600 Ohms
a, b	TwinBus

Connection

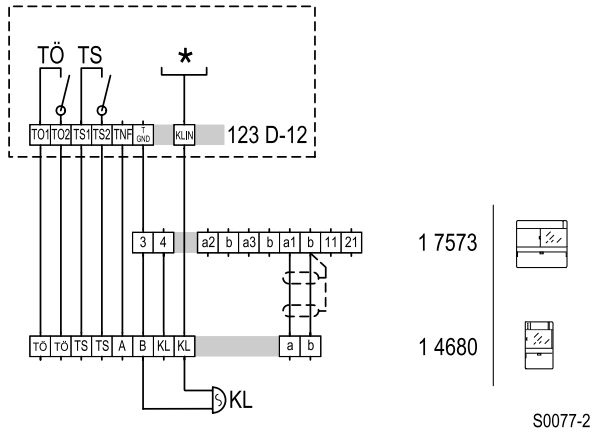


Circuit diagram: connection: doorbell signal as external chime type, no telecommunication system signalling.



* Call input with potential-free contact

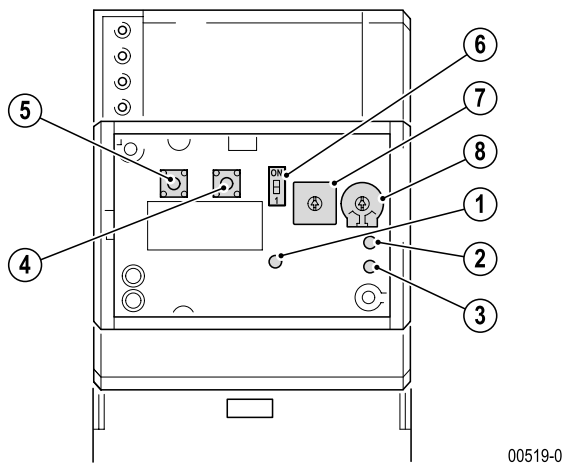
Circuit diagram: connection: telecommunication system signalling with potential-free contact of door handsfree amplifier.



* Alternating current signal via telecommunication system

Circuit diagram: connection: telecommunication system signalling with external potential, power feed from power supply unit 1 7573, e.g. Auerswald.

Starting up



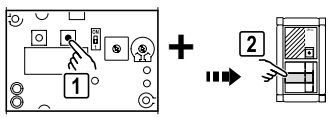
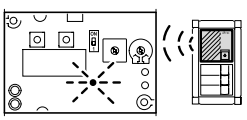
Operating elements

1. LED, switch-on command from telecommunication system
2. LED, door opening command
3. LED, door closing contact closed, switch-on command from telecommunication system
4. Setting button P
5. Setting button Z
6. Switch, privacy button on/off
7. Potentiometer, volume setting from door station
8. Potentiometer, volume setting to door station

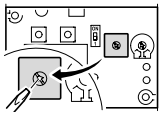
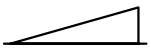
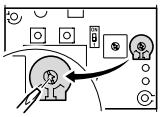
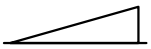
Bell button setting

The door hands-free amplifier must be set as follows to signal the TwinBus door call on the telecommunication system.

Note:
Before performing the setting procedure it is advisable to delete any previously set call numbers – see “Delete settings” on page ☞ **126**.

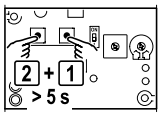
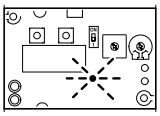
Activity	Result
 Press "P" and, within one minute, press the button to be assigned on the door station	 LED on door handsfree amplifier flashes and acoustic signal at door station

Settings

Activity	Result
Set volume from door station	
 Adjust potentiometer (7)	 Volume has been adjusted
Set volume to door station	
 Adjust potentiometer (8)	 Volume has been adjusted
Privacy button 	■ DIP switch to ON: Privacy button is inactive. A link to the door intercom can be set up with a telephone in the telecommunication system without dialling. ■ DIP switch to 1: Privacy button is active.

Delete settings

The programmed pushbuttons are deleted using this function. Please note existing customer settings before deletion if necessary.

Activity	Result
 Press and hold "P" and "Z" at the same time for 5 s	 LED flashes

2.7.16 TwinBus telecommunication adapter a/b 1 4685

Connecting prerequisites

Note:

The analogue port to which the communication adapter is connected must not be set to automatic exchange line selection.

It must be ensured that the port cannot be dialled into externally and does not have any exchange line rights.

The analogue port must be able to evaluate MFV dialling.

Bell button signalling on several telephones depends on the telephone system, where it must also be set up.

The telephone that is used for setting up must also allow MFV extended area calls (including * and # buttons!).

To dial the telecommunication adapter of the target subscriber, you will have to use numbers rather than function keys (flash * and # button).

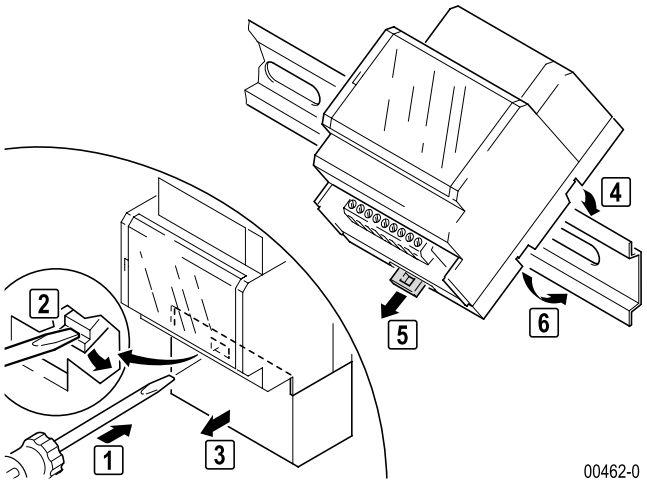
If a bell button is to signal door ringing on several analogue connections, it should be assigned to a group call, provided that the telecommunication system supports this function.

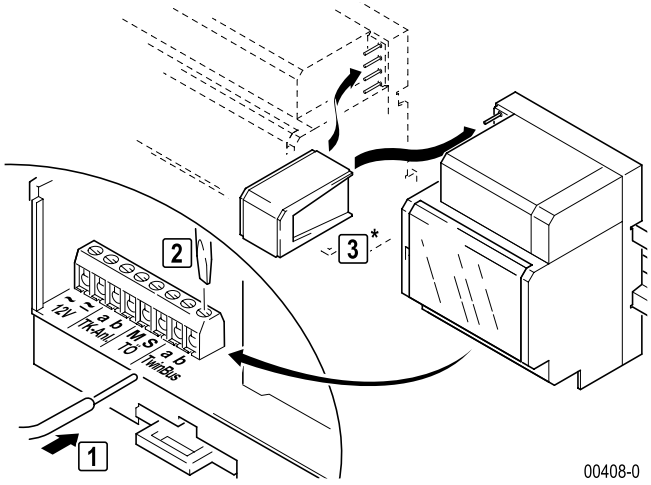
A telephone with MFV extended area calls for the telecommunication system is used for installation.

Switching commands are set up in the TwinBus switching device 1 4981 – see page ☞ **104**.

Assembly

- Remove the TwinBus device and the supplied components from the packaging.
- For more information, please read the provided instructions.





* Cut off the cover for connecting to additional devices.

Connections

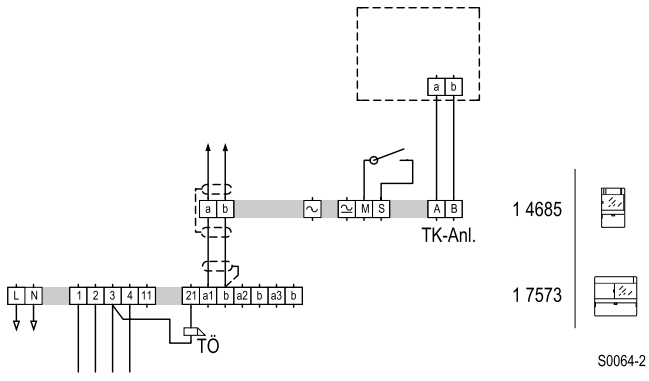
~, ~	Power supply
a, b	Telecommunication system
M, S	Potential-free make contact (TÖ) 24 V/1 A
a, b	TwinBus

Connection

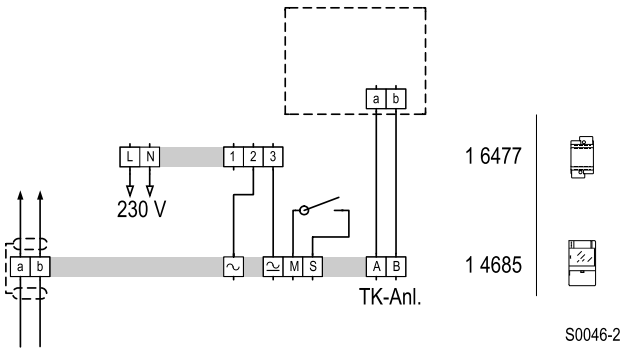
Danger!

Risk to life from electric shock..

The AC ringing voltage is 50 V. The unit must always be operated with closed, undamaged lines.

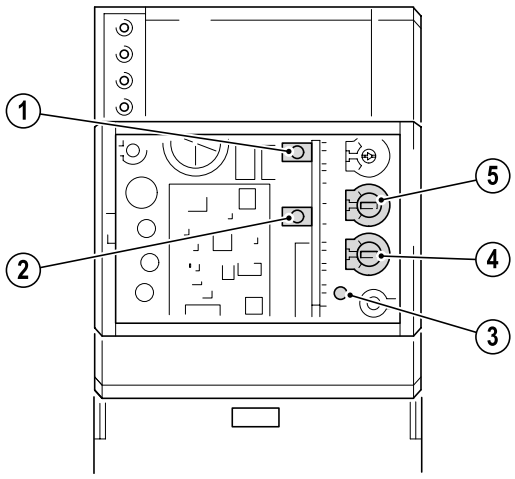


Circuit diagram: connection to TwinBus power supply unit 1 7573.



Circuit diagram: connection with supply from mains transformer 1 6477.

Starting up



Operating elements

1. LED, speech connection
2. LED, device busy
3. LED, door opening relay
4. Potentiometer, volume setting from door station
5. Potentiometer, volume setting to door station

Function	Activity	Result
Activate commissioning mode	Dial the telephone no. of the telecommunication adapter ** dial Select pass code [1]	Acknowledgement tone
	Performing set-up, see command summary	
Deactivating set-upmode	* dial	
Set volume from door station Clockwise: louder		Volume has been adjusted
Set volume to door station Clockwise: louder		Volume has been adjusted

[1] Set to "0000" at the factory.

✔ Short tone: Device is ready for operation.
☹ No tone: Time limit exceeded.
☹ Long tone: Programming procedure failed.

Note:
The potentiometer without shaft is used to adjust settings at the factory and should not be re-adjusted.

Command summary

Each start-up procedure is confirmed with a signal tone 👂. The next step of the start-up can be performed after the signal tone.

ii represents the index (00 to 99)
nn represents the call number of the telecommunication system subscriber (1 to 6 digits)
X represents one digit (0 to 9)
[ ] factory settings

Start-upprocedure	Meaning
10 ii {nn} *	Store call number in memory location ii. If not call number is specified, memory location ii is deleted.
11 ii	Select TwinBus telegram for memory location ii. A speech connection to the door is set up. After the speech connection has been terminated using key * a ten second time window opens. Door calls and floor calls that are received during this time window are stored in the call memory. The operators at the door and the telephone hear the positive acknowledgement tone.
12 ii	Delete TwinBus telegram from call memory.
19 ii	Check contents of call memory: ☹ negative acknowledgement tone: memory location occupied. ✔ positive acknowledgement tone: memory location available.
90 XXXX	Change PASS code [0000]
91 X	Set switching door opening contact time (1 to 9 seconds)[3]
92 X	Door opener release (0/1) [on]
93 X	Privacy function on/off (1/0)[off]
94 X	Setup numeric selection via code lock transmitter (0/1)[on]
95 XX	Set maximum call time (10...99 seconds)[25]
96 XXX	Set maximum busy time (030 to 180 seconds)[060]
97 1234	Initialize configuration memory to delivery condition (except signal and break times)
98 XXXX	Set individual number for switching commands (0000...9999)[0000]

Example:
Bell button assignment to subscriber of telecommunication system.

- Start-up mode is not activated.
- Extension 40 of the telecommunication system has a bell button assigned to it.
- The assignment is stored in memory location 00.

Function	Activity	Result
Activate commissioning mode	 Dial the telephone no. of the telecommunication adapter ** dial Select pass code [1]	 Acknowledgement tone
Store call number 40 in memory location 00	 Dial 10 Dial 00 Dial 40 * dial	 Acknowledgement tone
Set TwinBus telegram	 Dial 11 Dial 00	 speech connection to door station established
	 * dial	 speech connection is disconnected
	 Press button within 10 s	Door and floor calls are stored in call memory
	 Dial #	

[1] Set to "0000" at the factory.

Default settings for the signal and the break times

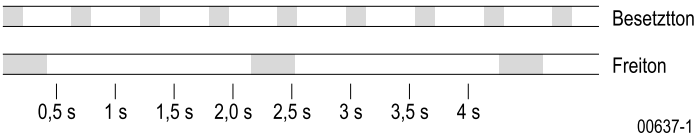
Break time: busy tone	400 ms
Signal tone: busy tone	200 ms
Break time: ringing tone	4000 ms
Signal time: ringing tone	1,000 ms

Note:
the factory settings for the signal and the break times can be changed. A change is required when the telecommunication adapter does not correctly interpret the ringing and busy tones.

Example 1:

The telecommunication adapter dials a subscriber of the telecommunications system. Because the ringing tone from the fixed-line network has a faster cycle than usual, the software of the telecommunication adapter recognises the ringing tone as the busy tone and the connection will be terminated again.

The user receives the impression that the call time is set too short. This situation requires that the signal-pause ratio is matched to the telecommunications system.



Signal times are shown against a grey background

The graphical representation shows that the signal-pause ratio of the busy tone is approximately 200 ms to 400 ms. The signal-pause ratio of the ringing tone is approximately 400 ms to 1,800 ms.

Example 2:

The following example shows the change of the signal and break times for the Agfeo telecommunications system.

Function	Activity	Result
Activate commissioning mode	Dial the telephone no. of the telecommunication adapter ** dial Select pass code [1]	Acknowledgement tone
Break time Set busy tone to 400 ms	Dial 80 Dial 00 Dial 40	Acknowledgement tone
Signal time Set busy tone to 200 ms	Dial 81 Dial 00 Dial 20	Acknowledgement tone
Break time Set ringing tone to 1,800 ms	Dial 82 Dial 01 Dial 80	Acknowledgement tone
Signal time Set ringing tone to 400 ms	Dial 83 Dial 00 Dial 40	Acknowledgement tone
	Dial #	

[1] Pass code. Set to “0000” at the factory.

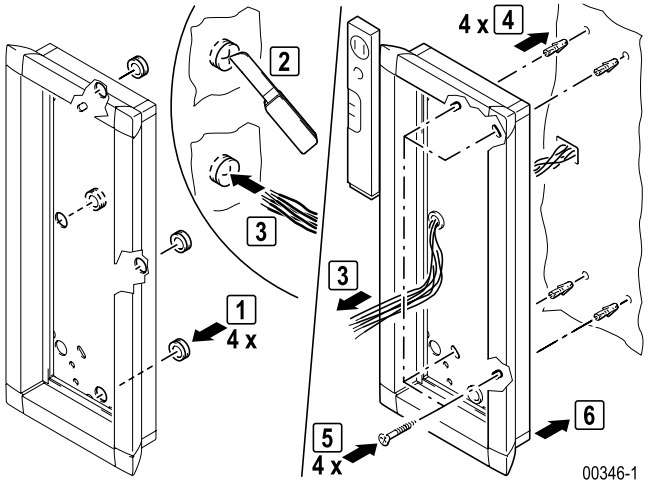
2.8 Door stations

2.8.1 Modular Portier door station

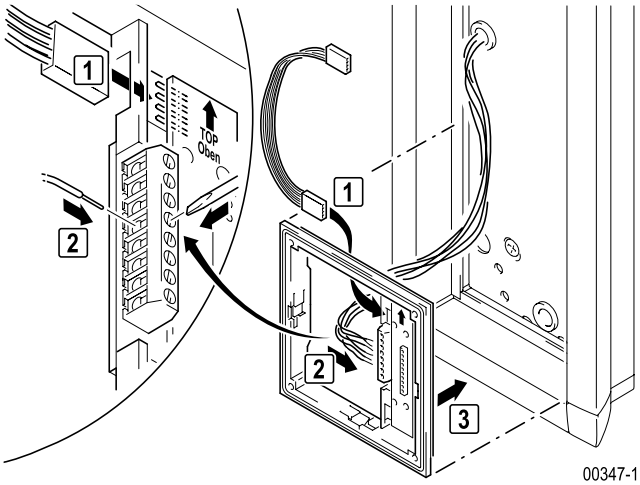
Assembly

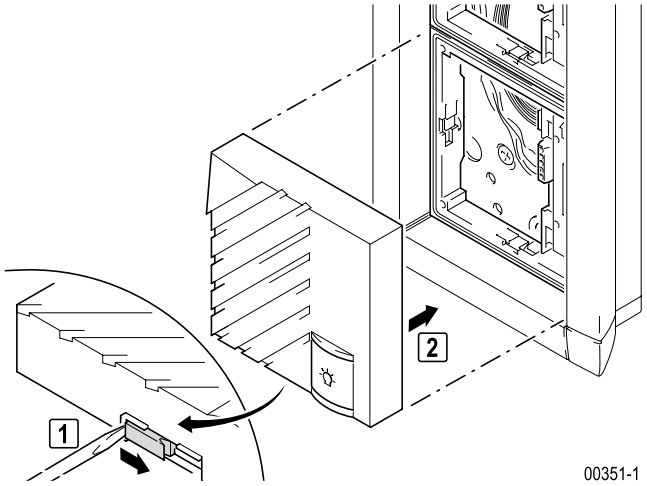
- Remove the TwinBus device and the supplied components from the packaging.

Frame installation

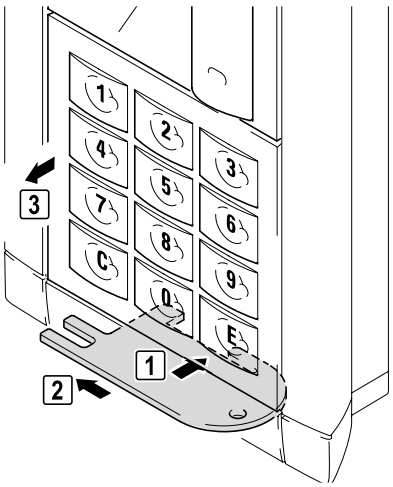


Module installation



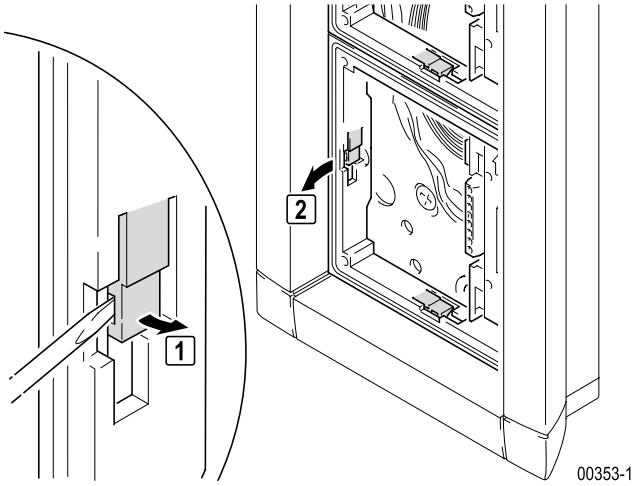


Module removal



00352-1

- Remove unlocked module.

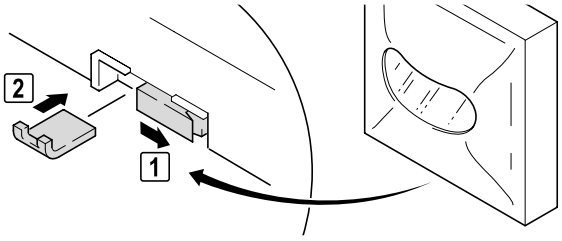


00353-1

- Remove module carrier.

Deploy camera module anti-theft device

The provided anti-theft device can be used to prevent the modules from being stolen.

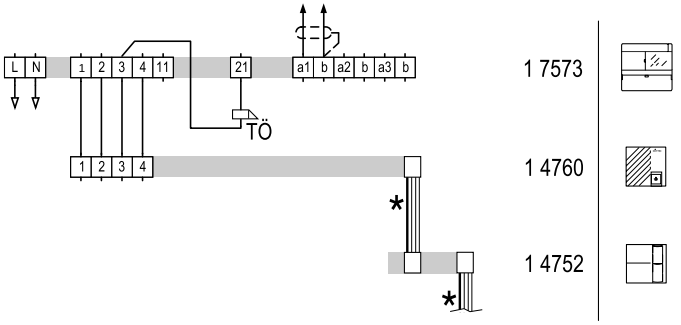


00350-0

The lowest module must be installed without an anti-theft device in order to be able to remove the other modules when required.

Connection

The modules are connected to the system bus with bus connectors. The next connection depends on the respective module.



S0051-3

* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Circuit diagram: connecting door station to power supply unit

Note:
For more than 6 button or information modules, the power to the door intercom module 1 4760 (terminals 3 and 4) must be supplied by the mains transformer 1 6476.

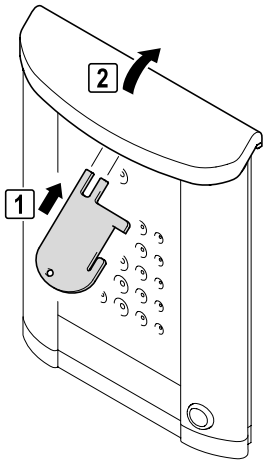
Starting up

No start-up is required.

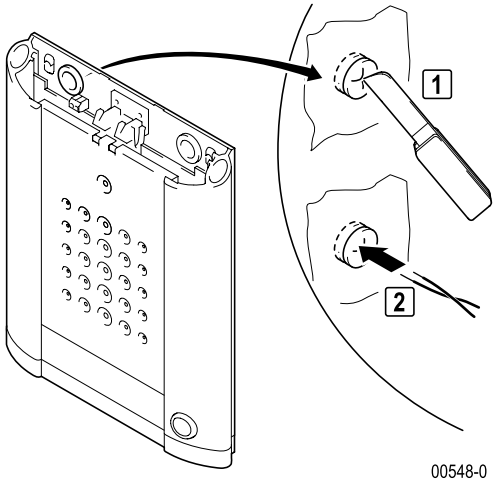
2.8.2 Compact door station Entravox 1 8401 - 1 8404

Assembly

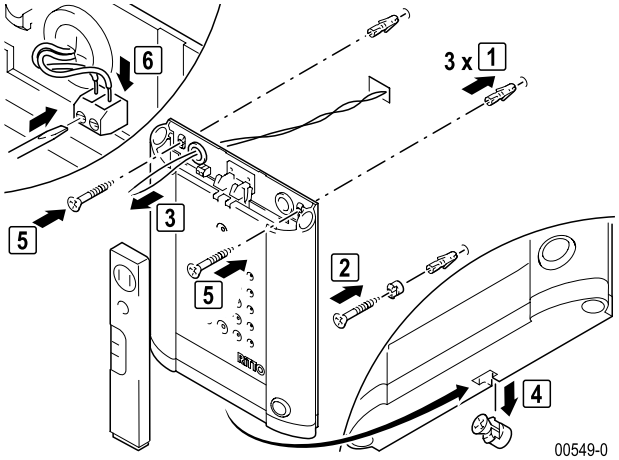
- Remove the unit and the supplied components from the packaging.



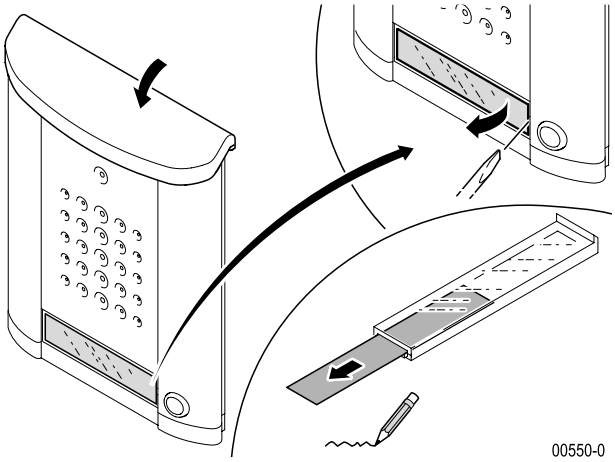
00547-0



00548-0

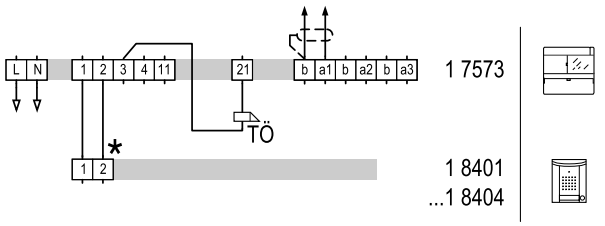


00549-0



00550-0

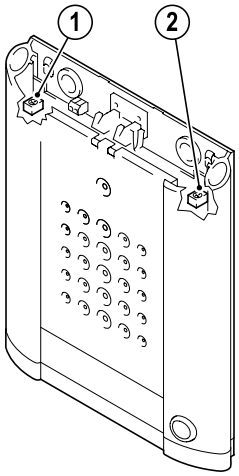
Connection



S0091-2

* including illumination

Operating elements



00551-0

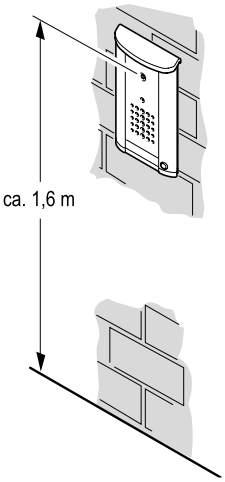
1. Microphone volume setting
2. Speech volume setting

Starting up

Function	Activity	Result
	Open the cover on the door station	
Adjusting the listening volume	Adjust potentiometer (2)	Volume has been adjusted
Adjusting the intercom volume	Adjust potentiometer (1)	Volume has been adjusted

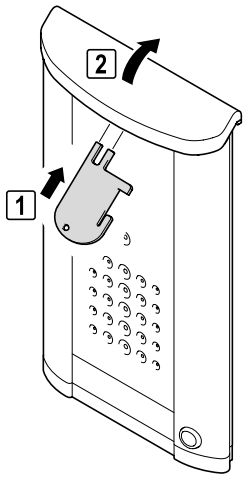
2.8.3 Compact door station Entravox Video 1 8431 - 1 8432

Assembly

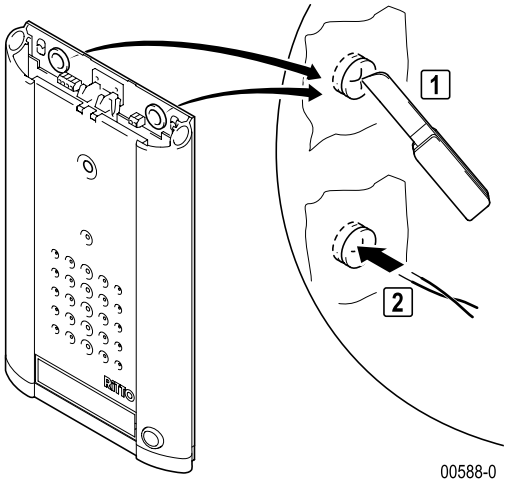


00592-0

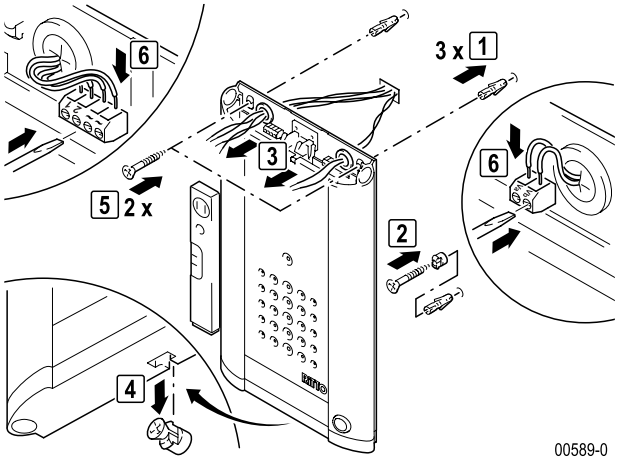
- Remove the unit and the supplied components from the packaging.



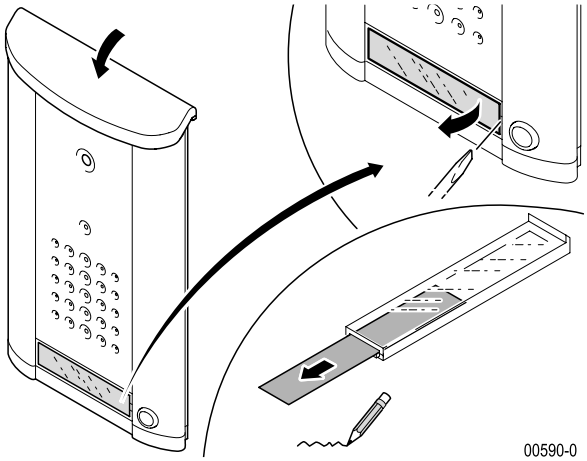
00587-0



00588-0

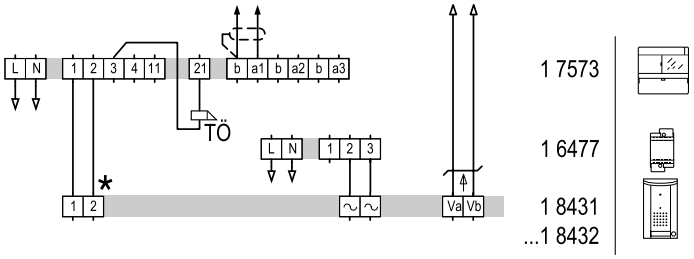


00589-0



00590-0

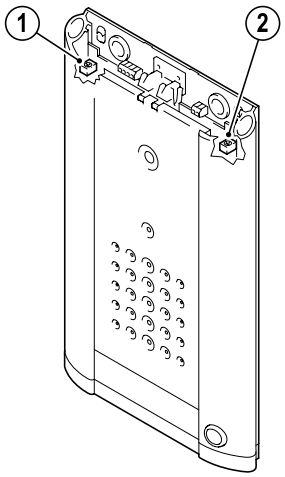
Connection



S0096-2

* including illumination

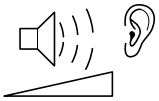
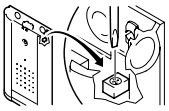
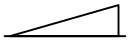
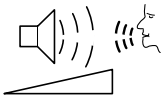
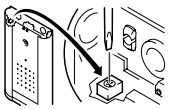
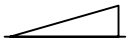
Operating elements



00591-0

1. Microphone volume setting
2. Speech volume setting

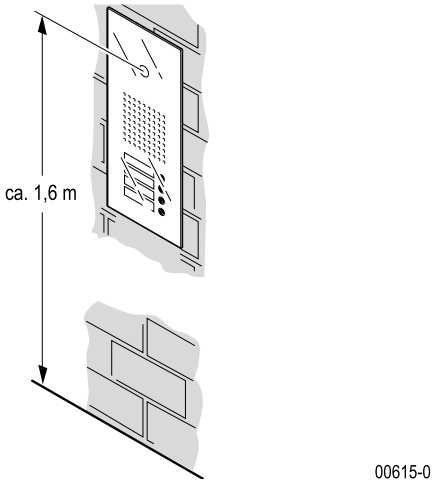
Starting up

Function	Activity	Result
	 Open the cover on the door station	
 Adjusting the listening volume	 Adjust potentiometer (2)	 Volume has been adjusted
 Adjusting the intercom volume	 Adjust potentiometer (1)	 Volume has been adjusted

2.8.4 Verrano glass door station 1 8301–1 8304, 1 8311–1 8314, 1 8321–1 8324 and 1 8331–1 8334

Assembly

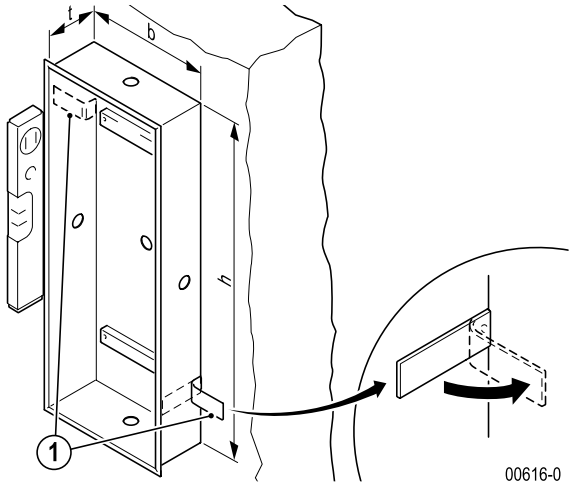
Note:
Observe the installation height for systems with a video camera.



- Remove the unit and the supplied components from the packaging.

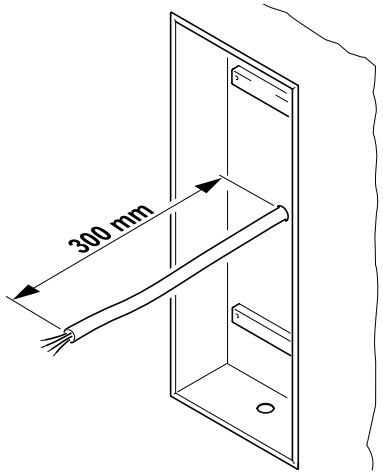
Frame installation

- Plaster the flush-mounted frame after bending the two wall anchors at the left- and right-hand side.

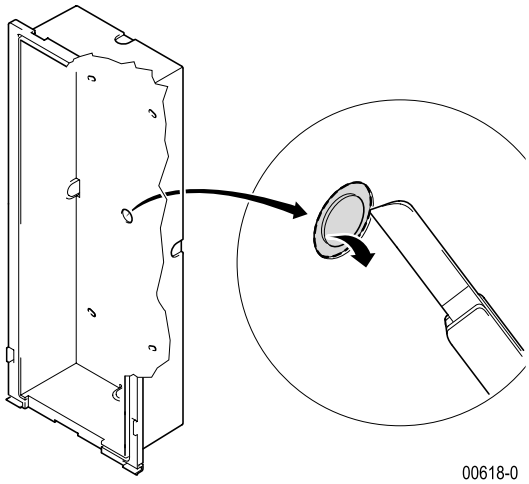


1. Wall anchor

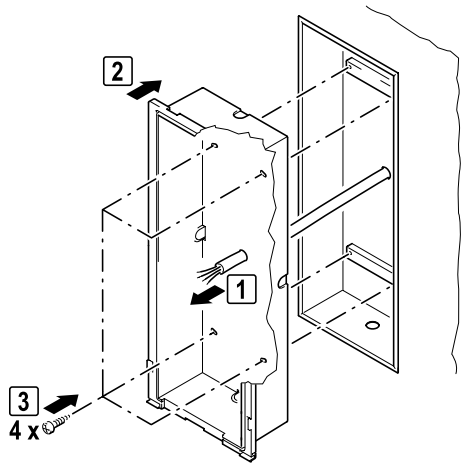
Note:
The thickness of the plaster still to be applied must be taken into consideration for unplastered walls.



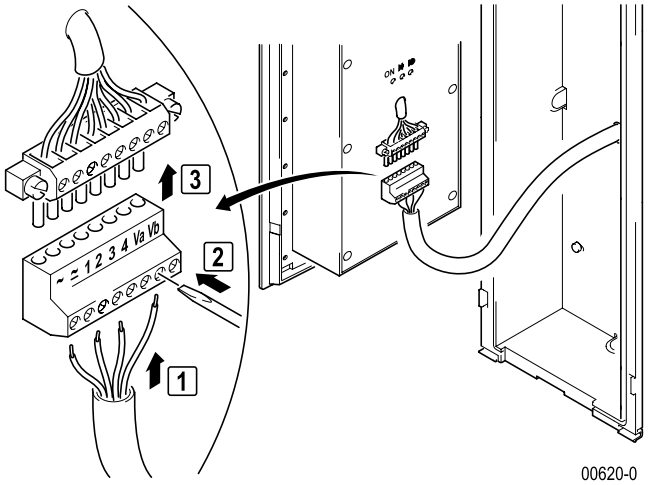
00617-0



00618-0

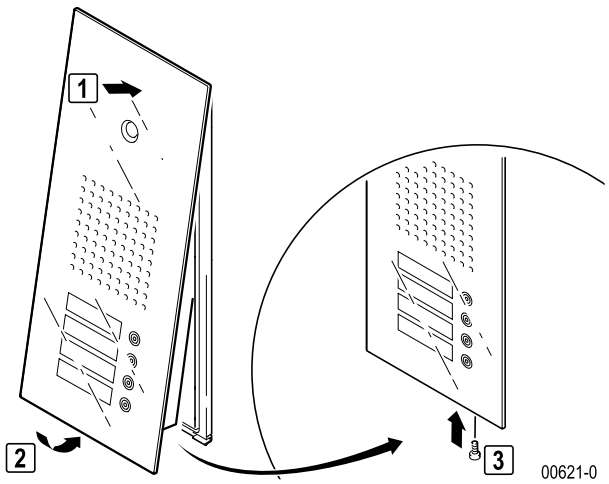


00619-0

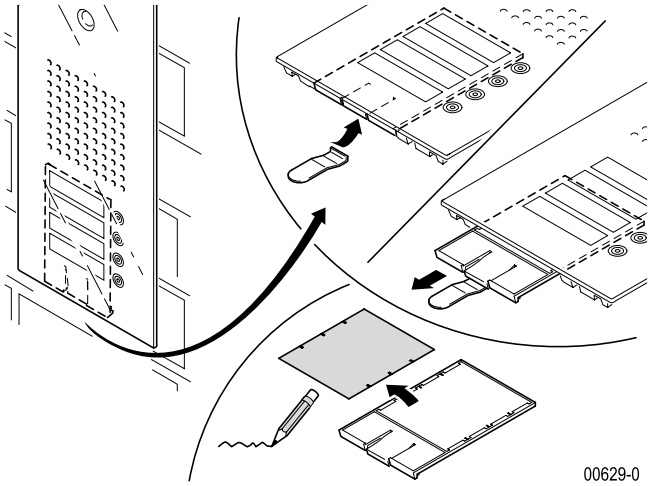


00620-0

After completing the installation, set the Verrano glass door station in the installation box.



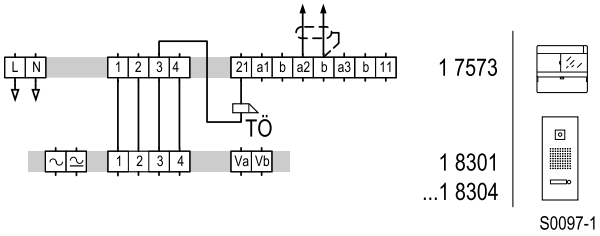
00621-0



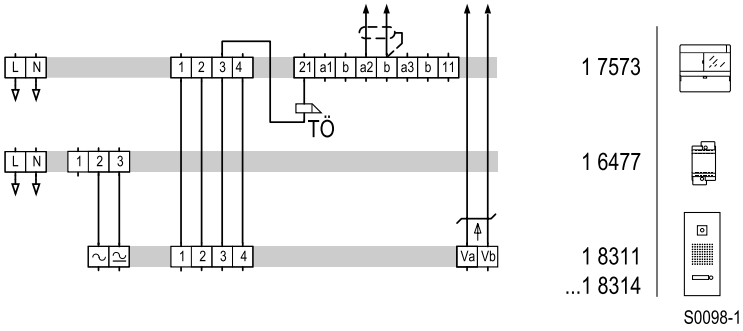
00629-0

- Fasten the glass door station in the installation box with the screw.

Connection

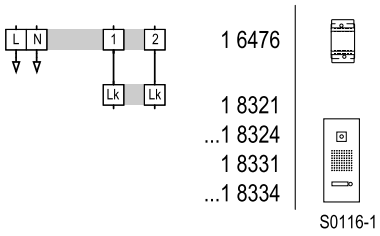


Circuit diagram: Verrano glass door station



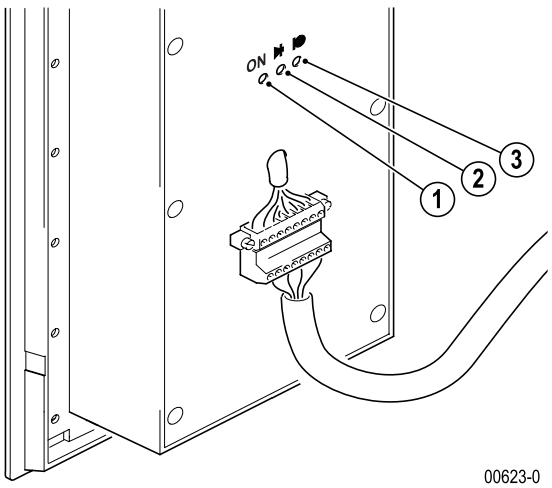
Circuit diagram: Verrano video glass door station

Note:
A mains transformer 1 6476 must be provided to supply an LED illuminated ring with power.



Circuit diagram: connecting the LED illuminated rim (if present)

Operating elements

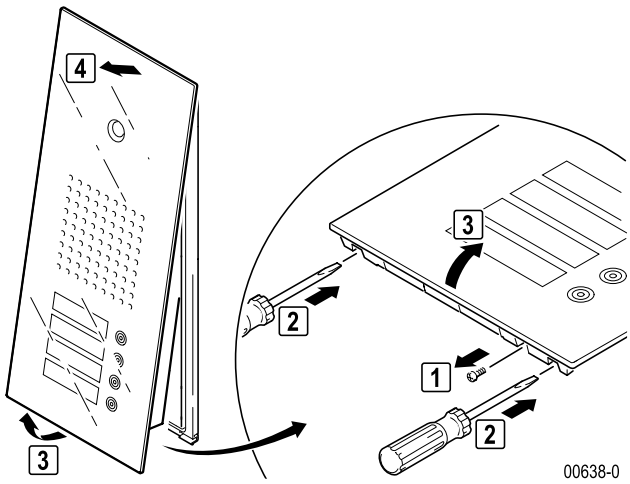


1. LED (illuminates when a speech connection is active)
2. Speech volume setting
3. Microphone volume setting

The volume has been preset at the factory. Do not change the settings unless necessary.

Dismantling

To change the settings, the glass door station must be removed from the installation box.



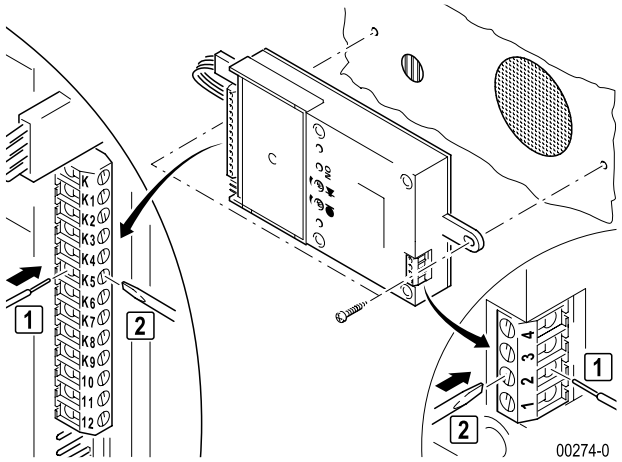
Starting up

Function	Activity	Result
Adjusting the listening volume	Adjusting the potentiometer	Volume has been adjusted
Adjusting the intercom volume	Adjusting the potentiometer	Volume has been adjusted

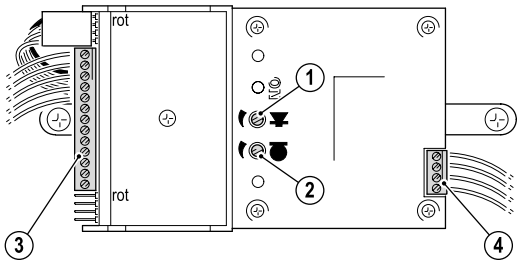
2.8.5 TwinBus built-in loudspeaker 1 4921

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



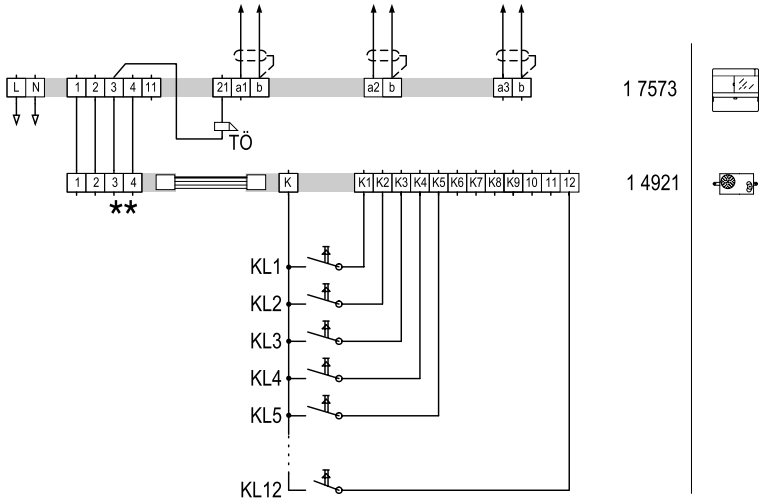
Operating elements



00275-1

1. Apartment-to-door volume setting
2. Door-to-apartment speech volume setting
3. Bell button connection
4. Door bus connection/4-wire

Connection



S0040-3

** Wires 3 and 4 of the door station must be connected.

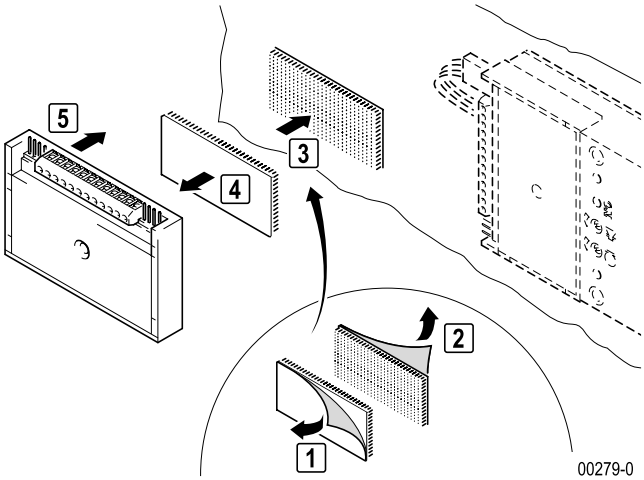
Starting up

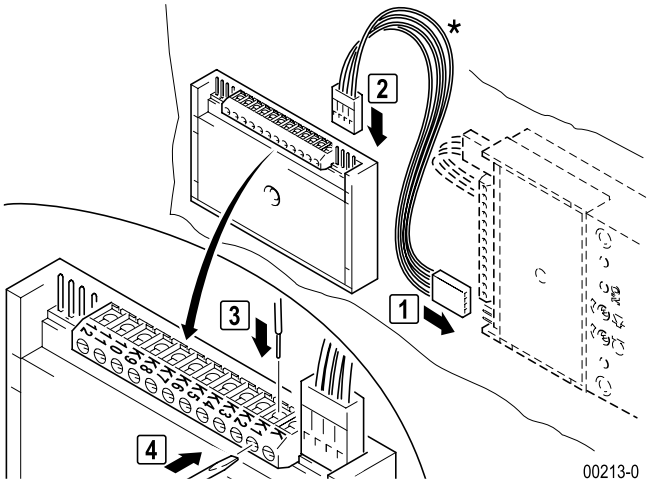
Function	Activity	Result
Adjusting the listening volume	Adjusting the potentiometer	Volume has been adjusted
Adjusting the intercom volume	Adjusting the potentiometer	Volume has been adjusted

2.8.6 TwinBus extension unit 1 4923

Assembly

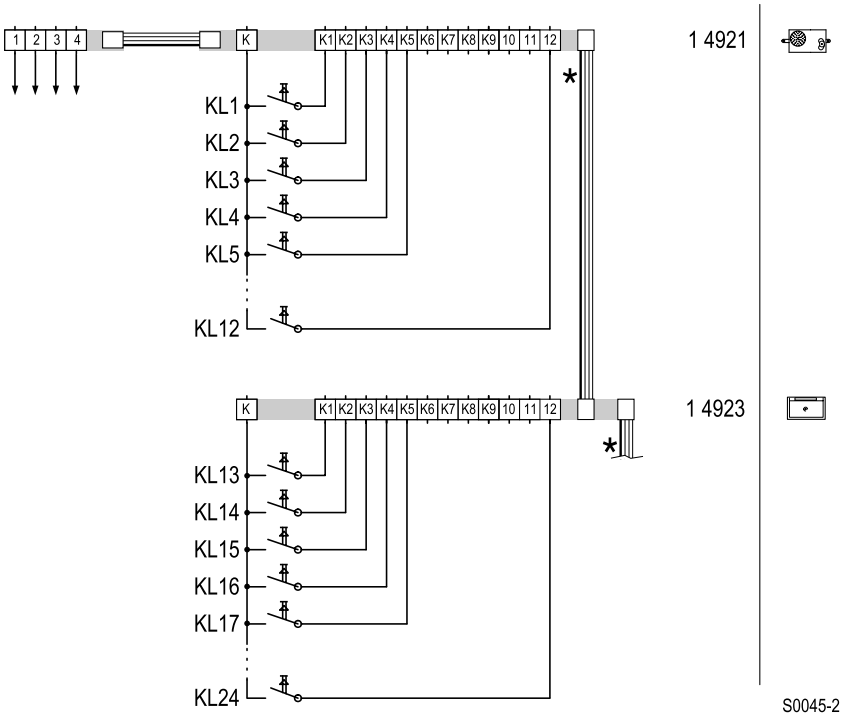
- Remove the TwinBus device and the supplied components from the packaging.
- Please note the length of the bus connector during installation to avoid problems when connecting the expansion unit to the built-in loudspeaker.





* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Connection



* Please note the red mark – see “Bus connections in the door station” on page ☞ **10**.

Starting up

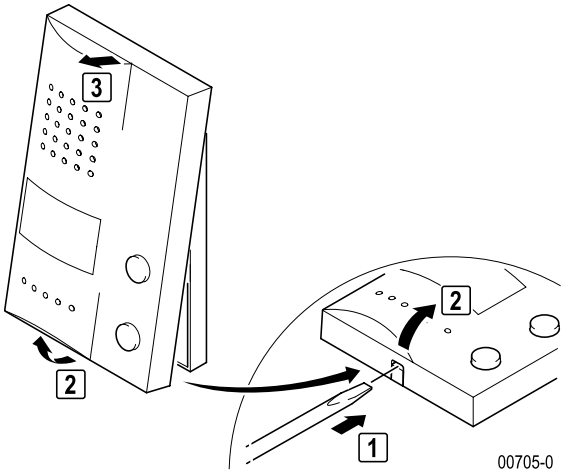
No start-up is required.

2.8.7 Staircase door station 1 8201

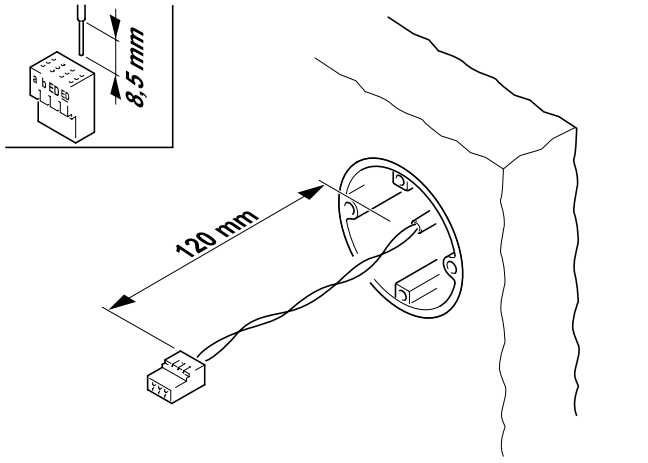
Assembly

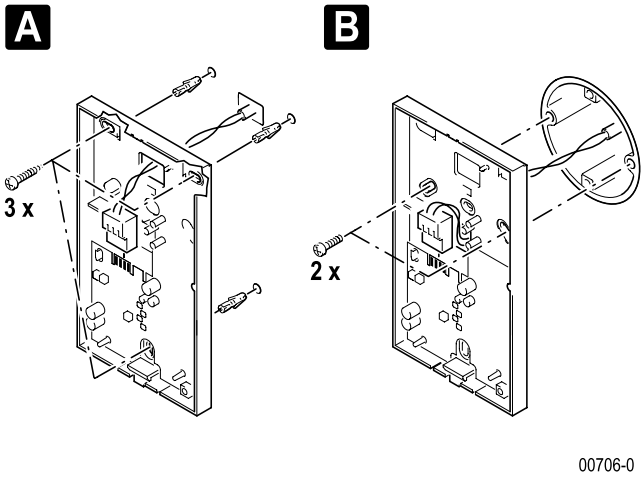
- Remove the TwinBus device and the supplied components from the packaging.

Note:
the speech quality depends on the installation of the device. Install the staircase door station at the operator's eye level. When used in combination with the staircase door station, the handsfree intercom units must not be coupled acoustically with the staircase door station. Acoustic couplings are created, for example, by wide joint clearances in doors or air drains in conduits for electrical wiring.

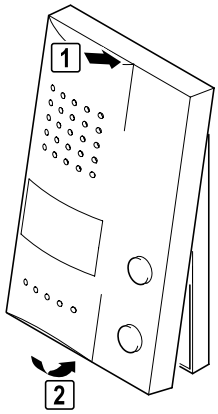


Surface-mounted





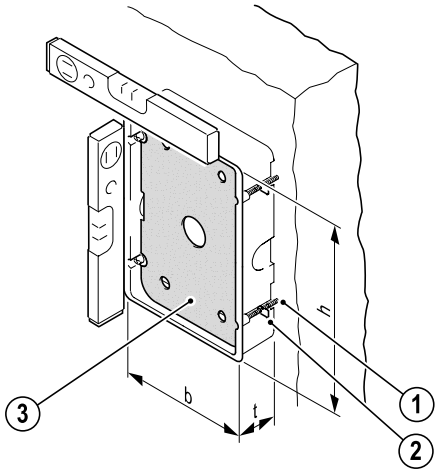
A **Wall mounting** **B** **Switch box mounting**



00707-0

Concealed and cavity wall installation

- Plaster in a 1 7322 flush-mounted frame or attach it using the enclosed cavity wall clamps.



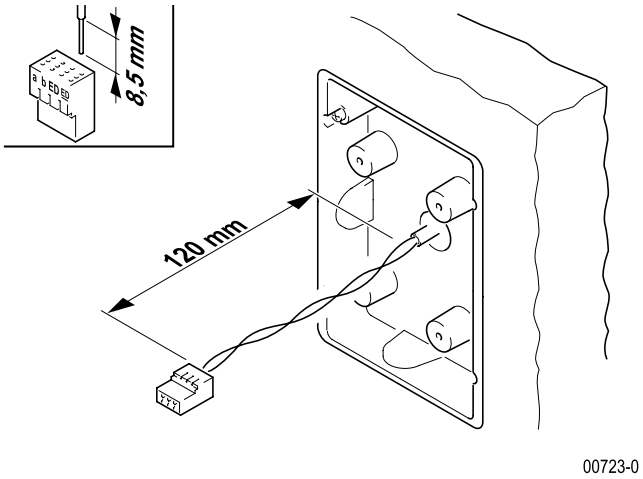
00702-0

1. Cavity wall clamp
2. Fastening screws for cavity wall clamps
3. Plastering protection

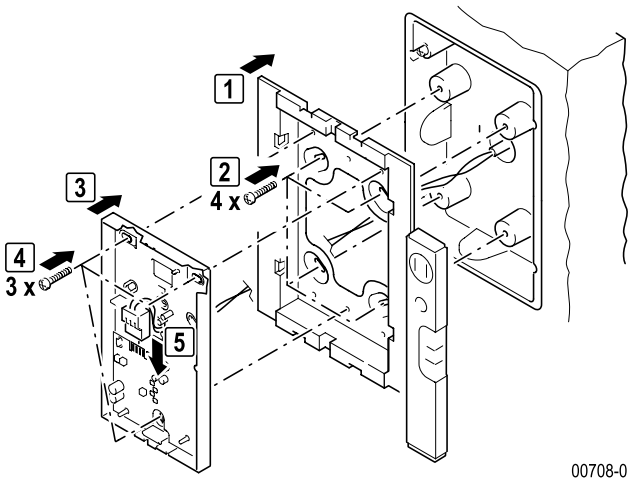
h: 174 mm
b: 122 mm
t: 35 mm

Note:

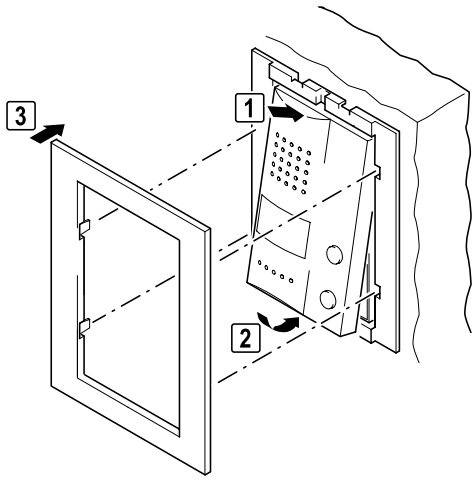
- The plastering protection (3) in the concealed box provides protection from soiling. It should only be removed just before the handsfree intercom unit is installed.
- If the walls are not plastered, the thickness of the plaster to be applied must be taken into consideration during installation.



00723-0

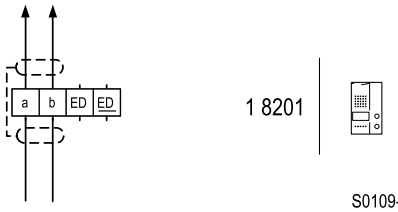


00708-0



00709-0

Connection



S0109-1

Connections

a, b	bus terminal
ED, ED	without function

Circuit diagram: connection to indoor telephone 1 7630 with call interface relay 1 7646.

- Connect screening on incoming and outgoing lines. Connect all unused wires as screen for YR lines.

Starting up

Prior to start-up, the bell button of the staircase door station must be assigned to a TwinBus intercom unit. For the exact procedure, please refer to the "Start-up" section of the TwinBus intercom unit operating manual.

Note:

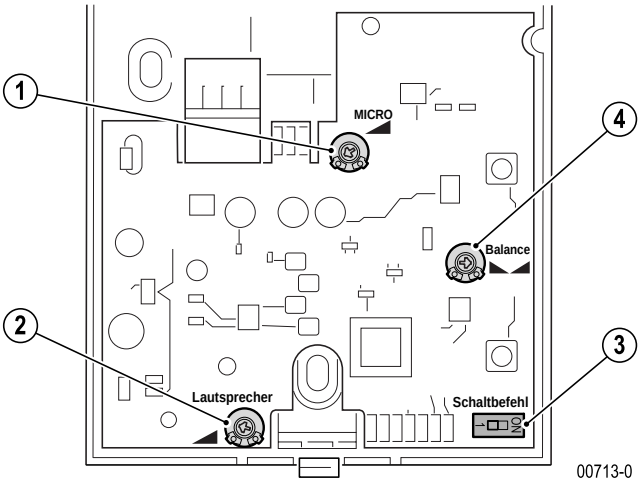
- Prior to a two-man start-up, the bell button must be pressed 1x to establish a speech connection to the intercom unit.

Caution!

System malfunctions

To prevent the door intercom system from malfunctioning, follow the specified sequence when programming the bell buttons.

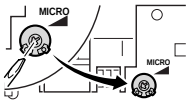
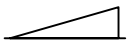
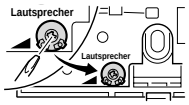
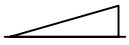
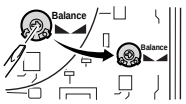
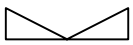
1. Program the bell button of the main entrance door.
2. Program the bell button of the staircase door station.
3. Test: ring at the staircase door station.
4. Test: ring at the main entrance door station.



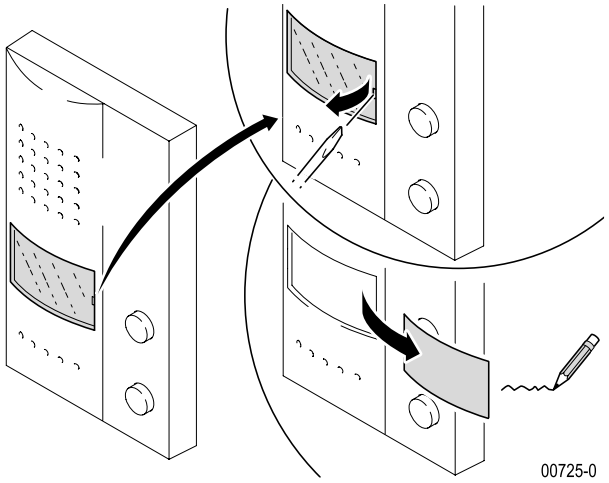
Operating elements

1. Potentiometer, micro
2. Potentiometer, loudspeaker
3. DIP switch, switching command
4. Potentiometer, balance

Settings

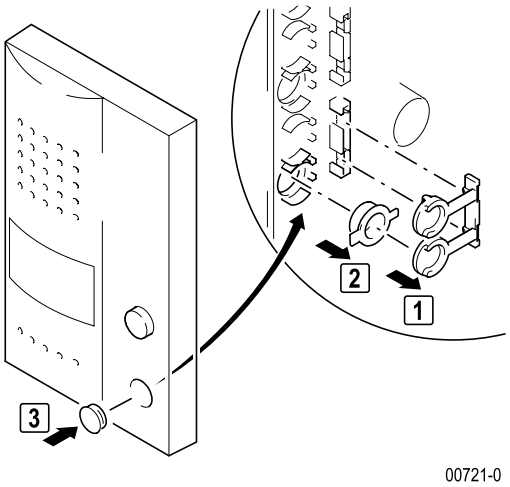
Function	Activity	Result
Adjust volume from door station to apartment	 Adjusting the potentiometer	 Volume has been adjusted
Adjust volume from apartment to door station	 Adjusting the potentiometer	 Volume has been adjusted
Adjusting the door station to the size of the system (in the event of a choppy speech connection) Left stop: large system (60 or more subscribers) Right stop: small system (up to 20 subscribers)	 Adjusting the potentiometer	 speech quality has been adjusted
Switching command of the light button		
DIP switch to 1 (factory setting):		Staircase door station transmits light switching command.
DIP switch to ON:		Staircase door station transmits individual light switching command. The switching device can be used to program the light switching command and the individual light switching command.

Fill labelling field



Remove light button

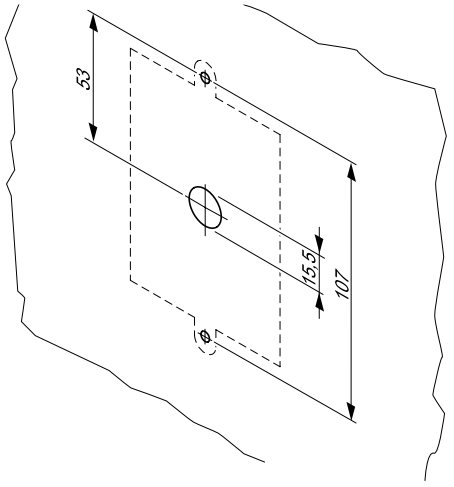
If a customer-installed light control button is used, you can remove the light button on the staircase door station and replace it with a dummy button.



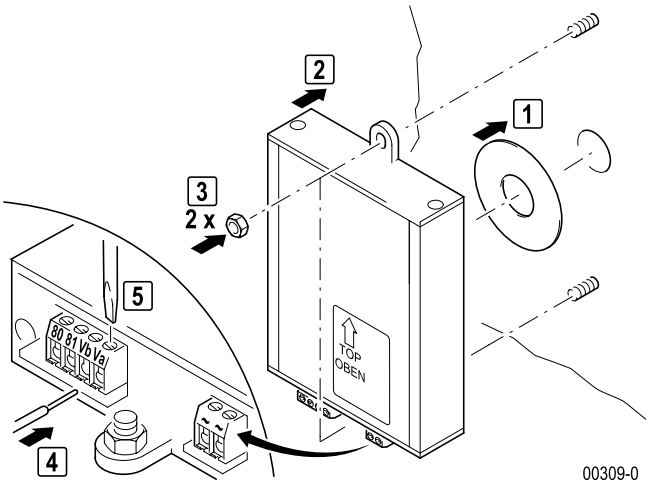
2.8.8 Built-in colour camera 1 4883

Assembly

- Remove the TwinBus device and the supplied components from the packaging.



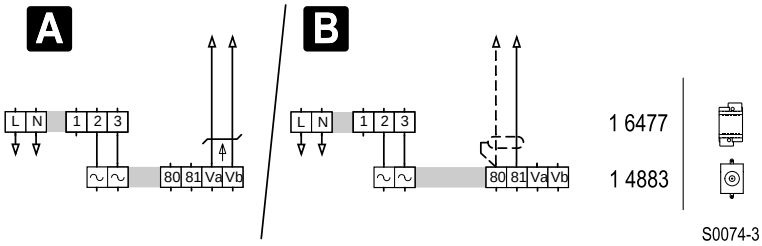
Installation diagram for installing on two M3 x 10 stud bolts.



Installation with stud bolts.

Note:
The camera can also be stuck on using the provided adhesive tape.

Connection



A Connection to TwinBus video line and feed from mains transformer 1 6477.
B Connection to 75 Ω coaxial video line and feed from mains transformer 1 6477.

Starting up

No start-up is required.

2.8.9 Colour video camera 1 7652

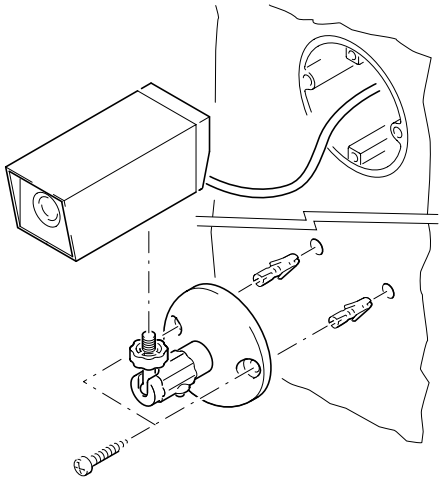
Assembly

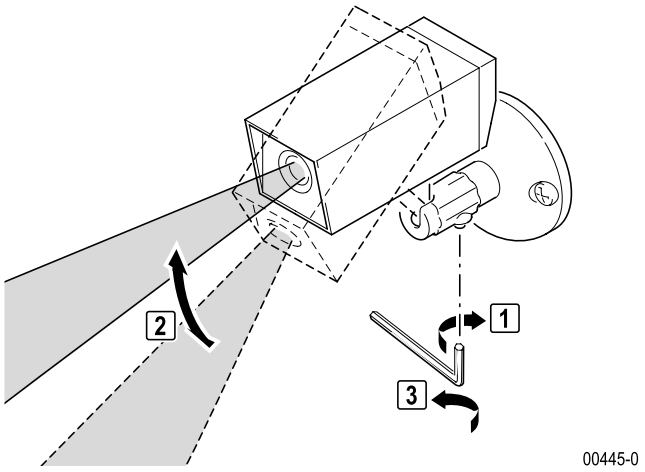
- Remove the unit and the supplied components from the packaging.

Caution!

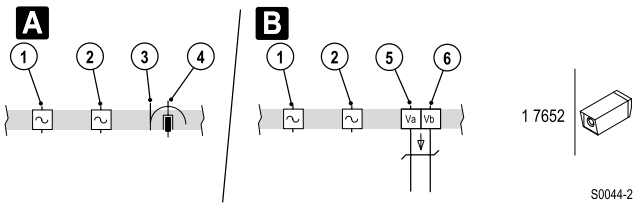
Damage to device caused by moisture

The cable of the device must not be shortened, since it may allow moisture to penetrate the device.





Connection



A Connection to coaxial line
B Connection to TwinBus video line

Connections

1	white	AC 12 V
2	brown	AC 12 V
3		screen
4	yellow	output 75 Ω
5	green	Va
6	yellow	Vb

- Insulate the green wire (connection A).
- Insulate the screening (connection B)

Starting up

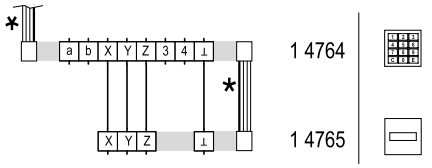
No start-up is required.

2.8.10 Coding module 1 4764

Assembly

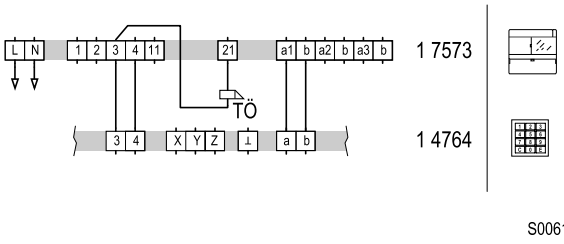
Coding module 1 4764 is installed in the RITTO Portier door station – see page ☞ **132**.

Connection



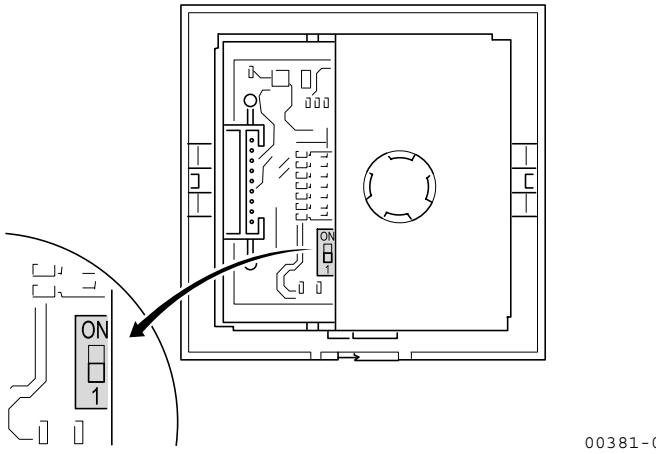
* Please note the red mark – see "Bus connections in the door station" on page ☞ **10**.

Circuit diagram: coding module and display module connection via system bus.



Circuit diagram: coding module connection as standalone unit.

Starting up



- Select the operating mode using the DIP switch.

Operating mode	Switch setting
Code lock	1[1)]
Keypad/digital dialling	ON

1) Factory settings

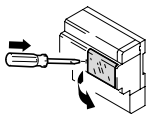
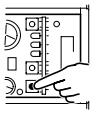
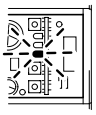
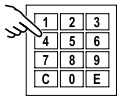
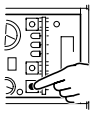
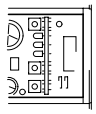
In code lock operating mode a secret code is entered and the door is opened if it is correct, for example.

In keypad operating mode a number is entered so that the bell of a residential unit can be rung. There is no bell button. This procedure also applies in combination with the TwinBus telecommunication adapter a/b 1 4685.

A display module 1 4765 can be used to display the number that is entered.

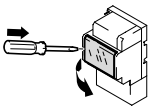
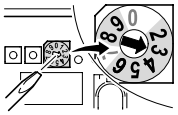
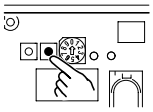
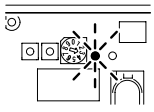
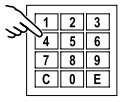
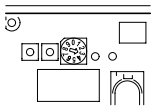
Code lock operating mode

- Set the secret code for the door opener at the power supply unit 1 7573.

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press "P" until	 LD flashes
 Assign code, e.g 0 1 2 3 4 5 E	  acoustic signal for confirmation at door station
 Press "P" until	 LD goes out

or:

- Set the secret code at the switching device 1 4981. The memory of the switching unit was deleted at the beginning of the installation.

Activity	Result
 Open plexiglass cover on the switching device 1 4981	
 Select operating mode "3"	
 Press "P" until	 LED flashes
 Assign code	 LED goes out

Note:
The coding module can also be used as a code lock in keypad/digital dialling operating mode. In this case the secret code must begin with a 0. The secret code can have up to 6 digits. The number for a residential unit can have up to 4 digits and must not begin with a 0.

Keypad/digital dialling operating mode

Start-up takes place together with the indoor telephone and the indoor video station or the intercom station.

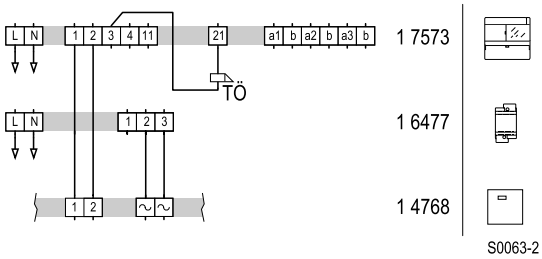
The number for the residential unit is entered at the coding module during start-up instead of pressing the doorbell.

2.8.11 Access module 1 4768

Assembly

The access module 1 4768 is installed in the RITTO Portier door station – see page ☞ **132**.

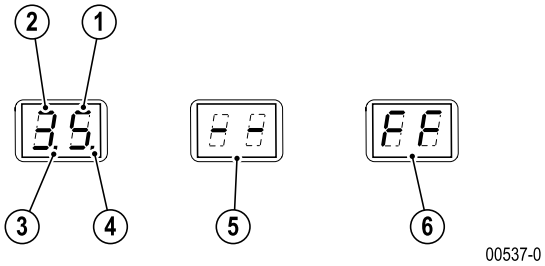
Connection



Circuit diagram:access module connection as standalone unit.

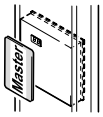
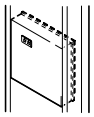
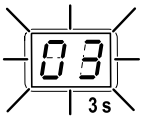
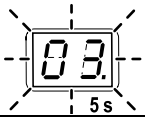
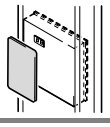
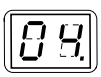
Starting up

The two-part 7-segment display displays the following information:



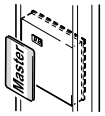
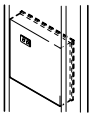
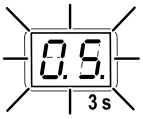
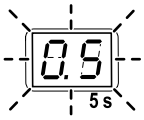
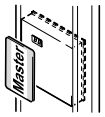
1. Display of ones part of memory location
2. Display of tens part of memory location
3. Display of hundreds part of memory location
   The hundreds part is 1 if the dot illuminates.
   Example: 5.3 represents 153.
4. The displayed memory location is occupied if the dot illuminates.
5. The card in the surveillance area has not yet been programmed.
6. Internal malfunction indicated. The access module is malfunctioning.

Note:
Memory location displays beginning with “H” are not needed for start-up.

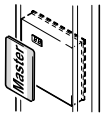
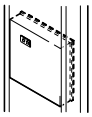
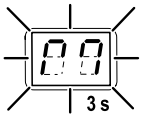
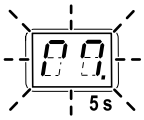
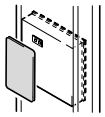
Activity	Result
Authorize identity card (shown by example of memory location 3)	
 * Hold master card up in front of the access module until	 the desired memory location is displayed
 Remove master card	 Memory location no. illuminates for 3 s
	 and starts flashing for 5 s
 hold the identity card to be authorised up in front of the access module while the number is flashing	 Identity card has been authorised, memory location is counted up

* The access module displays the existing memory locations in ascending order, starting with memory location “0”. After several increments of 1 the access module continues to count in steps of 10. If the card is removed from the access module surveillance area the counting stops. If the card is immediately moved back into the surveillance area the access module continues counting in increments of 1.

Activity	Result
Block pass card (shown on example of memory location 105)	

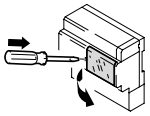
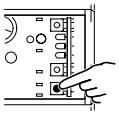
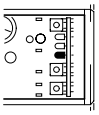
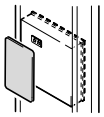
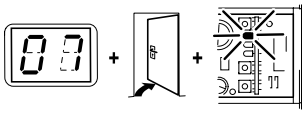
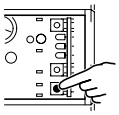
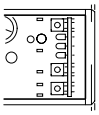
Activity	Result
 * Hold master card up in front of the access module until	 the desired memory location is displayed
 Remove master card	 Memory location no. illuminates for 3 s
	 and starts flashing for 5 s
 hold the master card up in front of the access module while the number is flashing	 Identity card is blocked, memory location is counted up

* The access module displays the existing memory locations in ascending order, starting with memory location “0”. After several increments of 1 the access module continues to count in steps of 10. If the card is removed from the access module surveillance area the counting stops. If the card is immediately moved back into the surveillance area the access module continues counting in increments of 1.

Activity	Result
Create second master card	
 * Hold master card up in front of the access module until	 is displayed
 Remove master card	 illuminates for 3 s
	 and starts flashing for 5 s
 hold the access card to be created up in front of the access module while the number if flashing	Second master card has been created

* The access module displays the existing memory locations in ascending order, starting with memory location “0”. After several increments of 1 the access module continues to count in steps of 10. If the card is removed from the access module surveillance area the counting stops. If the card is immediately moved back into the surveillance area the access module continues counting in increments of 1.

- Set the switching command in power supply unit 1 7573.

Activity	Result
 Open plexiglass cover on power supply unit 1 7573	
 Press and hold "P" until	 LD 1 (yellow) flashes
 hold the authorised card up in front of the access module	 Switching command has been set, LD 1 goes out LD 3 illuminates
 Press and hold "P" until	 LD 3 goes out

or:

- Set the switching command at the switching device 1 4981, refer to "TwinBus switching device 1 4981" ☞ **page 103**.

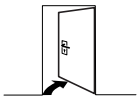
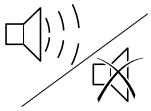
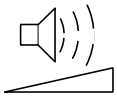
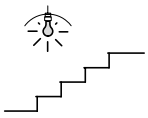
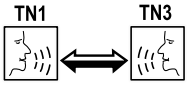
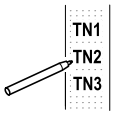
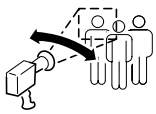
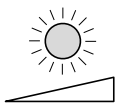
Operation

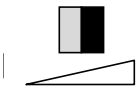
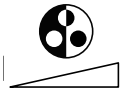
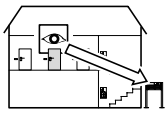
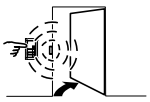
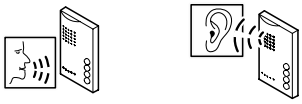
The operation of a TwinBus system depends on the configuration of the system and the TwinBus devices that are used.

Please notify the end user how the system works and instruct the user how to operate the system.

The basic operating functions can be found in the descriptions of the individual TwinBus devices. Please provide your customers with a copy of the operating instructions for the TwinBus devices. The operating instructions are printed on the packing or are enclosed with the unit.

Explanation of the symbols used

Symbol	Meaning
	Trigger call signal (ring)
	Operate door opener
	Switch off call signal (call switch-off)
	Adjust call tone volume
	Adjust voice volume
	Switch additional function (e.g. staircase light)
	Set up internal call for subscribers 1 and 3
	Select calling tone melody
	Fill labelling field
	Control or switch over camera
	Adjust brightness

Symbol	Meaning
	Adjust contrast
	Adjust colour saturation
	Activate manual switch-on rights
	Automatic door opening (Portamat)
	Handsfree voice connection with door station

3.1 Door intercom systems without internal voice communication

See TwinBus units

3.2 Door intercom systems with internal voice communication

See TwinBus units

3.3 Video-door intercom systems without internal voice communication

See TwinBus units

3.4 Video-door intercom systems with internal voice communication

See TwinBus units

3.5 Indoor telephones, indoor video stations and intercom units

3.5.1 TwinBus indoor telephone 1 7630

Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and flashes
Operate door opener	press.	Door opener switches
Switch on/off call signal (call switch-off)	press briefly	illuminates red
	press briefly	Call tone sounds
Select call tone A B C D E	press and hold + press repeatedly	Call tone changes
Change call tone volume	press and hold	Volume has been adjusted
Switch additional function (e g. light) [1]	Pick up receiver: press briefly	Switching device switches

1) Optionally with switching device 1 4981, e.g. switch light.

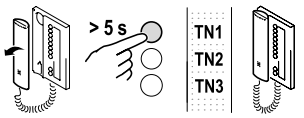
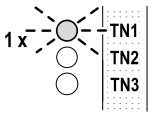
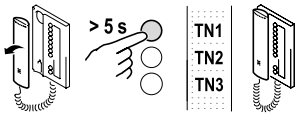
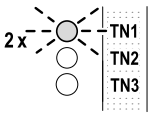
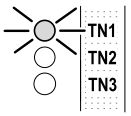
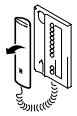
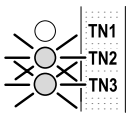
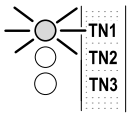
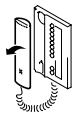
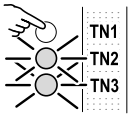
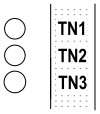
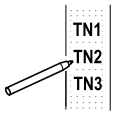
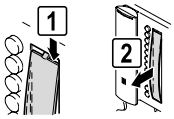
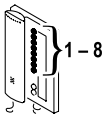
3.5.2 TwinBus comfort indoor telephone 1 7650

Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and flashes
Operate door opener	press.	Door opener switches
TN1 TN3 set up internal voice connection 1)	TN1 Dial subscriber (TN1 TN2 TN3)	TN3 Call tone sounds and illuminate (TN1 TN2 TN3)
Switch on/off call signal (call switch-off)	press briefly	illuminates
	press briefly	Call tone sounds
A B C D E F G H Select call tone	+ press and hold press repeatedly	Call tone changes
Change call tone volume	press and hold	Volume has been adjusted
Automatic door opening (Portamat) with rights	Pick up receiver press bottommost button Put down receiver	illuminates ON
	Pick up receiver press bottommost button Put down receiver	goes out OFF
Additional function switches (e. g. light) 2)	Pick up receiver press briefly	Switching device switches

1) If the internal call number button flashes (e.g. button TN 1 for subscriber 1), an internal call is already being made on the system. The system is engaged

2) Optionally with switching device 1 4981, e.g. switch light.

3) Shown on example of subscriber 1 (TN 1).

Function	Activity	Result
Activate call memory [3]	 Pick up receiver Press own internal no. for >5 s	 LED flashes 1x
Disable call memory [3]	 Pick up receiver Press own internal no. for >5 s	 LED flashes 2x
View  call memory[3]	 Pick up receiver	 missed calls are displayed
Call memory delete[3] 	TN1  Pick up receiver  Press own internal no.	
 Fill labelling field		
Special functions switch[2]	 press button with the receiver put down	[2]

2) Optionally with switching device 1 4981, e.g. switch light.

3) Shown on example of subscriber 1 (TN 1).

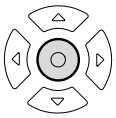
3.5.3 TwinBus colour indoor video station 1 7857

Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and flashes
Operate door opener	press.	Door opener switches
Switch on/off call signal (call switch-off)	press briefly	illuminates red
	press briefly	Call tone sounds
Select calling tone melody A B C D E	press and hold + press repeatedly	Call tone changes
Adjust call tone volume	press and hold	Volume has been adjusted
1) Switch additional function (e.g. staircase light)	Pick up receiver, press briefly	Switching device switches
Adjust brightness	press and hold	max. / min. brightness changes
contrast brightness	press and hold	max. / min. contrast changes
Adjust colour saturation	press and hold	max. / min. Adjust changes

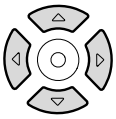
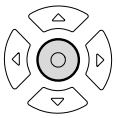
1) Optionally with switching device 1 4981, e.g. switch light.

3.5.4 TwinBus comfort indoor video station 1 7855

Switch on operating menu

Button	Result
	The display shows the operating menu.

Menu control

Button	Function
	**Control keys** Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. You can also use the control keys to change the settings (scroll bar). Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	**Selection key** Use the selection key to active the menu item highlighted by ">" or confirm the altered settings (scroll bar). A new menu with additional selection options may open depending on the menu item. Selected settings are marked with "*" at the end of the line.

Adjust settings

Open the operating menu to adjust device settings or execute functions.

Menu
Internal call
Automatic door opener
Video
Audio
Camera
Exit

Note:
The menu items "Internal call" and "Automatic door opening" will be displayed only if the rights to initiate the start-up procedure have been activated.

Menu item "Internal call"

- Pick up receiver.
- Select menu item "Internal call."

The display shows a list of available subscribers.

- Select subscriber.

The connection is established. The display shows a status message.

Menu item "Automatic door opening"

Use the menu item "Automatic door opening" to switch automatic door opening (Portamat) on or off.

A bright yellow door opener button indicates that automatic door opening has been activated.

Note:
the corresponding rights must have been granted to use this function.

Menu item "Video"

Video
Brightness
Contrast
Colour
Video switch-on time
Back

Menu item	Setting options
brightness	Scroll bars can be used to set 22 different shades of brightness.
contrast	Scroll bars can be used to set 22 different shades of contrast.
Colour	Scroll bars can be used to set 22 different shades of colour.
Video switch-on duration	The video switch-on duration can be adjusted in 30 s increments between 30 s and 180 s.

Menu item "Audio"

Audio
Call volume
Call tone selection
Back

Menu item	Setting options
Call volume	Scroll bars can be used to set 8 different call tone volumes. Each selected setting is confirmed. The call tone can be switched on and off.
Call tone selection	You can select from 9 multi-voice call tones (melodies). Each selected call tone is played back. You can add your own call tones using the USB interface. Ask you electrician for more information.

Menu item "Camera"

Camera
Switch camera
Select camera
Back

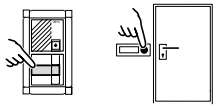
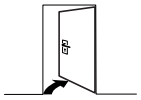
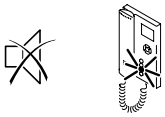
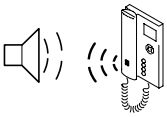
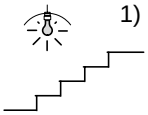
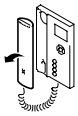
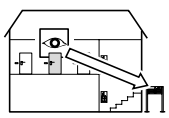
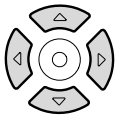
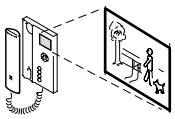
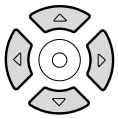
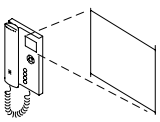
Menu item	Setting options
Switch camera	Control camera[1) 2)]
Select camera	You can switch between a maximum of 6 cameras[3)]

Submenu item "Switch camera"

Menu item	Setting options
<…>	Adjust the viewing area of the camera[1)]
Camera: left/right	Switch between 2 recording facilities[2)]

1) in connection with colour camera module 1 4788
2) in connection with colour camera module 1 4787
3) in connection with camera selector switch 1 4915

Operation with the keys

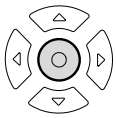
Function	Activity	Result
 Trigger call signal (ring)		 Call tone sounds and  flashes
 Operate door opener	 press.	 Door opener switches
 Switch on/off call signal (call switch-off)	  press briefly	  illuminates red
	  press briefly	 Call tone sounds
 1) Switch additional function (e.g. staircase light)	 Pick up receiver  press briefly	 Switching device switches
 2) Switch on video image manually	 press any control key	 Video image switched on
	 press any control key	 Video image switched off
Special function	 press.	

1) Optionally with switching device 1 4981, e.g. switch light.
2) Only with switch-on rights.

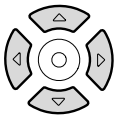
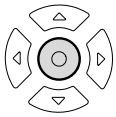
3.5.5 TwinBus handsfree video intercom unit 7835

Note:
The handsfree video intercom unit is operated with the keys and controlled with the on-display menu.

Switch on operating menu

Button	Result
	The display shows the operating menu.

Menu control

Button	Function
	**Control keys** Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. You can also use the control keys to change the settings (scroll bar). Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	**Selection key** Use the selection key to active the menu item highlighted by ">" or confirm the altered settings (scroll bar). A new menu with additional selection options may open depending on the menu item. Selected settings are marked with "*" at the end of the line.

Adjust settings

Open the operating menu to adjust device settings or execute functions.

Menu
Internal call
Video
Audio
Camera
Automatic door opener
Exit

Note:
The menu items "Internal call" and "Automatic door opening" will be displayed only if the rights to initiate the start-up procedure have been activated.

Menu item "Internal call"

- Select menu item "Internal call."

The display shows a list of available subscribers.

- Select subscriber.

The connection is established. The display shows a status message. End the conversation by pressing the Talk button.

Menu item "Video"

Video
Brightness

Video
Contrast
Colour
Video switch-on time
Back

Menu item	Setting options
brightness	Scroll bars can be used to set 22 different shades of brightness.
contrast	Scroll bars can be used to set 22 different shades of contrast.
Colour	Scroll bars can be used to set 22 different shades of colour.
Video switch-on duration	The video switch-on duration can be adjusted in 30 s increments between 30 s and 180 s.

Menu item "Audio"

Audio
Voice volume
Call volume
Call tone selection
Back

Menu item	Setting options
Voice volume	Scroll bars can be used to set 8 different voice volumes.
Call volume	Scroll bars can be used to set 8 different call tone volumes. Each selected setting is confirmed.
Call tone selection	You can select between 5 call tones (melodies) and 3 gong call tones. Each selected call tone is played back. You can add your own call tones using the USB interface. Ask you electrician for more information.

Menu item "Camera"

Camera
Switch camera
Select camera
Back

Menu item	Setting options
Switch camera	Control camera[1) 2)]
Select camera	You can switch between a maximum of 6 cameras[3)]

Submenu item "Switch camera"

Menu item	Setting options
<…>	Adjust the viewing area of the camera[1)]
Camera: left/right	Switch between 2 recording facilities[2)]

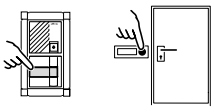
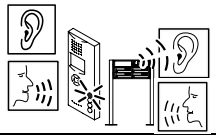
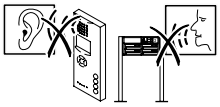
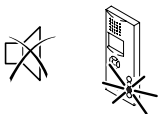
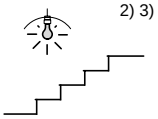
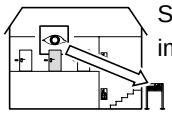
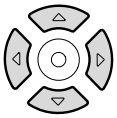
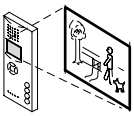
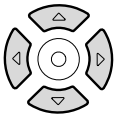
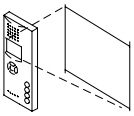
1) in connection with colour camera module 1 4788
2) in connection with colour camera module 1 4787
3) in connection with camera selector switch 1 4915

Menu item "Automatic door opening"

Use the menu item "Automatic door opening" to switch automatic door opening (Portamat) on or off.
A bright yellow door opener button indicates that automatic door opening has been activated.

Note:
the corresponding rights must have been granted to use this function.

Operation with the keys

Function	Activity	Result
Trigger call signal (ring)		 Call tone sounds and  flashes
Operate door opener	press.	 Door opener switches
 1) Establish voice connection	press.	 Voice connection established  illuminates
 Cancel voice connection	press.	 Voice connection cancelled
 Switch on/off call signal (call switch-off)	press briefly	  illuminates
	press briefly	  Call tone sounds
 2) 3) Switch additional function (e.g. staircase light)	 press and hold + press.	 Switching device switches
 Switch on video image manually 4)	 press any control key	 Video image switched on
	 press any control key	 Video image switched off
Special function	press.	

1) Best voice quality at a distance of an arm's length.

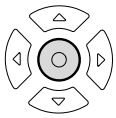
2) Optionally with switching device 1 4981, e.g. switch light.

3) Only  must be pressed while a conversation is in progress.

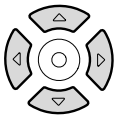
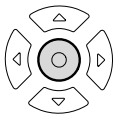
4) Only with switch-on rights.

3.5.6 TwinBus comfort handsfree video intercom unit 1 7845

Switch on operating menu

Button	Result
	The display shows the operating menu.

Menu control

Button	Function
	**Control keys** Use the control keys to move within the menu structure. The selected menu item is highlighted by the symbol ">" at the beginning of the line. You can also use the control keys to change the settings (scroll bar). Use control key "<" to exit the menu item. The possible moving directions on the display change depending on the menu item.
	**Selection key** Use the selection key to active the menu item highlighted by ">" or confirm the altered settings (scroll bar). A new menu with additional selection options may open depending on the menu item. Selected settings are marked with "*" at the end of the line.

Adjust settings

Open the operating menu to adjust device settings or execute functions.

Menu
Internal call
Automatic door opener
Video
Audio
Camera
Exit

Note:
The menu items "Internal call" and "Automatic door opening" will be displayed only if the rights to initiate the start-up procedure have been activated.

Menu item "Internal call"

- Select menu item "Internal call."

The display shows a list of available subscribers.

- Select subscriber.

The connection is established. The display shows a status message. End the conversation by pressing the Talk button.

Menu item "Automatic door opening"

Use the menu item "Automatic door opening" to switch automatic door opening (Portamat) on or off.

A bright yellow door opener button indicates that automatic door opening has been activated.

Note:
the corresponding rights must have been granted to use this function.

Menu item "Video"

Video
Brightness
Contrast
Colour
Video switch-on time
Back

Menu item	Setting options
brightness	Scroll bars can be used to set 22 different shades of brightness.
contrast	Scroll bars can be used to set 22 different shades of contrast.
Colour	Scroll bars can be used to set 22 different shades of colour.
Video switch-on duration	The video switch-on duration can be adjusted in 30 s increments between 30 s and 180 s.

Menu item "Audio"

Audio
Voice volume
Call volume
Call tone selection
Back

Menu item	Setting options
Voice volume	Scroll bars can be used to set 8 different voice volumes.
Call volume	Scroll bars can be used to set 8 different call tone volumes. Each selected setting is confirmed. The call tone can be switched on and off.
Call tone selection	You can select from 10 multi-voice call tones (melodies). Each selected call tone is played back. You can add your own call tones using the USB interface. Ask you electrician for more information.

Menu item "Camera"

Camera
Switch camera
Select camera
Back

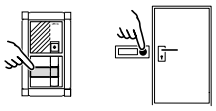
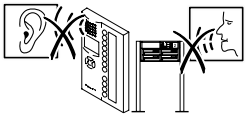
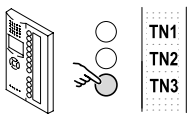
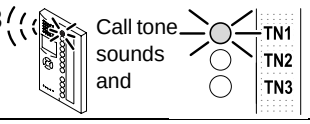
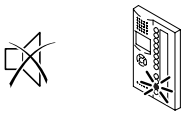
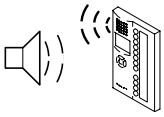
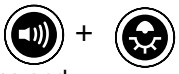
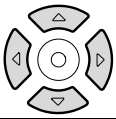
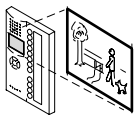
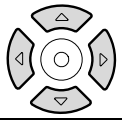
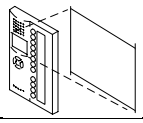
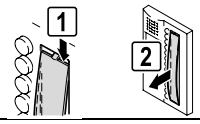
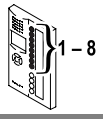
Menu item	Setting options
Switch camera	Control camera[1) 2)]
Select camera	You can switch between a maximum of 6 cameras[3)]

1) in connection with colour camera module 1 4788

2) in connection with colour camera module 1 4787

3) in connection with camera selector switch 1 4915

Operation with the keys

Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and  flashes
Operate door opener	 press.	 Door opener switches
[1] Establish voice connection	 press.	 Voice connection established  illuminates
Cancel voice connection	 press.	 Voice connection cancelled
TN1 TN3 Call internal subscriber	TN1  Press call button	TN3  Call tone sounds and flashes
Switch on/off call signal (call switch-off)	 press briefly	 illuminates
	 press briefly	 Call tone sounds
[2] [3] Switch additional function (e.g. staircase light)	 press and hold + press.	 Switching device switches
Switch on video image manually [4]	 press any control key	 Video image switched on
	 press any control key	 Video image switched off
TN1 TN2 TN3 Label directory		
Special functions[2]	 press.	

1) Best voice quality at a distance of an arm's length.

2) Optionally with switching device 1 4981, e.g. switch light.

3) Only with switch-on rights

4) Only  must be pressed while a conversation is in progress.

3.5.7 TwinBus compact intercom unit 1 7132

Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and flashes
Operate door opener	press.	Door opener switches
Establish voice connection to door station	press and hold	Voice connection active for 1 min
Disconnect voice connection at door station	Release button	Voice connection active for 1 min
Cancel voice connection	press.	Voice connection cancelled
Switch on/off call signal (call switch-off)	press briefly	illuminates
	press briefly	Call tone sounds
Select calling tone melody A B C D E	press and hold + press repeatedly	Call tone changes
Adjust colour saturation	press and hold	Volume has been adjusted
1) Switch additional function (e.g. staircase light)	press and hold + press.	Switching device switches

1) Optionally with switching device 1 4981, e.g. switch light.

3.5.8 TwinBus handsfree intercom unit 1 7230

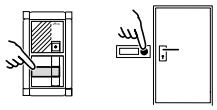
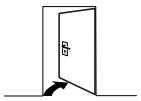
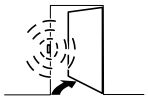
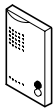
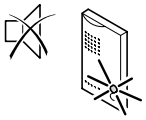
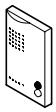
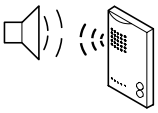
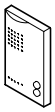
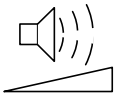
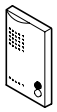
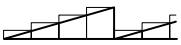
Function	Activity	Result
Trigger call signal (ring)		Call tone sounds and flashes
Operate door opener	press.	Door opener switches
1) Establish voice connection	press.	illuminates 60 s Voice connection active for 1 min
	press.	Voice connection cancelled
Switch on/off call signal (call switch-off)	press briefly	illuminates
	press briefly	Call tone sounds
Select calling tone melody A B C D E	press and hold + press repeatedly	Call tone changes
Adjust colour saturation	press and hold	Volume has been adjusted
Voice volume colour saturation	press and hold	Volume has been adjusted
2) 3) Switch additional function (e.g. staircase light)	press and hold + press.	Switching device switches

1) Best voice quality at a distance of an arm's length.

2) Optionally with switching device 1 4981, e.g. switch light.

3) Only must be pressed while a conversation is in progress.

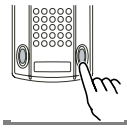
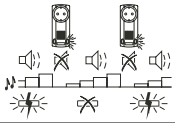
3.5.9 TwinBus signalling device 1 7930

Function	Activity	Result
 Trigger call signal (ring)		 Call tone sounds and  flashes
 Operate door opener	 press.	 Door opener switches
 Switch on/off call signal (call switch-off)	  press briefly	  illuminates
	  press briefly	 Call tone sounds
 Select calling tone melody **A B C D E**	  +  press and hold press repeatedly	Call tone changes
 Adjust colour saturation	 > 1 sec.  press and hold	 new call tone volume sounds

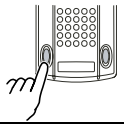
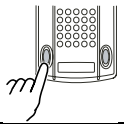
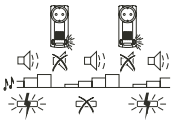
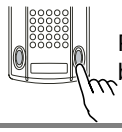
3.5.10 TwinBus radio signalling device 1 7950

Note:
after you answered the door call at the indoor intercom unit, call signalling will not be interrupted. The call tone will be played back until the time you set has elapsed.

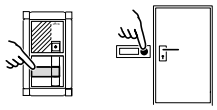
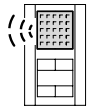
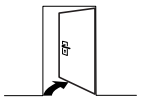
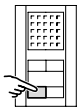
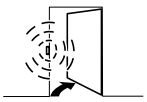
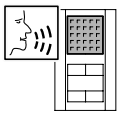
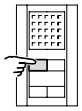
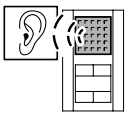
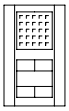
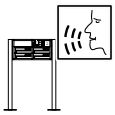
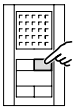
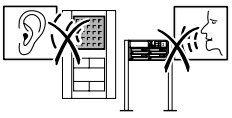
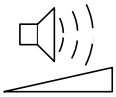
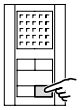
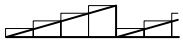
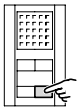
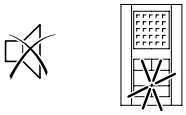
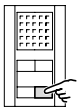
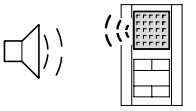
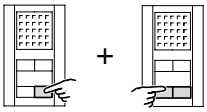
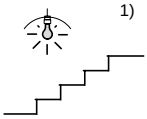
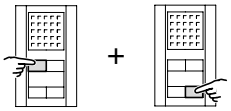
Change call tone volume / switch flashlight on and off

Activity	Result
 Press and hold right button for more than 1s.	 Call tone volume changes and flashlight is switched on and off

Note:
If the device is muted, the right button is illuminated. Incoming calls will only be signalled visually.
If the call tone is repeated less than every 30 s, the flashlight flashes for approx. 30 seconds. If the call tone is repeated more than every 30 s, the flashlight flashes for approx. 60 seconds.
If the flashlight is turned off as well, only the right button flashes for approx. 30 seconds.

Function	Activity	Result
 **A B C D E** Select calling tone melody	 Press left button repeatedly	Call tone changes
 Repetition of call tone colour saturation	 Press and hold left button for 1–60 s	Call tone duration changes
 Set call tone volume / switch flashlight on and off	 Press and hold right button for more than 1 s	new call tone volume sounds/ flashlight is switched on and off

3.5.11 TwinBus intercom station 1 7133, 1 7134, 1 7135, 1 7136

Function	Activity	Result
 Trigger call signal (ring)		 Call tone sounds
 Operate door opener	 press.	 Door opener switches
 Establish voice connection	 press and hold (max. 60 s)	 Voice connection to door station
	 Release button	 Voice connection to door station
 Cancel voice connection	 press.	 Voice connection cancelled
 Adjust colour saturation	 press and hold	 new call tone volume sounds
 Switch on/off call signal (call switch-off)	 press briefly	 illuminates
	 press briefly	 Call tone sounds
 Select calling tone melody **A B C D E**	 press and hold + press repeatedly	Call tone changes
 1) Switch additional function (e.g. staircase light)	 press and hold + press.	 Switching device switches

1) Optionally with switching device 1 4981, e.g. switch light.

3.6 Accessories for indoor telephones, indoor video stations and intercom units

3.6.1 Button 1 7636

Pressing the button activates special functions. Additional devices may be needed.

3.6.2 TwinBus call interface relay 1 7646

No operation is required.

3.6.3 Button adapter 1 4645

No operation is required.

3.6.4 Radio transmitting printed circuit board 1 7656

No operation is required.

3.6.5 TwinBus desktop console 1 7310

No operation is required.

3.6.6 TwinBus desktop console 1 7311

No operation is required.

3.6.7 TwinBus desktop console Video 1 7313

No operation is required.

3.6.8 TwinBus flush-mounted frame 1 7320, 1 7321, 1 7322

No operation is required.

3.6.9 TwinBus coaxial connection adapter 1 4811

No operation is required.

3.6.10 Flush-mounting radio transmitter 1 7856

No operation is required.

3.7 TwinBus power supply unit and accessories

3.7.1 TwinBus power supply unit 1 7573

No operation is required.

3.7.2 TwinBus floor control unit 1 4585

No operation is required.

3.7.3 TwinBus switching device 1 4981

No operation is required.

3.7.4 TwinBus door selector switch 1 4982

No operation is required.

3.7.5 TwinBus area coupler 1 4213

No operation is required.

3.7.6 TwinBus line coupler 1 4214

No operation is required.

3.7.7 Video power supply unit 1 4874

No operation is required.

3.7.8 TwinBus video floor distributor 1 4812

No operation is required.

3.7.9 TwinBus video line distributor 1 4813

No operation is required.

3.7.10 TwinBus line switch 1 4814

No operation is required.

3.7.11 TwinBus camera selector switch 1 4915

Operation takes place via the TwinBus indoor video station.

3.7.12 Power supply unit 1 6371

No operation is required.

3.7.13 Mains transformer 1 6476

No operation is required.

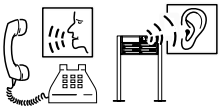
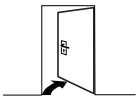
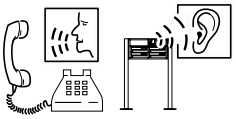
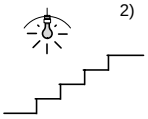
3.7.14 Mains transformer 1 6477

No operation is required.

3.7.15 TwinBus door handsfree amplifier 1 4680

The operation depends on the telecommunications System – refer to the telecommunications system operating manual.

3.7.16 TwinBus telecommunication adapter a/b 1 4685

Function	Activity	Result
 Trigger call signal (ring)		 Call tone sounds
Carry out door intercom conversation after ringing	  Pick up receiver	 Special signal sounds
	 0...9 press any numeric key	 Connection established
 Operate door opener	 * 9 dial	 Door opener switches
Carry out door intercom conversation without ringing	 yy[1] dial	 Connection established
 2) Switch additional function (e.g. staircase light)	 yy[1] dial # 0...9 press  hang up	 Switching device switches

1) Telephone number for telecommunication adapter.
2) Optionally with switching device 1 4981, e.g. switch light.

3.8 Door stations

3.8.1 Modular Portier door station

No operation is required.

3.8.2 Compact door station Entravox

No operation is required.

3.8.3 Compact door station Entravox Video

No operation is required.

3.8.4 Verrano glass door station

When a bell button is pressed, a signal tone can be heard and the nameplate next to the bell button illuminates brighter.

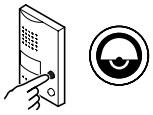
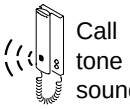
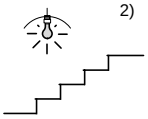
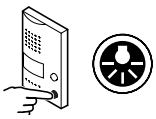
3.8.5 TwinBus built-in loudspeaker 1 4921

No operation is required.

3.8.6 TwinBus extension unit 1 4923

No operation is required.

3.8.7 Staircase door station 1 8201

Function	Activity	Result
 Trigger call signal (ring)		 Call tone sounds  flashes 1)
 2) Switch additional function (e.g. staircase light)		 Switching device switches

1) If a call is already in progress on the TwinBus, this call will be disconnected after 10 seconds by call waiting. Ongoing conversations will be disconnected immediately on devices with older power supply units.

2) Optionally with switching device 1 4981, e.g. switch light.

3.8.8 Built-in colour camera 1 4883

No operation is required.

3.8.9 Colour video camera 1 7652

No operation is required.

3.8.10 Coding module 1 4764

- Enter the number. Correct erroneous entries using button C.
- Confirm the entry by pressing button E.

3.8.11 Access module 1 4768

The pass card must be swiped past the access module at a distance of approximately 10 cm to activate the switching command.

Service speech

4.1 Measuring points

TwinBus power supply unit 1 7573

Clamp		Load	Target voltage
a1	b	open	30 V DC
a2	b	open	30 V DC
a3	b	open	30 V DC
a1	b	switched	24 to 28 V DC
a2	b	switched	24 to 28 V DC
a3	b	switched	24 to 28 V DC
1	b	no door communication	0 V DC
1	b	with door communication	24 V DC
2	b	no door communication	30 V DC
2	b	with door communication	0 V DC
3	4	without load	11 V AC

TwinBus door intercom module 1 4760/ TwinBus built-in loudspeaker 1 4921

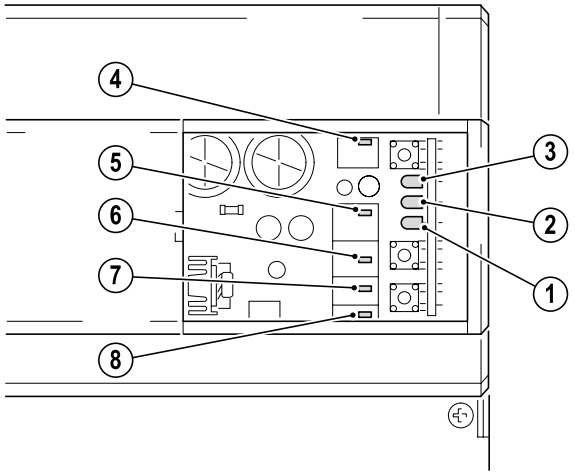
Clamp			Target voltage
2	1	no door communication	15 V DC or 30 V DC
1	2	with door communication	24 V DC
3	4		11 V AC

TwinBus indoor telephone and indoor video station

Clamp		Target voltage
a	b	20 V DC to 28 V DC
ED	ED	20 V DC to 28 V DC
~	~	AC 16 V or DC 18 V
V_a	V_b	< 1 V

4.2 Service indicators

TwinBus power supply unit 1 7573



Indicator	Meaning
LED 1 (yellow) flashes	■ The door opener operating time is set (LED flashes every second when door opening time is being set).
LED 2 (red) is lit	Indicates transmission of bus commands, e.g.: ■ handset has been picked up or replaced. ■ Doorbell is pressed. ■ Door opener or button in operation. ■ Internal call or switching command initiated.
LED 2 (red) flashes	■ Start-up has been activated via the apartment button.
LED 3 (green) illuminates	■ Adjustment protection is activated.
LED 4 (red) illuminates	■ Overload or short circuit on the system bus.
LED 5 (green) illuminates	■ Door communication is enabled.
LED 6 (yellow) illuminates	■ Direct current indicator (bus voltage)
LED 7 (yellow) illuminates	■ Alternating current indicator (door opener)
LED 8 (red) illuminates	■ Door opener relay has switched.

Verrano glass door station

Indicator	Meaning
LED 1 illuminates in speech operation	■ Indicates an active speech connection.
LED 1 illuminates for inactive speech operation	■ The LED indicates that the connections at terminal 1 and terminal 2 are swapped.

4.3 Troubleshooting table

Fault	Measuring point/test	Cause	Remedy
Programming procedure from pushbutton to intercom unit **not working.**	Long tone (negative acknowledge tone) at intercom unit when programming is complete.	Adjustment protection at power supply unit 1 7573 is activated.	Refer to Page ☞ **100**. Adjustment protection can only be deactivated with the TwinBus power supply unit 1 7573.
No call signal from the **modular door station** to all intercom units on a busline.	▸ Disconnect the three bus lines from the power supply unit. At power supply unit 1 7573 between terminals: a1 and b, a2 and b, a3 and b the target voltage of 24 V DC to 30 V DC is not present.	Thermal fuse of TwinBus power supply unit 1 7573 has activated.	De-energize power supply unit 1 7573 – see page☞ **100**.
		Power supply unit 1 7573 defective.	Replace power supply unit 1 7573.
	▸ Re-connect the three bus lines to the power supply unit. At power supply unit 1 7573 between terminals: a1 and b, a2 and b, a3 and b the target voltage of 24 V DC to 30 V DC is not present. LED 7 briefly goes off when the bus line is connected to a and b.	Short-circuit in TwinBus line.	Remedy short circuit.
		Call signal not programmed.	See “Start-up” in chapter entitled “Installation: assembly, connection and start-up” for relevant intercom unit.
	The target voltage of 24 V DC to 30 V DC is not present at the intercom units between a and b.	Open circuit in TwinBus line.	Check and repair line.
	LED 2 not illuminating when button pressed.	No call signal being transmitted by button modules.	Check bus connection in door station (observe red mark).
			Module carrier is wrongly connected. (connecting terminals must be beneath door intercom module 1 4760).
			Wrong button modules used (from Elegant series, art.no. 1 5751 - 1 5754).

Fault	Measuring point/test	Cause	Remedy
No call signal from **built-in loudspeaker 1 4921** to **all** intercom units.	At power supply unit 1 7573 , the target voltage of 11 V AC cannot be measured between terminals 3 and 4.	Short circuit	Remedy short circuit.
		Thermal fuse of TwinBus power supply unit 1 7573 has activated.	De-energize power supply unit 1 7573 – see page☞ **100**.
	At built-in loudspeaker 1 4921, the target voltage of 11 V AC cannot be measured between terminals 3 and 4.	Open circuit in TwinBus line.	Check and repair line.
No call signal to **an** intercom unit.		Call signal not programmed.	See “Start-up” for intercom unit on page: ☞ **33** for indoor telephone 1 7630; ☞ **38** for indoor telephone 1 7650; ☞ **46** for indoor video station 1 7857, 1 7855; ☞ **58** for handsfree video intercom unit 1 7835, 1 7845; ☞ **79** for compact intercom unit 1 7132 ☞ **82** for handsfree video intercom unit 1 7230.
		Intercom unit is defective.	Replace intercom unit.
	The target voltage of 24 V DC to 30 V DC is not present at the intercom unit between a and b.	Open circuit in TwinBus line.	Check and repair line.
No call signal for **indoor telephones 1 7630, 1 7650** or **compact intercom unit 1 7132** or **handsfree intercom unit 1 7230,** or **indoor video stations 1 7855, 1 7857,** or **handsfree video intercom units 1 7835, 1 7845.**	Button ⓚ flashes when door ringing occurs.	Muting activated.	Deactivate muting. Refer to Page: ☞ **159** for indoor telephone 1 7630; ☞ **160** for indoor telephone 1 7650; ☞ **165** for indoor video station 1 7855, 1 7857; ☞ **169** for handsfree video intercom unit 1 7835, 1 7845; ☞ **173** for compact intercom unit 1 7132; ☞ **174** for handsfree video intercom unit 1 7230.

Fault	Measuring point/test	Cause	Remedy
No call signal for **indoor telephones 1 7650** or **indoor video station 1 7825, 1 7826** or **handsfree video intercom units 1 7835, 1 7845.**	The door is opened by the pressing of the doorbell.	Automatic door opener activated.	Deactivate automatic door opener. Refer to Page: ☞ **160** for indoor telephone 1 7650; ☞ **165** for indoor video station 1 7855; ☞ **169** for handsfree video intercom units 1 7835, 1 7845.
Door opener not working.	At power supply unit 1 7573 , the target voltage of 11 V AC is not present between terminals 3 and 21 when operated.	Short-circuit in lines 3 and 21.	Remedy short circuit.
	Target voltage of 11 V AC not present at door opener when operated	Open circuit in line to door opener.	Check and repair line.
		Door opener defective.	Replace door opener.
No illumination of door station.	At power supply unit 1 7573 , the target voltage of 11 V AC is not present between terminals 3 and 4 and/or, at door intercom module 1 4760, the target voltage of 11 V AC is not present between terminals 3 and 4.	Short circuit between terminals 3 and 4 or the lines.	Remedy short circuit.
		Open circuit in line to door station	Check and repair line.
		Alternating current overload.	Also, use mains transformer 1 6477 with 7 modules or more or constant load of more than 700 mA.
		Lighting defective.	Replace lighting.
No speech connection from door station to intercom units.	Target voltage of 15 V DC to 30 V DC not present between terminals 1 and 2 at power supply unit 1 7573 and door intercom module 1 4760 when idling or 24 V C during operation.	Wires are the wrong way round.	Modify wiring.
		Loudspeaker defective.	Replace door intercom module.
	LED at the Verrano glass door station illuminates.	Connections at terminals 1 and 2 swapped.	Change the connections.
Poor speech quality or speech breaking up.	Acoustic test of door station.	Incorrect volume setting.	Increase volume at door intercom module or built-in loudspeaker or make microphone quieter.
	Acoustic test of intercom unit.	Incorrect volume setting.	Decrease volume at door intercom module or built-in loudspeaker or make microphone louder.

Fault	Measuring point/test	Cause	Remedy
Whistling at **door station**.	Acoustic test.	Volume too loud.	Decrease volume at door intercom module or built-in loudspeaker or make microphone quieter.
Monitor on indoor video station/handsfree video intercom unit **will not turn on**, but doorbell signal is coming through.	Target voltage of 16 V AC / 18 V DC not present between terminals ~ and ~ of indoor video station.	No voltage from mains transformer 1 6477 or video power supply unit 1 4874.	Test line or power supply unit and transformer.
Monitor of indoor video station/handsfree video intercom unit switches on, but there is **no picture**.	Signal on TwinBus video line 1 Vss, symmetrical is not present.	Camera not supplying video signal.	Check camera and supply voltage.
		Open circuit in TwinBus video line.	Check line.
	▸ Connect camera directly to an indoor video station/a handsfree video intercom unit. No picture.	Additional devices (e.g. video line distributor1 4813) not switching video signal through.	Check additional devices and their supply voltages and replace if necessary.
	Red LED on video board not illuminating at indoor video stations/handsfree video intercom units for a bus line.	A voltage is fed into the TwinBus video line between the indoor video station/ handsfree video intercom unit with illuminating LED and the downstream or upstream indoor video station with non-illuminating LED of the bus line.	Remedy wiring error.
Image fault at indoor video station/handsfree video intercom unit (**Negative image**).	Optical inspection.	Connections Va and Vb of the TwinBus video line have been switched.	Switch round connections Va and Vb of the TwinBus video line.
Image at indoor video stations/handsfree video intercom units is **"running"**.	Voltage between terminals ~ and ~ of indoor video station/handsfree video intercom unit is less than the target voltage of 16 V AC or 18 V DC.	Supply voltage too low.	Increase voltage.
		Lines too long.	Increase voltage.
		Too many indoor video stations/handsfree video intercom units being supplied by the same video power supply module 1 4874.	Use an additional video power supply module.
Switching device 1 4981 or **door selector switch 1 4982 not reacting**.	Optical inspection.	Bridges missing from terminals a, b, 1, 2, 21 of additional device to power supply unit 1 7573.	Also fit these bridges to the system bus connector.
Switching device 1 4981 not reacting.	Optical inspection.	Switching command not programmed.	Program switching command. Refer to "Start-up" on page ☞ **104**.

Fault	Measuring point/test	Cause	Remedy
Camera module 1 4787 or **1 4788 not switching over.**	Optical inspection.	Bus connector to camera module missing.	Check bus connection in door station (observe red mark).

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V

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make it easy

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