The Passive Pull Cord Module is intended for use in the teleCARE IP system, in areas such as bathrooms and toilets. It must be connected to the passive bus of a door side module or active pull cord cancel module. When connected to the door side module, it can be combined with the passive toilet cancel module on the same passive bus. The passive bus consists of four wires (see 6.4.1, 4-Pole Connector Terminal on page 65).

For assembly and attaching instructions for the pull cord refer to 6.8.2, Assembling and Attaching the Pull Cord on page 84.

The Passive Pull Cord Module requires a single backplate which must be ordered separately. The backplate enables this switch module to be mounted over different types of back boxes. Alternatively, a spacer with installation kit is available for surface mounting.

6.10.1 Pull Cord Module (Passive) Electrical Connections

The passive pull cord module is a "passive peripheral" therefore it must be connected to the passive bus of the linked door side module or active pull cord module by the 4-pole passive bus connector (see 6.4.1, 4-Pole Connector Terminal on page 65).
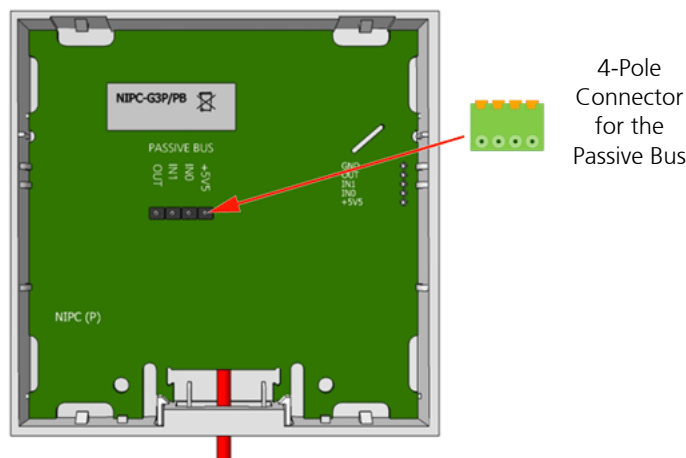

Figure 108. Passive pull cord module electrical connections

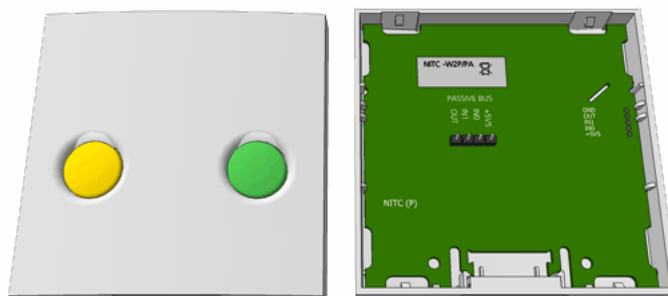## 6.11 Toilet Cancel Module - Passive (NITC-XXP)

Figure 109. Passive toilet cancel module

The Passive Toilet Cancel Module is intended for use in the teleCARE IP system, in areas such as bathrooms and toilets. It must be connected to the passive bus of a door side module or a room display module.

IMPORTANT: *Together with the passive toilet cancel module a passive pull cord module which contains the line break detection circuitry must be installed. The passive pull cord module must be connected at the end of the passive bus.*

The Passive Toilet Cancel Module requires a single backplate which must be ordered separately. The backplate enables this switch module to be mounted over different types of back boxes. Alternatively, a spacer with installation kit is available for surface mounting the switch module.

6.11.1 Passive Toilet Cancel Module (Passive) Electrical Connections

This toilet cancel module is a "passive peripheral" therefore it must be connected to the passive bus of the linked door side module by the 4-pole passive bus connector (see 6.4.1, 4-Pole Connector Terminal on page 65).
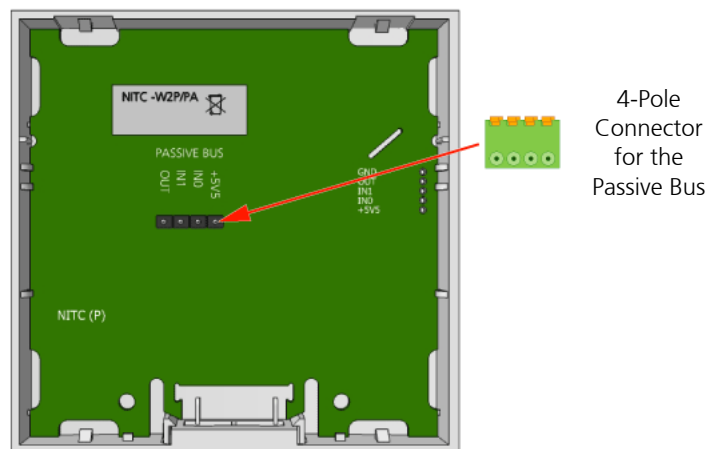

Figure 110. Passive toilet cancel module electrical connections

Note: *The 4-pole connector terminal for the passive bus is not supplied with the switch module. It is available as an accessory and must be ordered separately.*

6.12 Pull Cord Module (NIPC2) Active and Passive

The NIPC2 Pull Cord Modules are designed for use in the teleCARE IP system. They are IP44 splash proof and therefore suitable for use in rooms with showers, baths and in similar wet areas. They are available as an "active" module and a "passive" module.

The NIPC2 is available in gray or white and has a pull cord of length 2 meter with two plastic balls. The top ball acts as a safety break by splitting in half when the cord is pulled with excessive force.

Figure 111. NIPC2 Pull cord module (exploded/assembled)

The active version of the NIPC2 is connected to one of the room buses of the IP Room Controller. It has a 4-pin connector for the connection of the room bus, consisting of: 5.5Vdc, data, voice and ground (0V). The room bus address is set by DIP switches.

The passive version must be connected to the passive bus of a door side module, a room display or a toilet cancel module. It has a 4-pin connector for the connection of the passive bus, consisting of: 5.5Vdc, Aux-In0, Aux-In1 and Aux-out.

Note: *The 4-pole connector terminal required for the room bus is not supplied with the switch module. It is available as an accessory and must be ordered separately.*

The NIPC2 Pull Cord Module includes a special backplate with two urethane foam gaskets which makes the NIPC2 splash water resistant to IP44 standard. The backplate must be mounted on a flat wall surface using the four corner holes in the backplate.

The module is fixed on to the backplate by two latches and two screws through the cover plate. The screws are supplied with the module.

WARNING: The NIPC2 can only be mounted on the supplied IP44 backplate. It is not compatible with the standard teleCARE switch module backplate and it is not compatible with the teleCARE surface mounting spacer.

6.12.1 Mounting the NIPC2 Pull Cord Module

In order to avoid physical damage to the module and to reduce the risk of exposure to excessive spray water in shower rooms, bathrooms and similar wet areas, the NIPC2 should be installed with the pull cord module mounted above the height of any water source.

The NIPC2 should be mounted in a location which ensures that the pull cord hangs free of any obstructions, is clearly seen and within easy reach so that it can be pulled to activate a call by residents or staff in an emergency or when assistance is required.

The NIPC2 should be mounted at a minimum height of 90.5in (2300mm) above the floor and at least 8in (200mm) above the highest position of the shower head. Where possible the pull cord should extend down to approximately 9in (200mm) above the floor.

The following illustration shows some examples of suitable locations for the pull cord module.
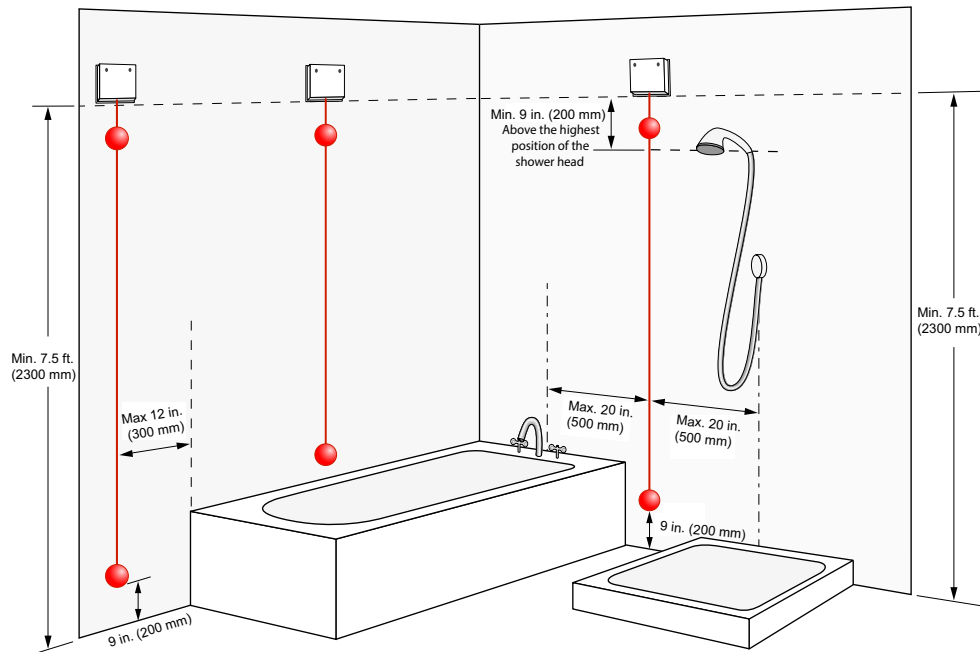

Figure 112. Examples of suitable locations for mounting the NIPC2

### 6.12.2 Positioning the Back box for the Pull Cord Module

The NIPC2 pull cord module must be mounted on a smooth flat surface in order to ensure that it is splash water proof in accordance with IP44. The ideal surface is a ceramic tiled wall with the back box for the NIPC2 situated in the center of a tile so that the pull cord module backplate does not sit over a gap between tiles, as shown in the following illustration:
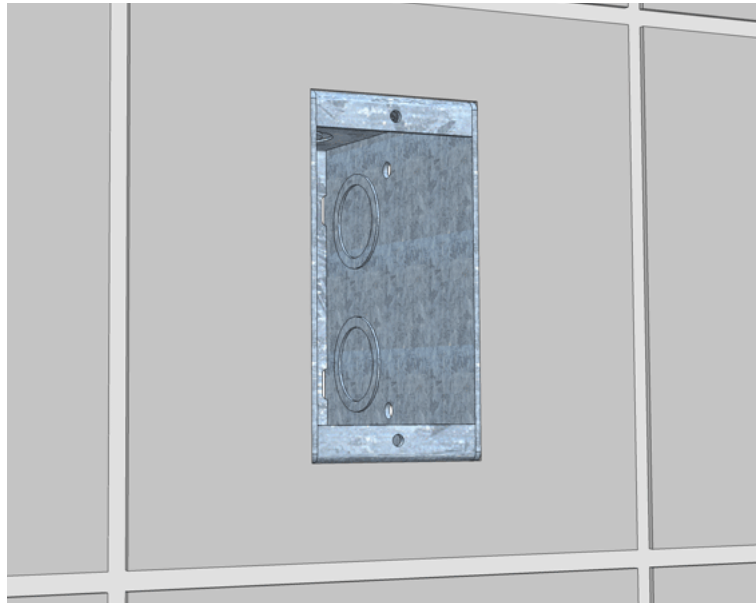
Figure 113. Positioning the back box on a tiled wall

6.12.3 NIPC2 Back plate

The NIPC2 back plate has a urethane foam gasket on both sides to prevent water entering the pull cord module. With the NIPC2 switch module mounted correctly on the back plate the switch module conforms to the ingress protection rating of IP44.
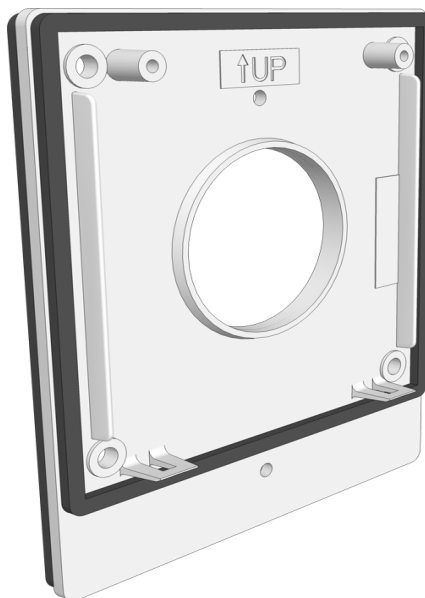
Figure 114. NIPC2 backplate

6.12.4 Mounting the NIPC2 Backplate

The backplate of the NIPC2 must be mounted over the back box using the holes in the corners of the backplate in order to ensure that the NIPC2 is IP44 splash water proof.

Caution: *The screws inside the back box must not be used to mount the backplate. Four holes must be drilled in the wall surface and fitted with suitable wall plugs to allow the backplate to be mounted using the four corner holes.*

6.12.5 Drilling the Backplate Mounting Holes

Four suitably sized holes should be drilled around the back box at 3in (77mm) between the centers (1). A wall plug which will accept a screw of diameter 0.14in (3.5mm) to 0.15in (3.8mm) should be inserted in each hole (2).
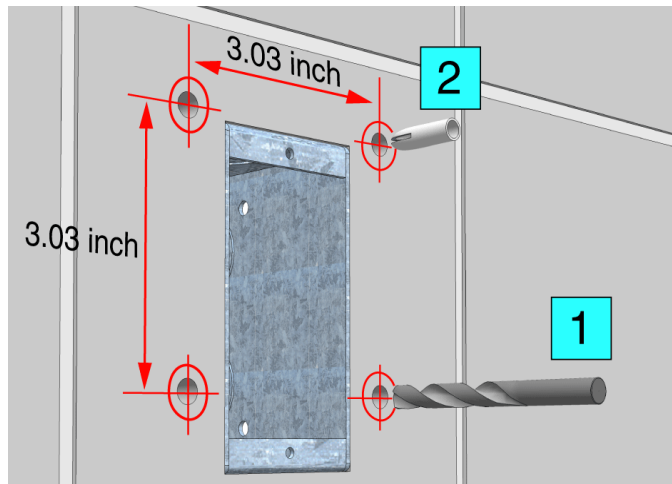

Figure 115. Drilling the backplate mounting holes

Note: *The type and length of the screw depends on the type of wall and the wall plugs. The diameter of the screw must not exceed 0.15in (3.8mm).*

6.12.6 Mounting the Backplate on the Wall

The backplate should be placed over the back box, with the four holes in the corners of the backplate lining up holes in the wall and with the side marked "UP" at the top.
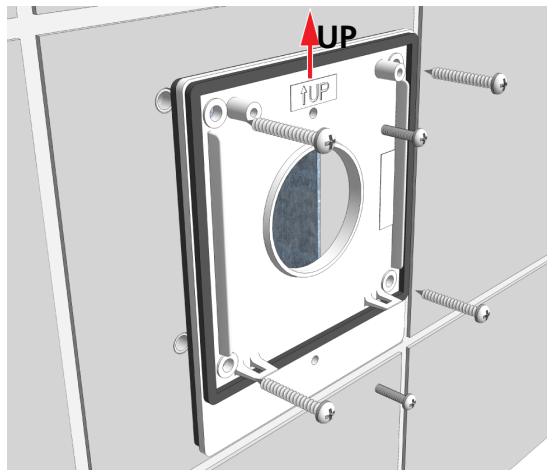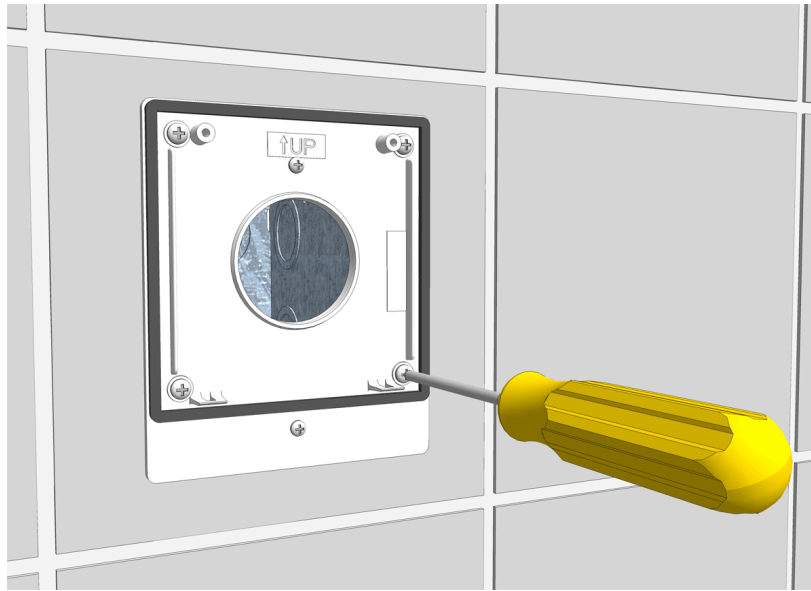

Figure 116. Fixing the backplate to the wall

The four screws should be tightened carefully so that just enough pressure is applied on the gasket to compress it evenly all around between the backplate and the wall surface.


Figure 117. Fixing the backplate to the wall

Caution: *Do not excessively tighten the fixing screws as this will distort the backplate and the foam gasket resulting in an ineffective waterproof seal.*

6.12.7 Preparing the Cable for the Pull Cord Module

After fixing the backplate to the back box, pull the cable through. It is important to ensure that a minimum of 6in (15cm) of free cable is pulled out of the back box where teleCARE pull cord switch module is to be installed.
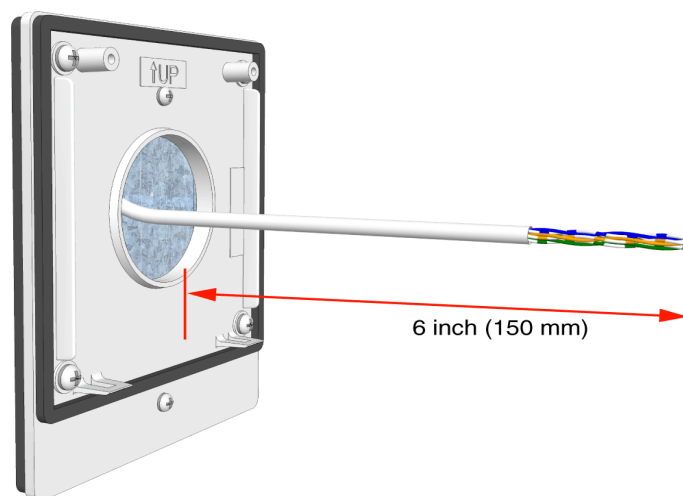
Figure 118. Preparing the cable for the pull cord module

6.12.8 Room Bus Electrical Connections

The NIPC2 GAA and NIPC2 WAA are active teleCARE IP peripherals which must be connected to the 4-pin room bus connector on the switch module.

Refer to section 6.4.2, Preparing the Wires for the 4-pole Connector Terminal on page 66). in order to correctly strip the cable and prepare the wires for the 4-pole connector.

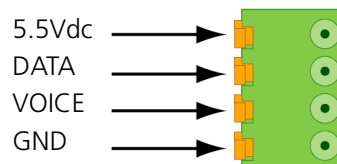The connections of the room bus wires in the 4-pole connector are shown in the following illustration.

Figure 119. 4-pole connector terminal with the room bus

6.12.9 Room Bus Address DIP Switch Settings

The NIPC2 (GAA and WAA) uses one of the first four addresses (0, 1, 2 and 3) of the room bus. The address is set by a DIP switch.

The illustration below shows the location of the room bus connector and the location of the DIP switch with the address settings.
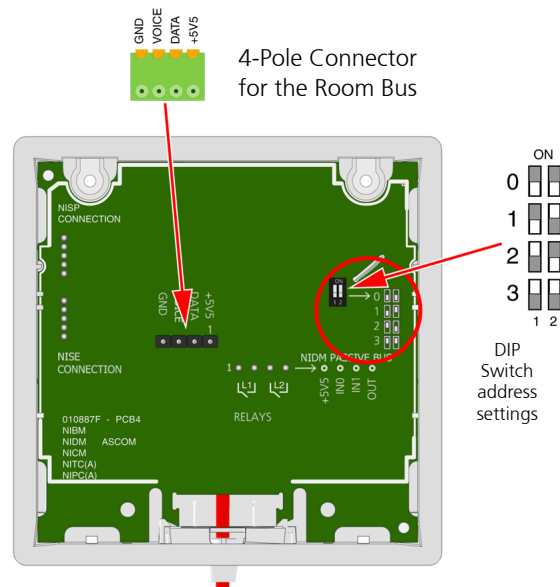

Figure 120. Room bus connector and DIP switch location

6.12.10 Passive Pull Cord Module Electrical Connections

The NIPC2 GAP and NIPC2 WAP are passive teleCARE IP peripherals which must be connected to the passive bus of a door side module or a toilet cancel module.

Refer to section 6.4.2, Preparing the Wires for the 4-pole Connector Terminal on page 66). in order to correctly strip the cable and prepare the wires for the 4-pole connector.

The connections of the passive bus wires is shown in the following illustration.
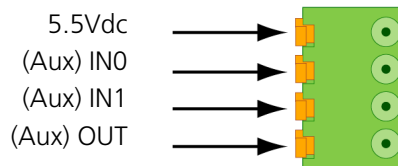
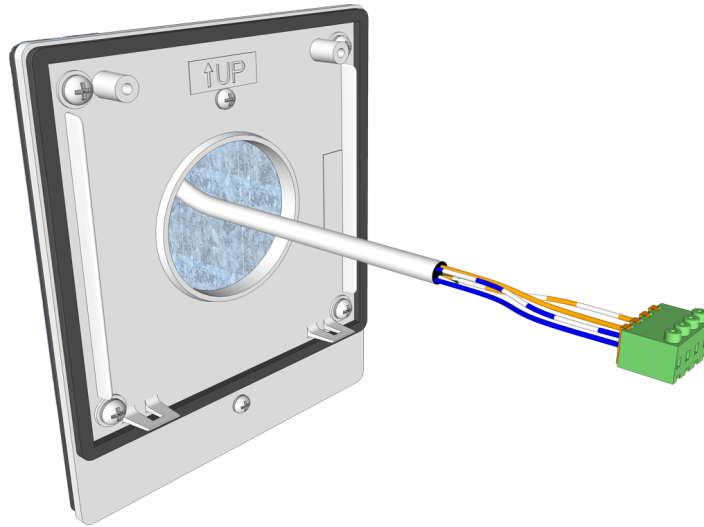*Figure 121. 4-pole connector terminal with the passive bus*

The illustration below shows the location of the passive bus connector:
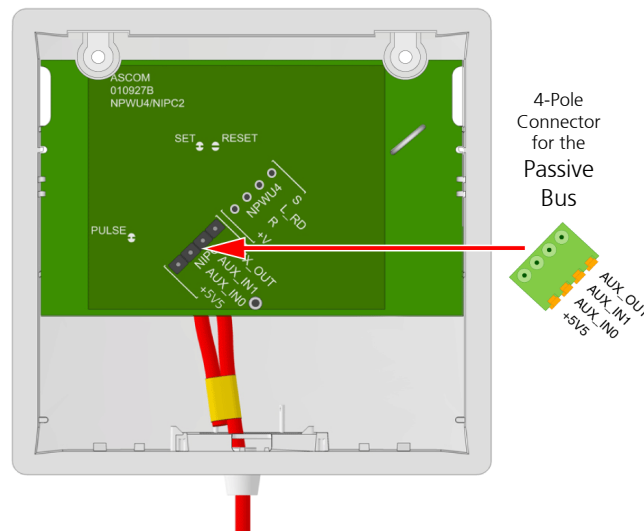
*Figure 122. Passive bus connector location*

6.12.11 Mounting the NIPC2 Pull Cord Module to the Backplate

The method described for mounting the switch module to the backplate is basically the same for the active and the passive pull cord switch modules. The following illustration shows the back plate mounted on the back box with the cable pulled through and connected to the 4-pole connection terminal.

Figure 123. Cable of the pull cord module with the 4-pole connector

Plug in the connection terminal to the appropriate 4-pin connector of the pull cord module (active = room bus connector, passive = passive bus connector).
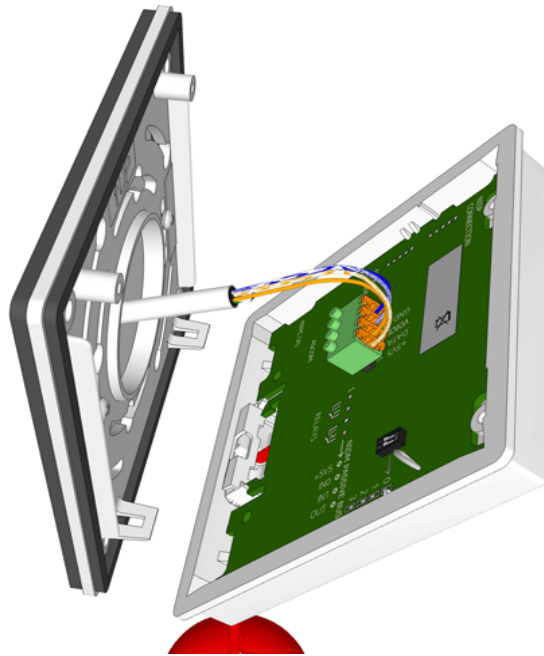

Figure 124. Connecting the room bus to the switch module

Mount the switch module on the backplate by first position the two latch fasteners of the backplate over the two teeth on the inside of the lower edge of the cover plate (1). Next rotate the pull cord module up to the backplate (2) so that the screws line up with the fixing posts on the back plate.
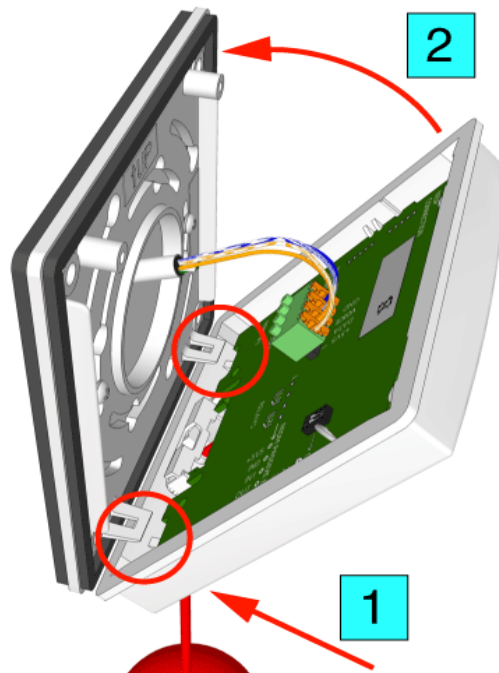
Figure 125. Mounting the switch module on the backplate

Press the pull cord module on to the backplate (making sure that the latch fasteners stay engaged) and carefully tighten the two fixing screws. The screws should be tightened to apply just enough pressure on the gasket to compress it evenly all around between the cover plate and the backplate.
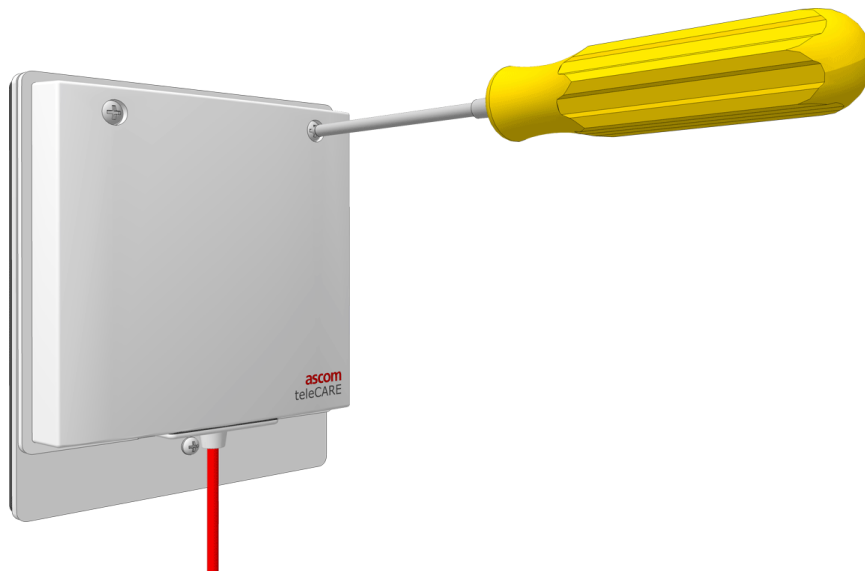
Figure 126. Tightening the pull cord fixing screws

Caution: *Do not excessively tighten the fixing screws as this will distort the cover plate and the foam gasket resulting in an ineffective waterproof seal.*

6.12.12 Assembling and Attaching the Pull Cord

It is important to assemble and attach the pull cord to the pull switch module correctly to ensure the cord is securely attached and that the "safety break" mechanism works reliably. The following illustrations show how to prepare the pull cord:
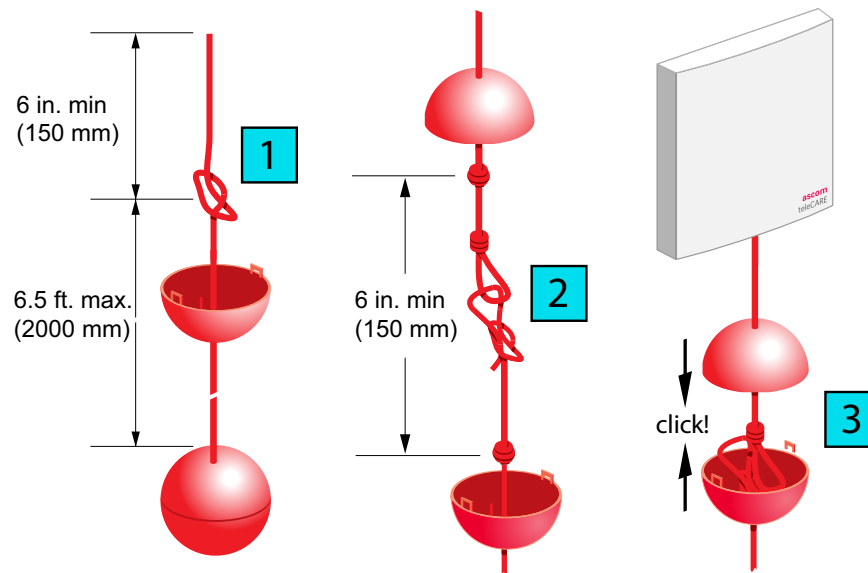
Figure 127. Assembling and attaching the pull cord
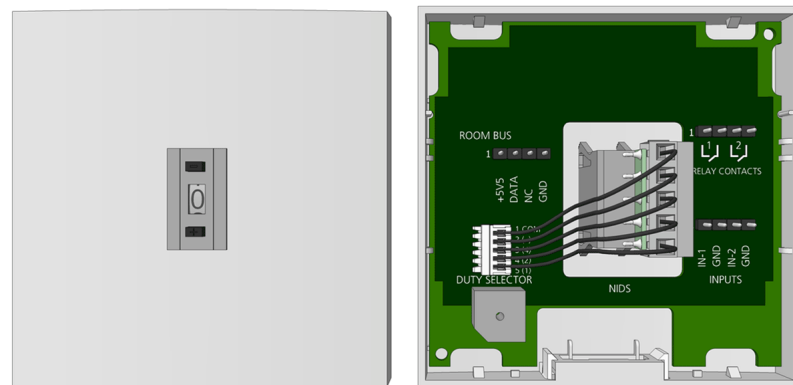
6.13 Duty Selector (NIDS)

Figure 128. Duty Selector front and back view

The Duty Selector is an auxiliary peripheral which can be connected to any one of the three room buses from the room controller. It has a fixed address number 5 on the room bus which cannot be changed.

It has the same basic housing as the teleCARE IP switch modules but it must be mounted on a surface mounting spacer which is delivered with the Duty Selector (see 6.3.2, Surface Mounting Spacer on page 63 for details).

The Duty Selector decides the call forwarding groups and response sequences according to the duty configurations which have been configured in the system setup.

It has a push-button selector switch allowing up to 10 pre-programmed duties to be selected. The numbers from 0 to 9 are displayed in the window at center of the unit to indicate the selected duty.

The Duty Selector includes a buzzer which can be configured in the system setup to signal calls etc. when a specific selection on the duty selector.

It also has two inputs and two galvanically isolated outputs via relays. The two input circuits and the two output circuits are available as interfaces to external devices. These inputs and outputs can be controlled over the LAN via the room controller.

6.13.1 Duty Selector Electrical Connections

The duty selector is an "active peripheral" therefore it must be connected to one of the three room buses of a teleCARE IP room controller by the 4-pole room bus connector. It has the fixed room bus address of 5 and this address cannot be changed.
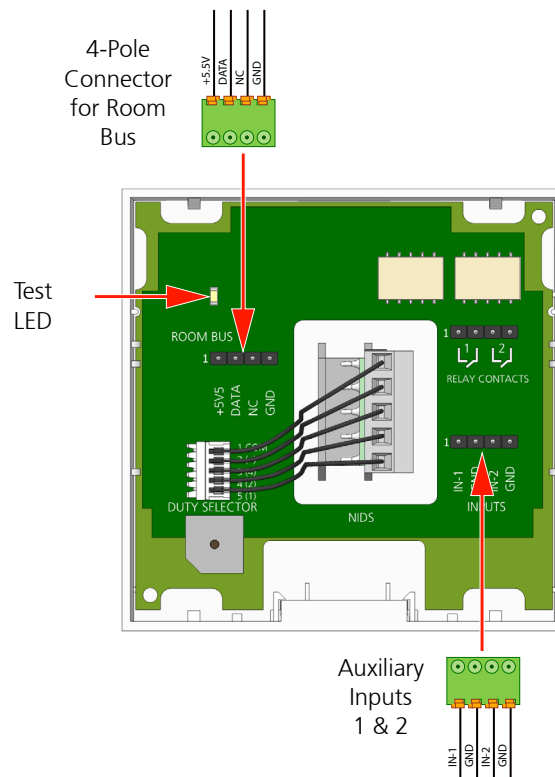

Figure 129. Duty selector electrical connections

Note: *The 4-pole connector terminals required for the room bus and the inputs/outputs are not supplied with the duty selector. They are available as accessories and must be ordered separately.*

6.13.2 Auxiliary Inputs

The third 4-pole connector is used for auxiliary inputs. It has two input circuits which are available as interfaces to external devices. These terminals provide 5.5Vdc at 0.6mA, for monitoring the external device contacts, as shown in Figure 130.
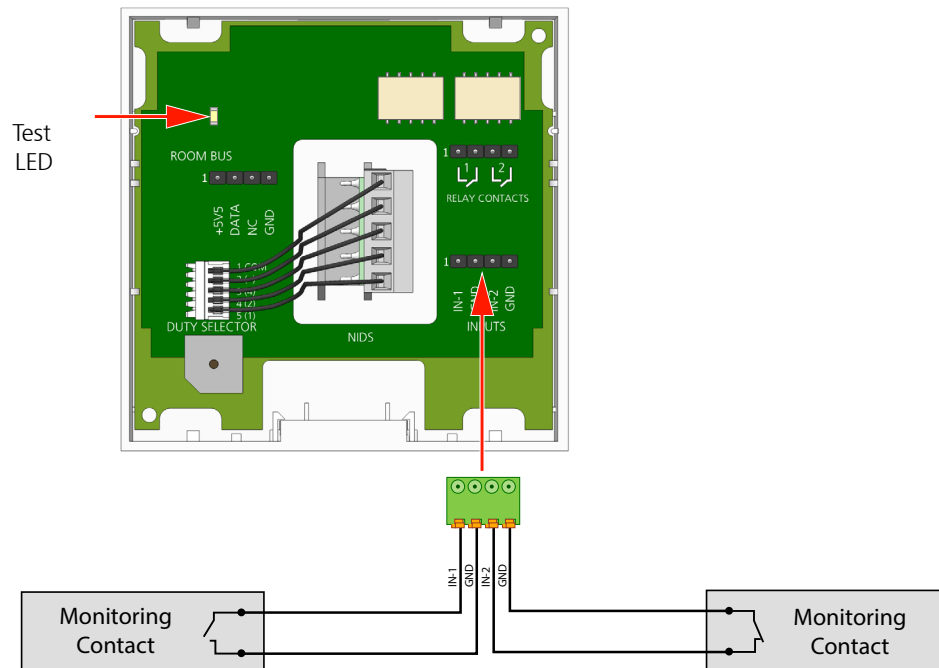

Figure 130. Auxiliary Inputs

WARNING:

- The equipment that is connected to this interface is not considered to be part pf the system configuration unless the equipment complies with ANSI/UL 2560 standard for Emergency Call Systems for Assisted Living and Independent Living Facilities.

- The Auxiliary Monitoring circuits are not electrically isolated.

- The cable length for the Auxiliary Monitoring circuits must not exceed 33ft (10m) and the cables must be appropriately separated from power cables and sources of electromagnetic interference.

- The Auxiliary Monitoring circuits are power limited to 5.5Vdc at 0.6mA.

6.14 Card Reader (NICR)

The Card Reader Module (NICR) is a single switch module suitable for use in the teleCARE IP system. It is an RFID device operating at a frequency of 13.56 MHz for use with contactless smart cards (Mifare Classic technology).
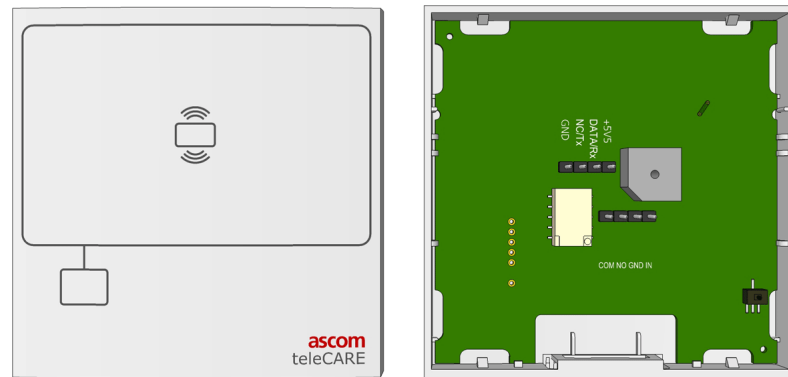
Figure 131. Card reader front and back view

The NICR allows staff members to register their presence in a room or to open an electrically locked door through a contactless proximity authorized smart card.

The NICR should be mounted in an accessible location (usually next to the entrance door of the room) so that the smart card can be held close to the reader when the staff member enters or leaves the room.

The NICR will read the smart card when it is at a distance of up to 0.8in (20mm) in front of the card reader. When a card is detected a buzzer in the NICR sounds.

The NICR has a red LED and a green LED which shine through the cover plate. The green LED shows for two seconds when an authorized card is detected, the red LED shows for two seconds when an unauthorized card is detected, and flashes for two seconds when the card reader is unconfigured. A short flash repeated every second on the red LED indicates that an error has been detected by the watchdog.

The NICR offers two auxiliary functions: a relay circuit for switching an external device, such as an electrically operated door lock, and a connection for monitoring, such as door open detection. The relay connection is a "normally open" potential-free contact and the monitoring connections consist of ground (GND) and an input line (IN).

A tamper alarm switch is mounted on the NICR printed circuit board detects when the card reader is removed from the backplate. The system can be configured, using the System Manager, to generate an alarm call when the tamper switch is operated.

The NICR is available in gray or white and it requires a single backplate which must be ordered separately. A spacer with installation kit is also available for surface mounting the switch module (see 6.3.2, Surface Mounting Spacer on page 63 for details).

WARNING:

• The equipment that is connected to this interface is not considered to be part pf the system configuration unless the equipment complies with ANSI/UL 2560 standard for Emergency Call Systems for Assisted Living and Independent Living Facilities.

• The Axillary monitoring circuits are not electrically isolated.

• The cable length for the Axillary Monitoring circuits must not exceed 33ft (10m) and the cables must be appropriately separated from power cables and sources of electromagnetic interference.

- The Auxiliary Monitoring circuits are power limited to 5.5Vdc at 0.6mA.

Caution: *The tamper alarm function is not possible when the spacer is used.*

6.14.1 Card Reader Electrical Connections

The NICR has two connectors consisting of the room bus and the auxiliary connections. It is an "active peripheral" therefore it must be connected to one of the three room buses of a teleCARE IP room controller by the 4-pole room bus connector (see 6.4.1, 4-Pole Connector Terminal on page 65).
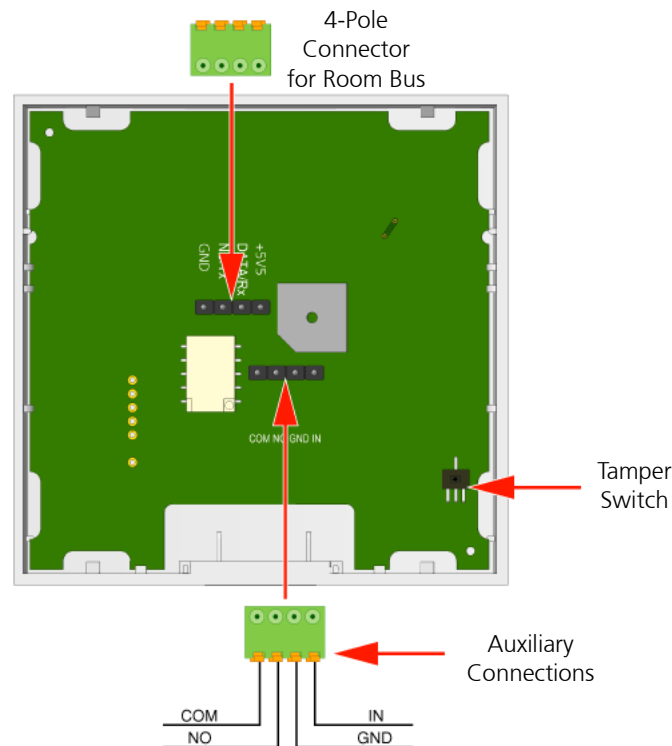

Figure 132. Card reader electrical connections

Note: *The two 4-pole connector terminals required for the room bus and the auxiliary connections are not supplied with the card reader. They are available as accessories and must be ordered separately.*

NICR Room Bus Address

The NICR can be connected to any of the room buses of the IP room controller, in the same way as all other teleCARE IP peripherals. Each room bus supports one NICR and the address of the NICR is fixed at 6.

It is highly recommended to place the NICR as the first teleCARE IP peripheral on the room bus, closest to the room controller, to minimize the risk of a voltage drop on the room bus power lines caused by
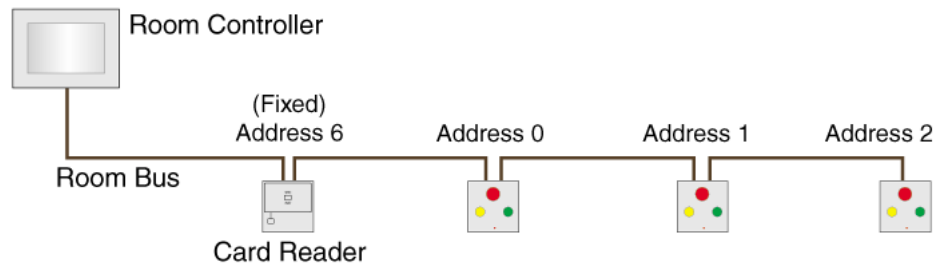
the NICR power fluctuations.

Figure 133. Typical installation with card reader

6.14.2 Card Reader Auxiliary Connections

The NICR has auxiliary connections which provide for the control of external functions such as activating an electrically operated door locks and monitoring door-open alarm contacts or other suitable purposes. The applications of the relay contacts and the auxiliary connections are configured in the System Manager.

Relay Connections

The relay connections (COM and NO) offers a normally open, potential-free relay contacts which can be used to control a remotely operated electrical door lock, or similar applications. The relay contact is rated at a maximum voltage of 30Vdc with a maximum switching current of 1A.

Monitoring Connections

The auxiliary monitoring connections (GND and IN) can be used to monitor a potential-free contact, such as a door open monitoring contact. The monitoring contact can be "normally open" or "normally closed". The functionality of the monitoring connections is configured in the System Manager (NISM).These connections provide 5.5Vdc at 0.6mA, for monitoring the external device contacts.
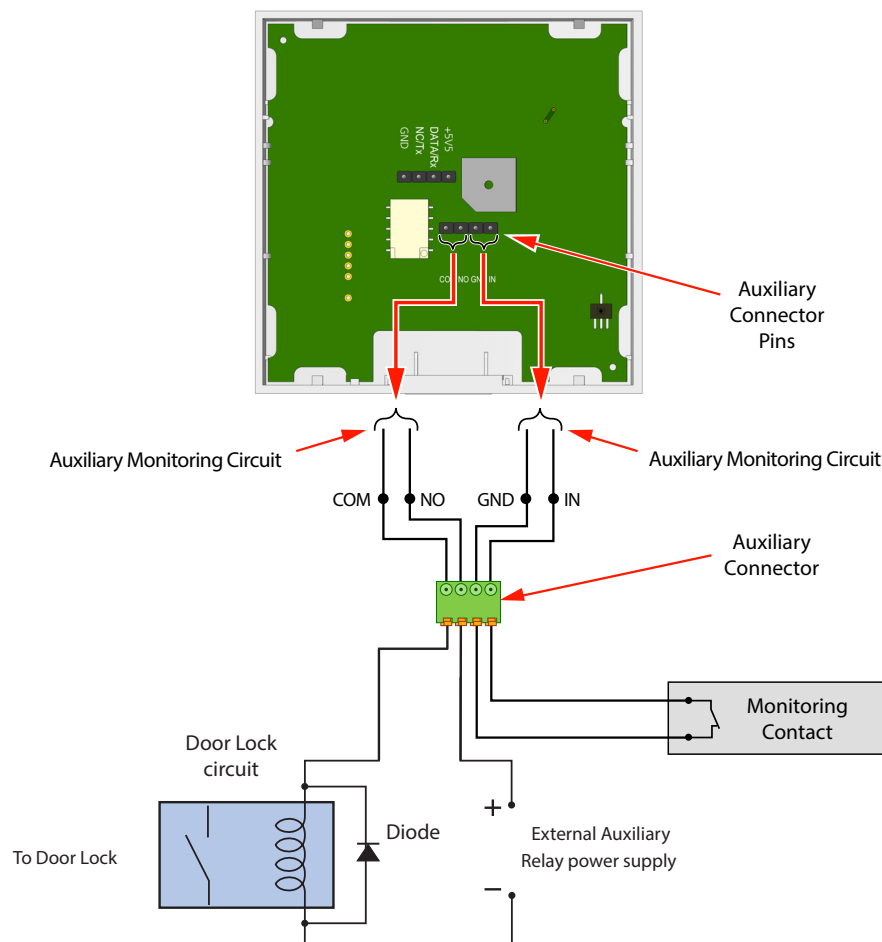
Figure 134. NICR auxiliary connections

WARNING:

- The equipment that is connected to this interface is not considered to be part pf the system configuration unless the equipment complies with ANSI/UL 2560 standard for Emergency Call Systems for Assisted Living and Independent Living Facilities.

- The Auxiliary Monitoring circuit is not electrically isolated.

- The cable length for the Auxiliary Monitoring circuit must not exceed 33ft (10m) and the cable must be appropriately separated from power cables and sources of electromagnetic interference.

- The Auxiliary Monitoring circuit is power limited to 5.5Vdc at 0.6mA.

- The external Auxiliary Relay Power Supply and Relay must be UL listed or recognized components.

- The maximum switching current for the NICR Auxiliary Relay contact must not exceed 30Vdc at 1A.

- A diode (1N4004 or equivalent) must be connected across the coil of the external Auxiliary Relay to prevent surges caused by the relay coil.

- There must be a minimum distance of 1in (30mm) in all directions between the room display and any metal objects to avoid the degradation of the card reader antenna.

6.15 Speech Module (NISP)

The Speech Module (NISP) is a teleCARE IP peripheral which facilitates speech in combination with Ascom Interactive Messaging (IM). It consists of a gray or white plastic body, a printed circuit board and a perforated anodized aluminum face plate.
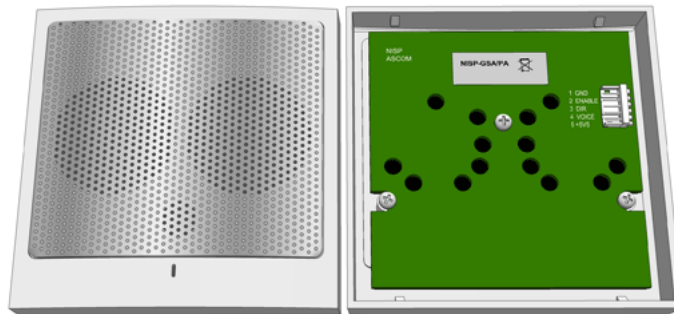
*Figure 135. Speech Module (NISP) front and back view*

The NISP incorporates a pre-amp circuit and a speaker amplifier and includes two loudspeakers and an electric microphone. It has a two-color LED which shows red to indicate that the speech direction from staff to resident is active and green to indicate that the speech direction from resident to staff is active.

The NISP can only be used in combination with the teleCARE IP Door side Module (NIDM), the bedside module (NIBM2), the Medical Rail Socket (NIMS2) the active Pull Cord Module (NICP), and the Room Display (NIRD.

### 6.15.1 Connecting the Speech Module

The 5-wire cable with two 5-pole plugs is required to connect the speech module to the associated switch module. It is available in three lengths: 7.0in (170mm) (R190192), 8.0in (200mm) (R190193) and 15.75in (400mm) (660313). The 15.75in (400mm) long cable is used when the speech module is mounted separately from the associated switch module.

For a two-module combination with the speech module mounted to the right side of the switch module (viewed from the front) the R190192 cable 7.0in (170mm) is required.
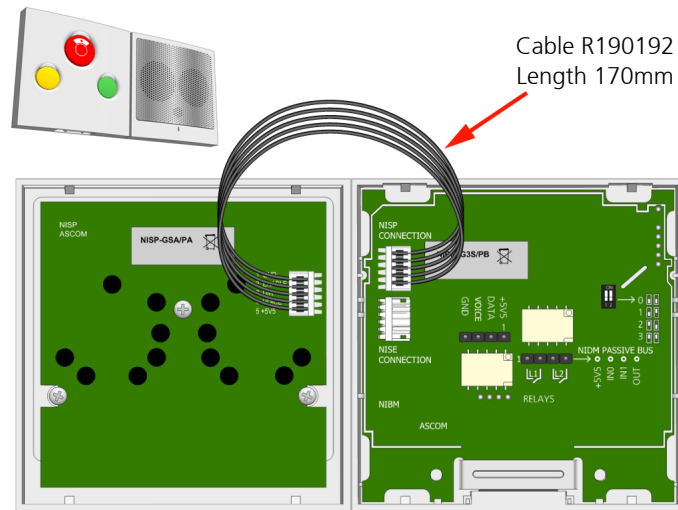
Figure 136. Speech module to the right of the switch module

For a two-module combination with the speech module mounted to the left side of the switch module (viewed from the front) the R190193 cable 8.0in (200mm) is required.
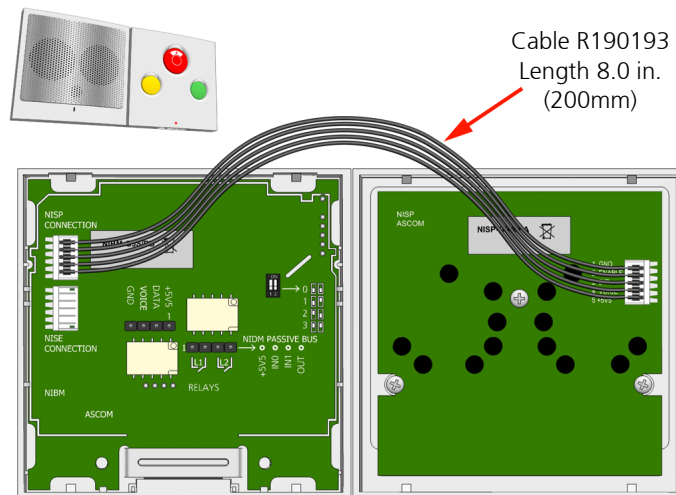
Figure 137. Speech module to the left of the switch module

For a three-module combination the R190192 cable (length 7.0in (170mm) and the R190193 cable length 8.0in (200mm) are both required

.

6.16 Room Display (NIRD)

The NIRD Room Display (NIRD) combines Ascom interactive messaging (IM) functionality, with a teleCARE door side module and an RFID card reader in a wall mounted module which is suitable for use in residents rooms and staff rooms. It has an EBA polyester film membrane which covers the display and incorporates the buttons, keys and the LEDs.

Important: At least one NIRD serving the property must be permanently installed in a fixed location.

Figure 138. Room Display

The NIRD includes three teleCARE function buttons (red, yellow and green). Each of these buttons has an LED which illuminates to indicate the activated condition. Three function keys and a scroll button are included for controlling the display and speech.

The LCD screen measures 2.5in (63mm) x 1.3in (35mm). It displays large, easy to read characters showing calls and the locations of staffs. Above the LCD screen is a three-color LED which illuminates to emphasize the type or category of calls received.

The NIRD also includes a buzzer speaker which signals the configured beep codes for the received messages.

The integrated card reader is an RFID device operating in the 13.56 MHz frequency range. It is used in combination with contactless smart cards.

The NIRD is an active module and must be connected to the teleCARE IP room bus. It uses two fixed room bus addresses 6 and 7.

The NIRD has a 5-pole connector for the teleCARE IP speech module and a 4-pin connector for supporting a passive peripheral bus.

Note: *The 4-pole connector terminal required for the room bus and the 8-pole connector terminal which is required to connect the room bus and a passive peripheral bus are not supplied with the NIRD. They are available as accessories and must be ordered separately.*

There are two dedicated backplates available for the NIRD: a short backplate for mounting the NIRD as a single module and a long backplate for combining the NIRD with the NISP speech module. These backplates must be ordered separately.

Note: *The NIRD is not compatible with the standard teleCARE switch module backplates and it is not compatible with the teleCARE surface mounting spacer.*

6.16.1 Room Bus Electrical Connections

The NIRD is an active teleCARE IP peripheral which must be connected to teleCARE IP room bus by a 4-pole connector, as shown below.
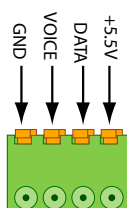
Figure 139. 4-pole connector terminal for the room bus

6.16.2 Room Bus with Passive Peripheral Bus Electrical Connections

When a passive peripheral bus is required the room bus and the passive peripheral bus must be combined in an 8-pole connector, as shown below.
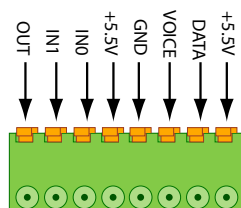
Figure 140. 8-pole connector terminal for the room bus and passive peripheral bus

6.16.3 Connector locations

The locations of the room bus connector, the passive peripheral bus connector and the NISP speech module connector are shown below:
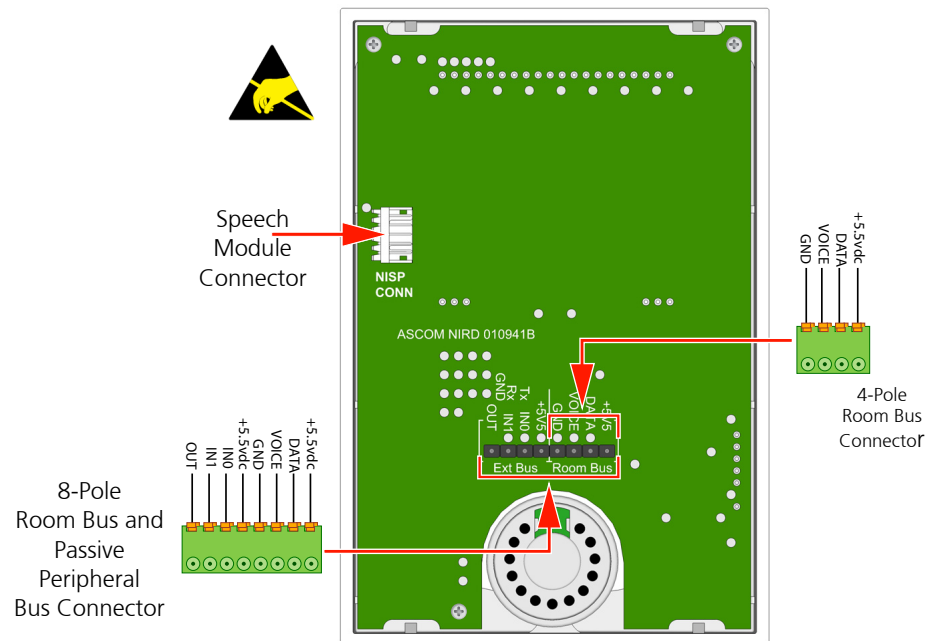
Figure 141. Room display electrical connections

6.16.4 Room Display Backplate (Short)

To mount the NIRD as a single module the short backplate must be used: Figure 141 indicates the location of a hole which needs to be drilled for mounting purposes.
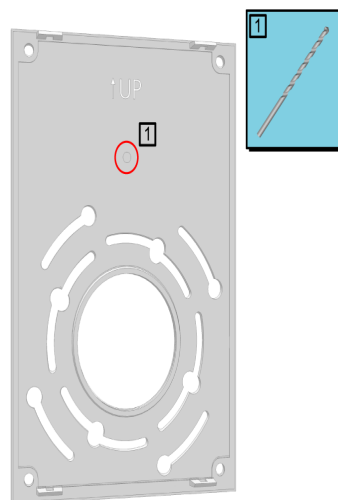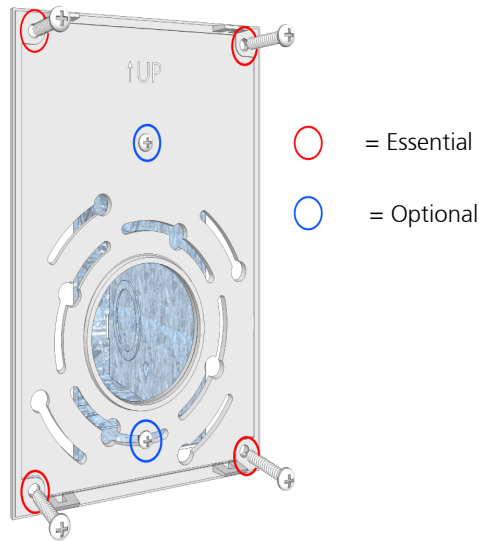

Figure 142. Room display backplate (short)

The backplate must be fixed to the wall using the four corner holes (indicated in the drawing below by red circles).

○ = Essential

○ = Optional

CAUTION!
DO NOT MOUNT THE ROOM DISPLAY CLOSE TO OR OVER METAL OBJECTS.

There must be a minimum distance of 1 in (30mm) in all directions between the room display and any metal objects to avoid the degradation of the card reader antenna performance.

Figure 143. Mounting the room display backplate

The backplate has an arrangement of fixing holes (indicated in the drawing above by blue circles) which make it suitable for mounting on various international back boxes.

Caution: *Even when the backplate is mounted on a back box it must also be fixed to the wall with the corner holes.*

6.16.5 Room Display Combined with the Speech Module

The NIRD can be combined with the NISP Speech Module in teleCARE IP systems with speech. The NIRD is used to select calls, control voice communication and cancel calls. The NISP facilitates two-way voice communication via a press-to-talk function on the NIRD.
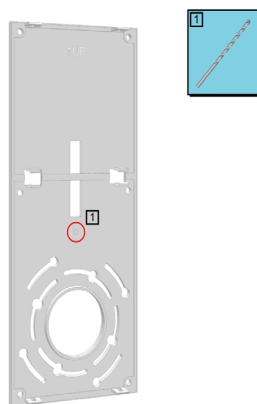
(For details of the NISP speech module refer to chapter 6.15"Speech Module (NISP)" on page 104.)

Figure 144. Room display combined with the speech module

6.16.6 Room Display Backplate (Long)

The long backplate must be used to mount the NIRD combined with the NISP. Figure 144 indicates the location of a hole which needs to be drilled for mounting purposes.

Figure 145. Room display backplate (long)

Mounting the Backplate and Installing the NIRD and NISP

It is important to insert the NIRD to NISP connection cable through the backplate before the backplate is screwed to the wall, as shown in the following illustration:
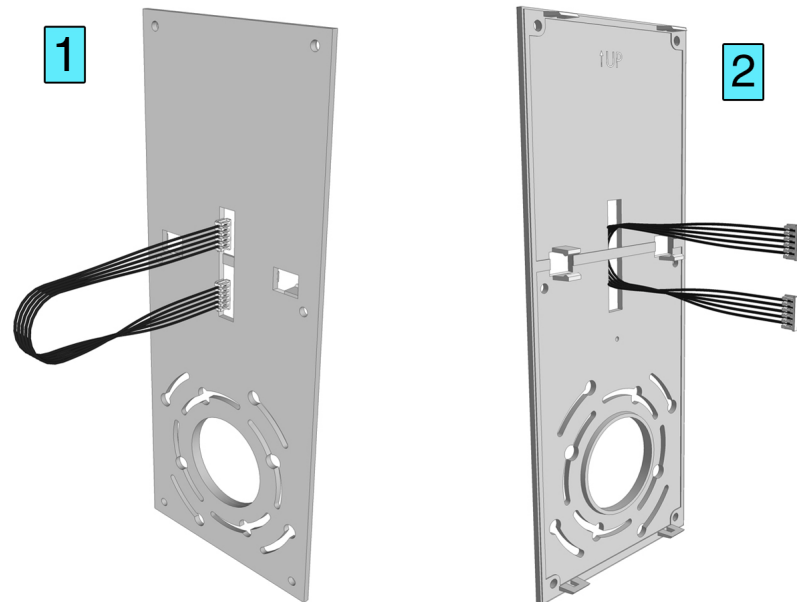
Figure 146. Inserting the connection cable through the backplate

Note: *Make sure that the cable lies in the recess under the strip in the middle of the backplate to avoid trapping the cable under the backplate when it is screwed to the wall.*

The backplate must be fixed to the wall using the four corner holes and the two holes in the middle of the backplate (indicated in the drawing below by red circles).
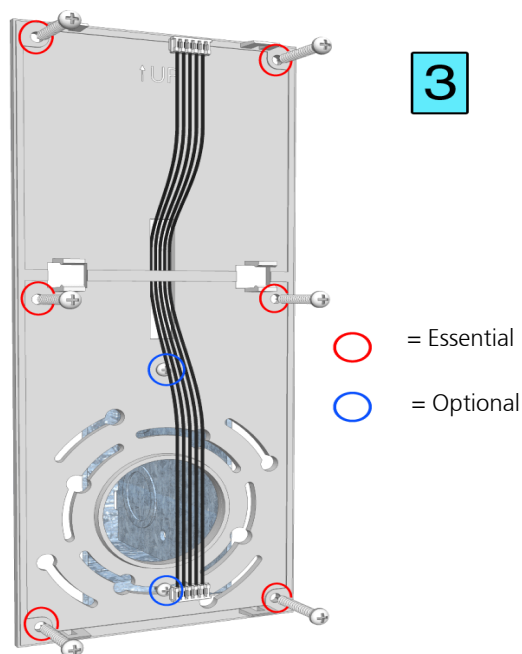
○ = Essential

○ = Optional

CAUTION!
DO NOT MOUNT THE ROOM DISPLAY CLOSE TO OR OVER METAL OBJECTS.

There must be a minimum distance of 1 inch (30mm) in all directions between the room display and any metal objects to avoid the degradation of the card reader antenna performance.

Figure 147. Mounting the room display long backplate

The backplate has an arrangement of fixing holes (indicated in the drawing above by blue circles) which make it suitable for mounting on various international back boxes.

Caution: Even when the backplate is mounted on a back box it must also be fixed to the wall with the corner holes and the middle holes.

When the backplate is screwed to the wall connect the NISP and snap fit it to the backplate.
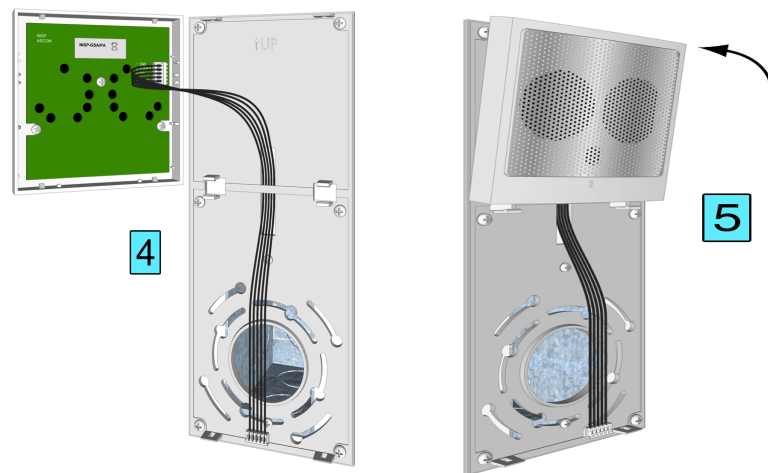

Figure 148. Connecting the NISP and mounting it on the backplate

Next connect the NIRD room display to the NISP and plug in the room bus connector.
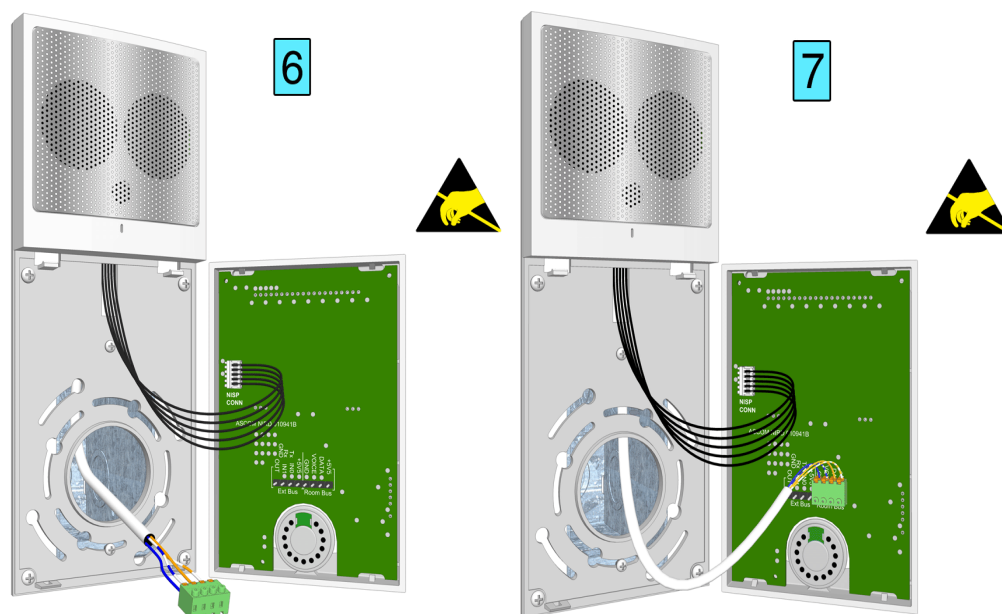

Figure 149. Connecting the NIRD to the NISP and connecting the room bus

Refer to 6.16.1, Room Bus Electrical Connections on page 107 for full details.

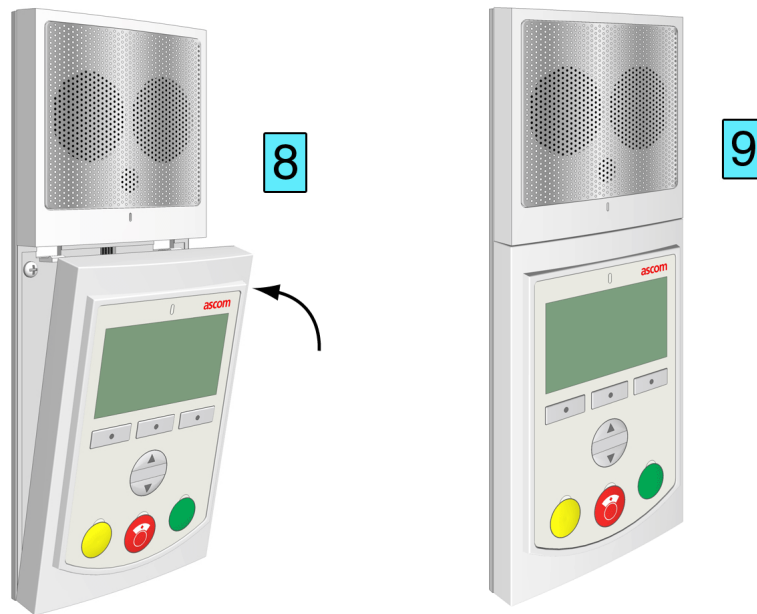Next, snap fit the room display to the backplate.

Figure 150. Mounting the NIRD on the backplate

6.17 Television Interface Module

The television interface module is the interface between the television stereo audio output and the teleCARE IP system. It provides the necessary galvanic separation between the television and the teleCARE peripherals. In the teleCARE IP application the television interface module is a passive device requiring no power supply.
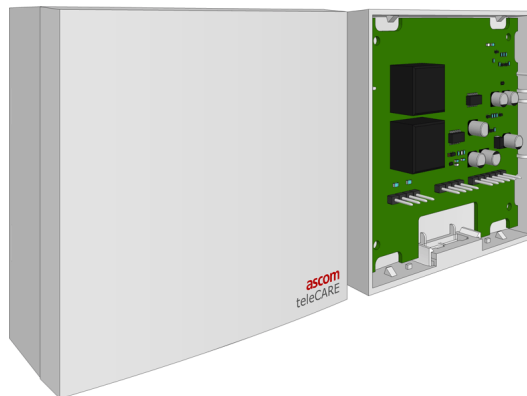
Figure 151. Television interface module: front and back view

The television interface module mounted on the supplied surface mounting spacer. See 6.3.2, Surface Mounting Spacer on page 63 for details.

The stereo audio input to the television interface module is taken from the headphone jack socket of the television and connected to the television interface module at J1. The output from J2 of the

television interface module is connected to the "Audio" connector of the NIBM2 bedside module.

TV — Television Interface Module — Bedside Module NIBM2

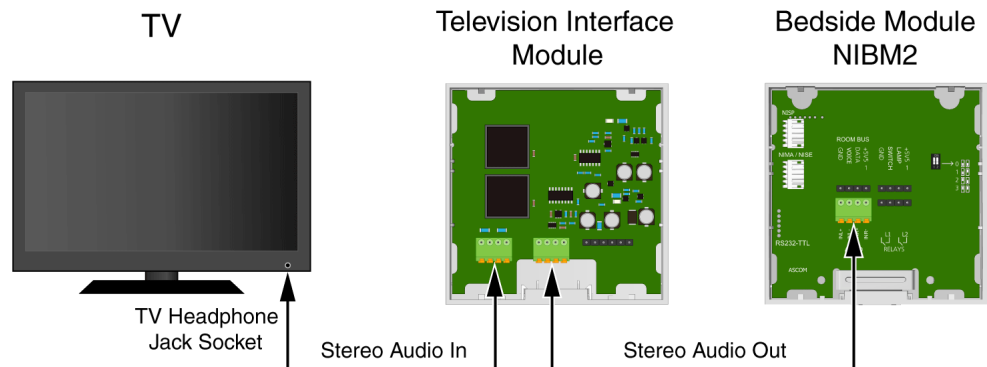TV Headphone Jack Socket — Stereo Audio In — Stereo Audio Out

Figure 152. Television audio connections

WARNING: The equipment that is connected to this interface is not considered to be part of the teleCARE IP system UL listing.

The handset NIPH-AES is required to listen to the TV audio. The audio can be broadcasted through the speaker of the handset or listened to through stereo headphones plugged into the jack socket in the cable of the handset.

General Considerations

- The maximum audio input voltage is 2Vp-p.

- The maximum audio input impedance is 2k ohms.

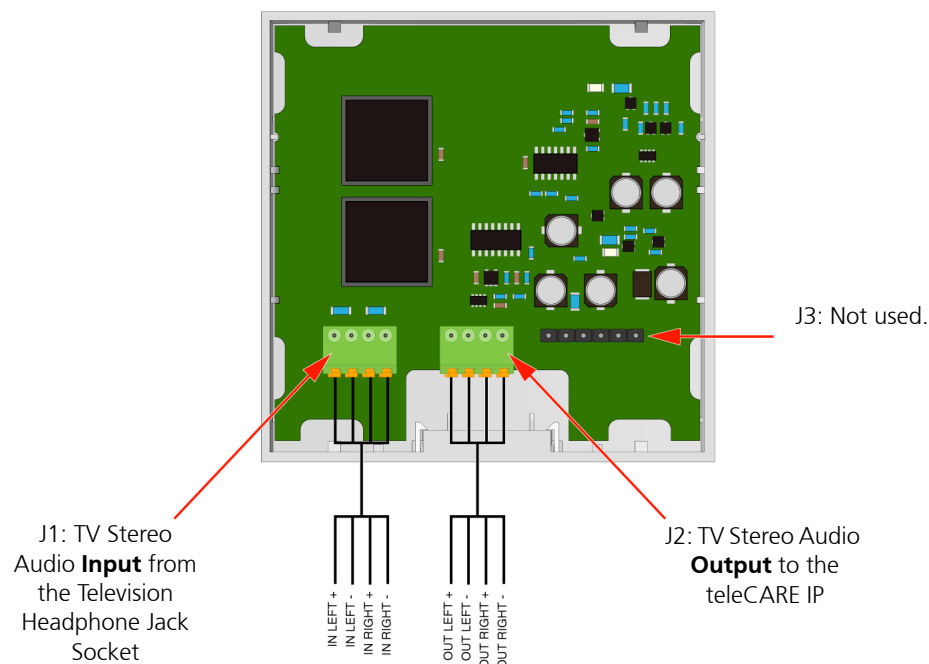### 6.17.1 Television Interface Module Electrical Connections

J3: Not used.

J1: TV Stereo Audio **Input** from the Television Headphone Jack Socket

IN LEFT + IN LEFT - IN RIGHT + IN RIGHT -   OUT LEFT + OUT LEFT - OUT RIGHT + OUT RIGHT -

J2: TV Stereo Audio **Output** to the teleCARE IP

Figure 153. Television interface module electrical connections

Note:

- The equipment that is connected to this interface is not considered to be part pf the system configuration unless the equipment complies with ANSI/UL 2560 standard for Emergency Call Systems for Assisted Living and Independent Living Facilities.

- The Television Interface Module provides electrical isolation between the Television and the teleCARE IP Emergency Call System.

- Television audio in teleCARE IP requires the bedside module NIBM2. For details of the NIBM2 refer to chapter 6.5"Bedside Module (NIBM2)" on page 72.

- The 4 pole connector terminals must be ordered separately.

6.18 Sunblind Control Module
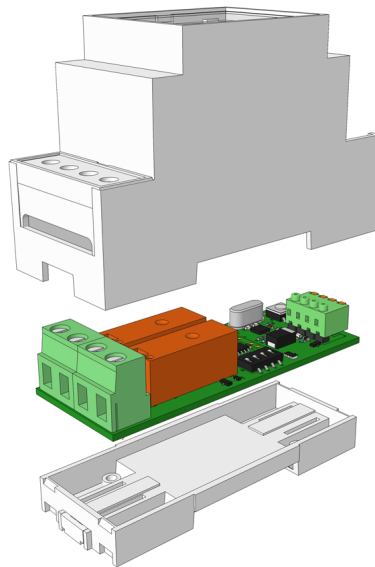
Figure 154. Sunblind Control Module

The Sunblind Control Module is a passive device on the teleCARE IP room bus. It has two heavy duty relays with normally open contacts to control the sunblind motor.

The sunblind control module is compatible with the bedside module NIBM2 and the medical rail socket NIMS2. It is used in combination with the NIPH3-A7A and NIPH3-AES handsets to control the up and down motors of sunblinds.

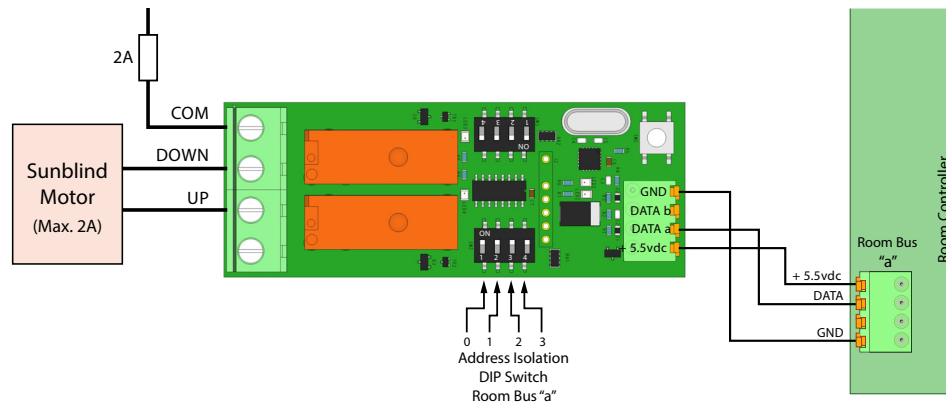### 6.18.1 Sunblind Motor Controller

Figure 155. Sunblind control module electrical connections

The sunblind control module can be connected to one room bus and will only respond to room bus addresses 0 to 3 of the connected room bus. The Room Bus "a" DIP switches are used to prevent the sunblind control module from responding to specific room bus addresses. Setting a DIP switch to the ON position selects that particular address, 0 to 3 to control the module.

WARNING: Up to 230Vac power to the sunblind motor control relay must be fused at 2 Amps. Appropriate cable for the voltage and current must be used for the sunblind motor control.

WARNING: The equipment that is connected to this interface is not considered to be part of the teleCARE IP system.

7 Corridor Equipment

7.1 Corridor Display (NICD)

The NICD is a supplemental IP based corridor display suitable for use in teleCARE IP, and contains a LAN interface for connection to the teleCARE IP LAN network.

The NICD has a large character, 3-color (Red/Green/Amber) message display and a signaling buzzer. It is available as a single or double sided unit with a 6-character or a 12-character display.
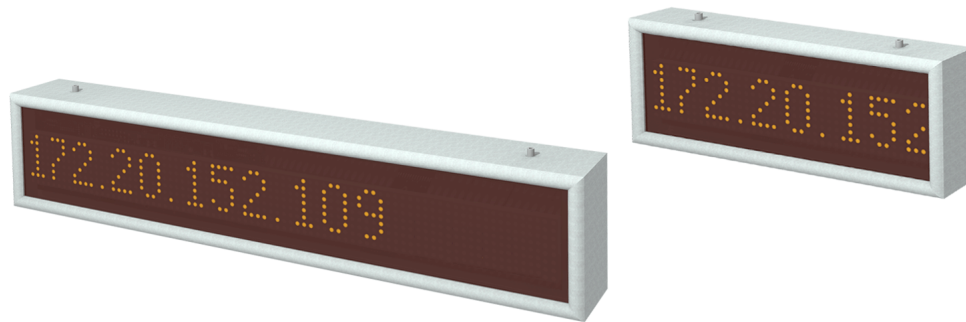

Figure 159. 6 and 12 character Corridor Display (NICD)

WARNING: The NICD equipment described in this section is for supplementary purposes only, is not evaluated to UL 2560 and is not part of the teleCARE IP system UL listing.

From the built-in web interface the basic configuration of the NICD can be adjusted, for example the IP address, host name and communication port.

General text display settings can be set in the NISM2. Up to 50 NICDs can be added to a single NISM2.

The NISM2 is used to define such things as message display time, number of stored messages, the color of the displayed message depending on message priority and buzzer options. The NICD display mode can be constant or scrolling.

The display mode can be set to constant (with short blank period in between) or to scrolling (from bottom to top) when there are two or more active calls to be displayed. The NICD can display up to 30 different messages. If the maximum number of messages is reached, the oldest message with the lowest priority will be cleared first. When the display is not showing any messages (idle), it can be configured to show the time/date or any other type of welcome message.

7.1.1 Corridor Display Network Requirements

- Ethernet 10 BaseT
- half duplex
- no auto-crossing
- no auto-negotiation
- no auto-polarity

Note: *The display will not work on non-standard (reversed polarity) switches using a normal straight cable. Reversed polarity switches require a special Reverse Polarity Cable.*

7.1.2 Preparing Single-Sided Displays Prior to Mounting

Before a single-sided display can be mounted, the LAN cable must be connected to the rear of the display first. The first step is to remove the metal strain reliever plate from the back of the display by unscrewing the 2 screws.
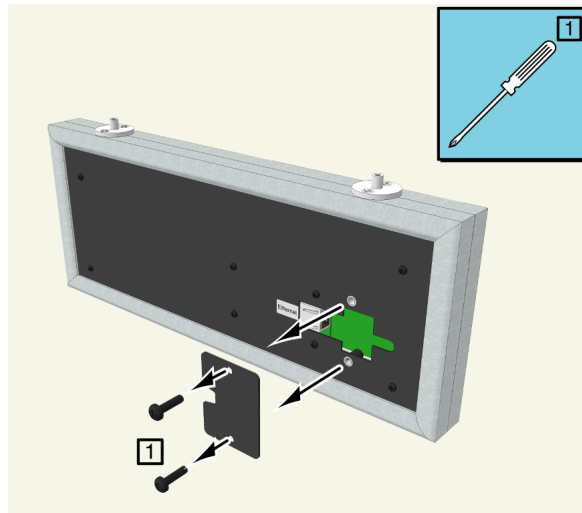

Figure 160. Remove the strain reliever plate

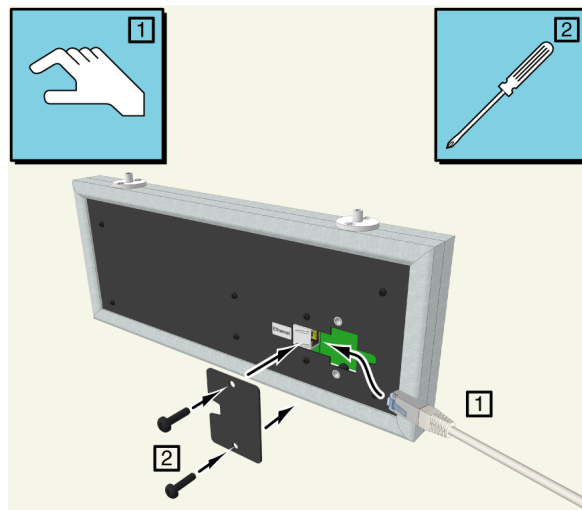Plug the RJ-45 connector of the network cable into the ethernet socket of the display and place the strain reliever plate back in place.

Figure 161. Plug in the RJ-45 connector

7.1.3 Mounting the Corridor Display

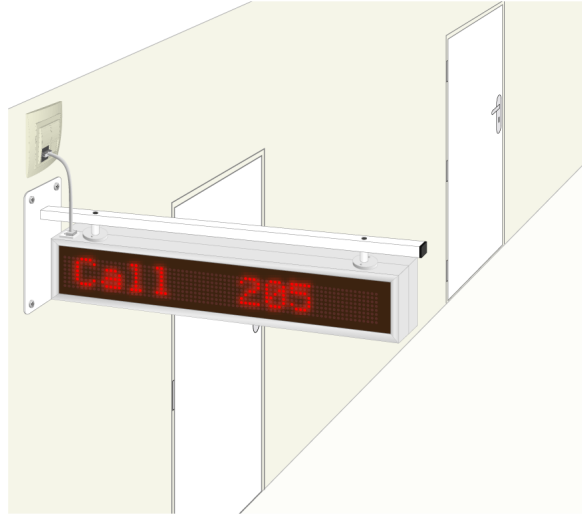The NICD is prepared for wall mounting using a special wall mounting bracket which is available as an accessory.

Figure 162. Wall mounted NICD

NICD Wall Mounting Bracket

The NICD wall mounting bracket is available in two sizes, for the 6-character display and for the 12-character display.
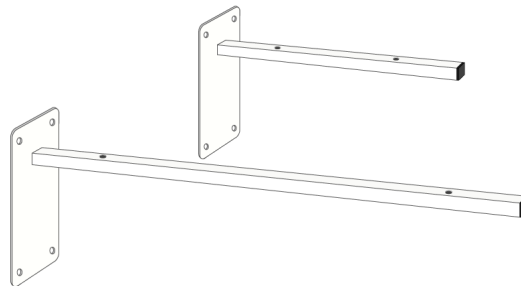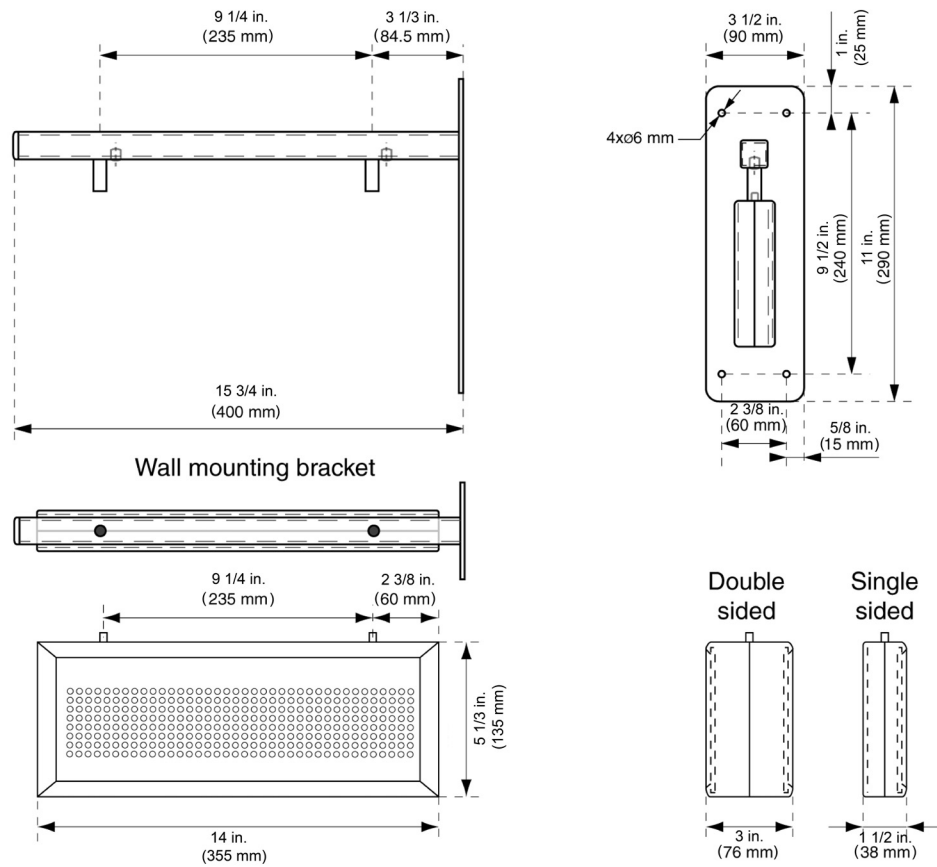

Figure 163. 6 and 12 character mounting brackets

Dimensions & Weights

The method used to fix the mounting bracket to the wall must be capable of safely supporting the combined weight of the NICD and the mounting bracket.

6 Character NICD

- Weight of the 6 character single-sided display = 3.7 pounds/1.7 kg

- Weight of the 6 character double-sided display = 4.4 pounds/2 kg

- Weight of the 6 character mounting bracket   = 3.3 pounds/1.5 kg

Wall mounting bracket

Double sided   Single sided

12 Character NICD

• Weight of the 12 character single-sided display = 6.2 pounds/2.8 kg

• Weight of the 12 character double-sided display = 7.3 pounds/3.3 kg

• Weight of the 12 character mounting bracket   = 4.4 pounds/2 kg
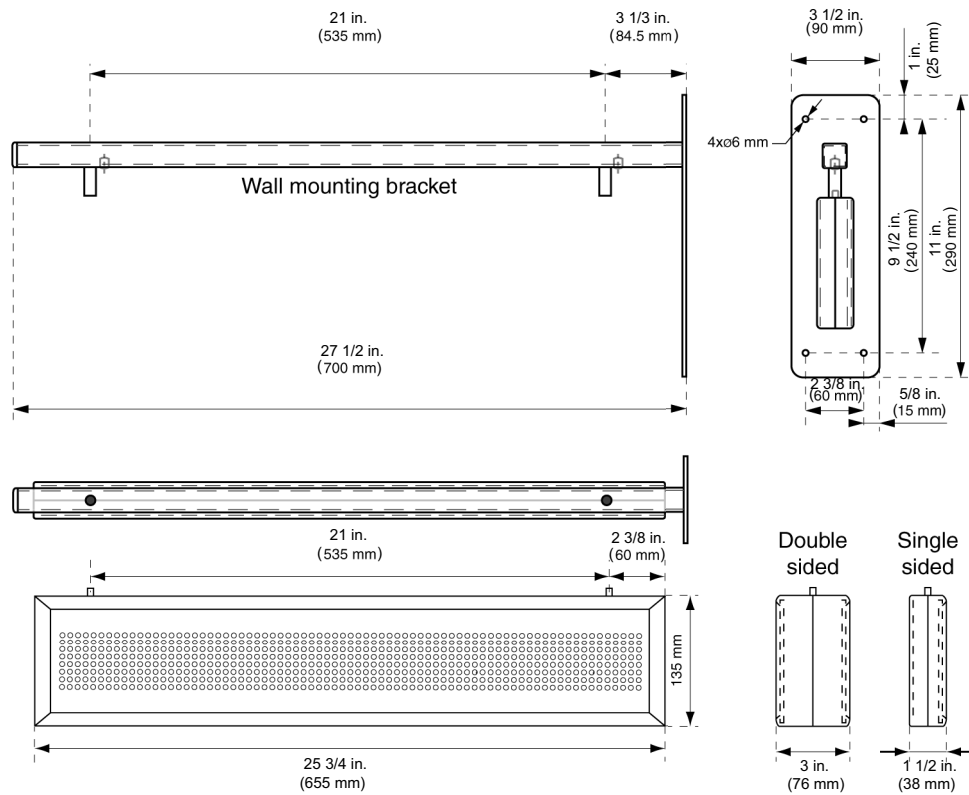
When placing the wall mounting bracket on the wall, consider the minimum height at which the display should be mounted. The minimum installation height depends on things like opening a door in the vicinity of a display or an object transported through the corridor. Make sure that in none of these circumstances the object will hit the display.
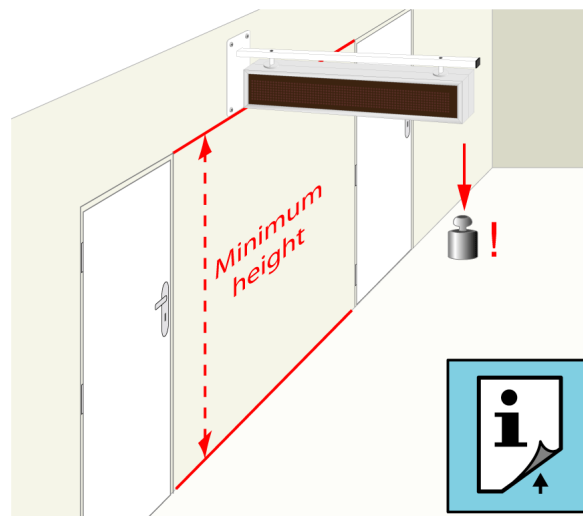

Figure 164. Minimum installation height

To mount the bracket on the wall, drill four holes according to the dimensions of the 6 or 12 character mounting bracket.
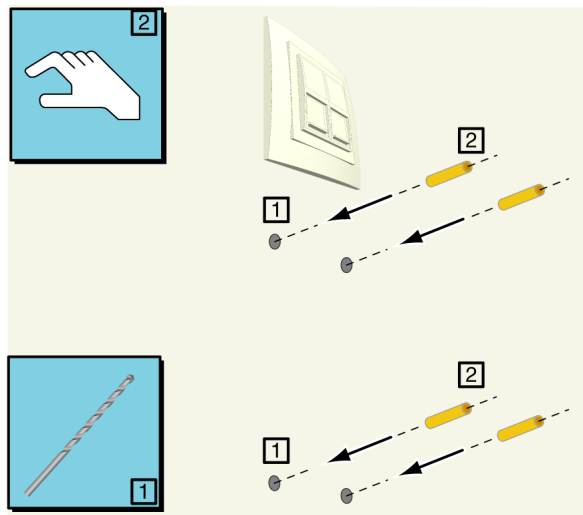
Figure 165. Drilling four holes for mounting the bracket

Fix the mounting bracket on the wall by using four well-fitted screws capable of carrying the weight of both the display and the mounting bracket.
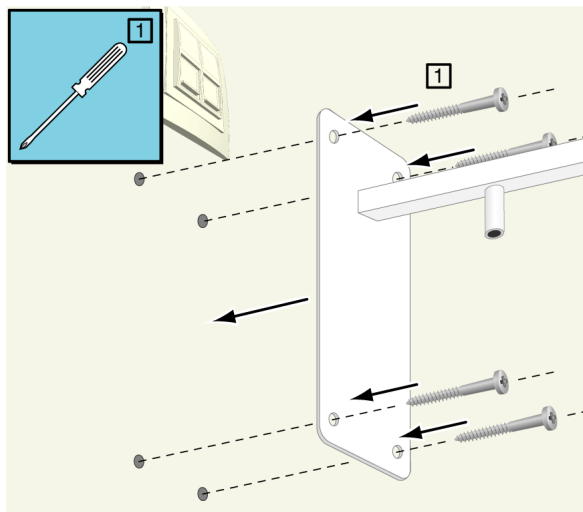

Figure 166. Fixing the wall mounting bracket

The next step is to mount the display on the wall mounting bracket. First start by removing the two hex screws at the top of the display using an allen key (Hex key wrench).
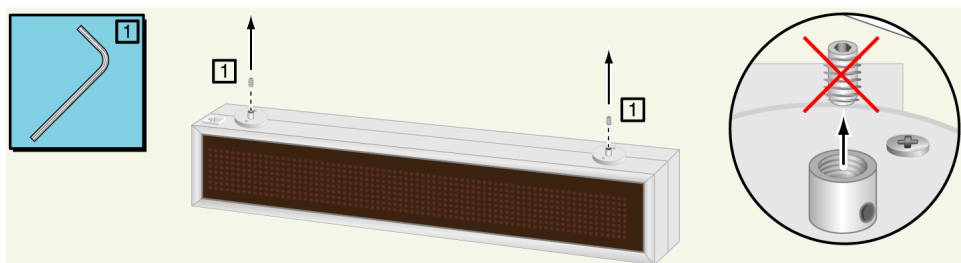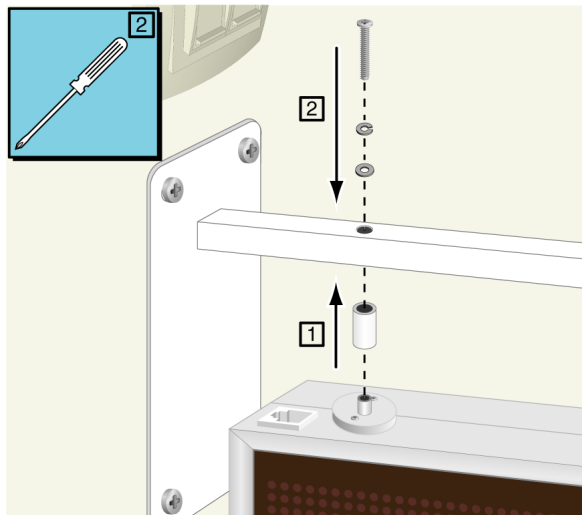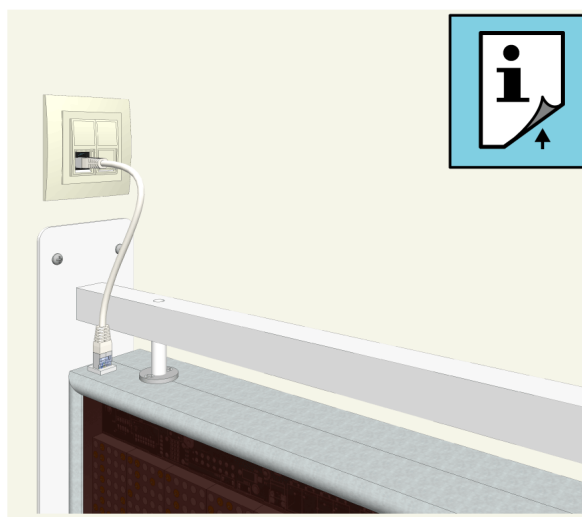

Figure 167. Use the included accessories to mount the display on the bracket.

Figure 168. Mount the display on the bracket

Finally connect the ethernet cable from the outlet to the corridor display.

Figure 169. Connecting the displays ethernet cable

Direct Wall Mount

With the direct wall mount holder, single sided displays can be mounted directly onto the wall by sliding the displays holding slots onto the wall mount holder that is fixed to the wall.
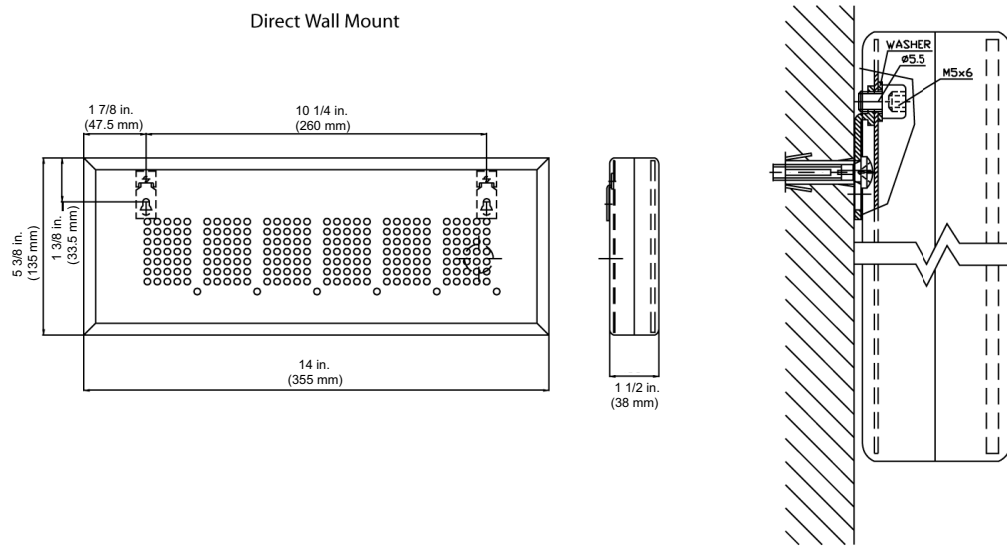
Direct Wall Mount

Figure 170. Close the loop and tighten the suspension wire

7.1.4 Corridor Display Electrical Connections

The NICD can be powered using Power over Ethernet (PoE) through a PoE switch or through an external 24Vdc power supply using a shielded PoE injector with the 24V negative lead "-" connected to the shield.

A standard T-568B straight-through shielded ethernet cable is used to connect the NICD to the LAN network.
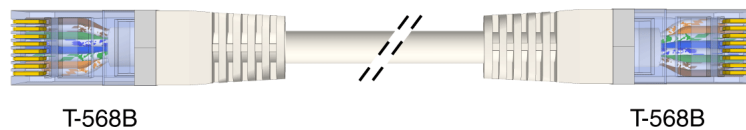

T-568B   T-568B

Figure 171. T-568B straight-through shielded ethernet cable

RJ-45	color (T-568B)	Name	Ext. Power Supply
1	white / orange	TX+	
2	orange	TX-	
3	white / green	RX+	
4	blue	SP1	24 Vdc
5	white / blue	SP1	either polarity
6	green	RX-	
7	white / brown	SP2	24 Vdc
8	brown	SP2	polarity opposite to SP1

Table 9. T-568B cable specification

Caution: The display will not work on supplementary non-standard (reversed polarity) ethernet switches using a normal straight cable. A "Reverse Polarity Cable" is required when connecting to a reversed polarity switch.
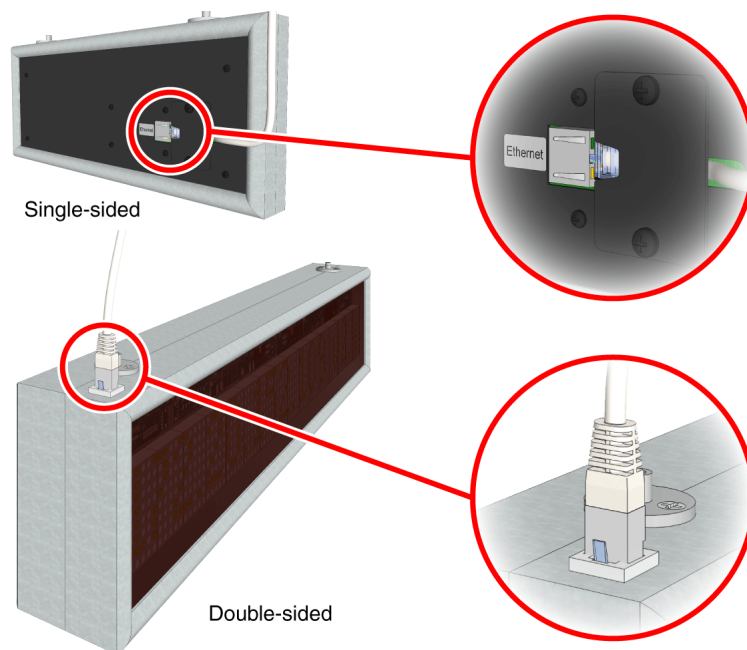

Figure 172. Single and double sided display network connection

Corridor Display Power Requirements

The following table shows the power requirements for the various corridor displays.

Display Type	PoE type	PoE Class	Power Consumption		
			Ext. Supply	PoE Supply	
			24 Vdc	42 Vdc	57 Vdc
6 character Single Sided	PoE (802.3af)	Class 2 < 6.49 W	7.6 W 0.31 A	7.5 W 0.17 A	7.9 W 0.14 A
6 character Double Sided	PoE (802.3af)	Class 0 < 12.94 W	15 W 0.62 A	13.8 W 0.32 A	14.0 W 0.24 A
12 character Single Sided	PoE (802.3af)	Class 0 < 12.94 W	11.3 W 0.47 A	10.8 W 0.25 A	11.0 W 0.19 A
12 character Double Sided	PoE+ (802.3at)	Class 4 < 25.50 W	22.7 W 0.94 A	21.2 W 0.50 A	21.4 W 0.37 A

Table 10. Corridor display power requirements

When using an external power supply to power the display, a shielded PoE injector is required with the 24Vdc negative lead "-" connected to the shield. The 24Vdc from the external supply will be injected on the spare wires of the network cable (SP1 and SP2 pairs).