Honeywell

temakey

Modular Terminal

Installation Manual

temaline
Creative solutions

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Mounting Instructions

The cables are attached to an encased box. **Make sure that you place the box at a height of 120cm from the floor** (see Figure 1).

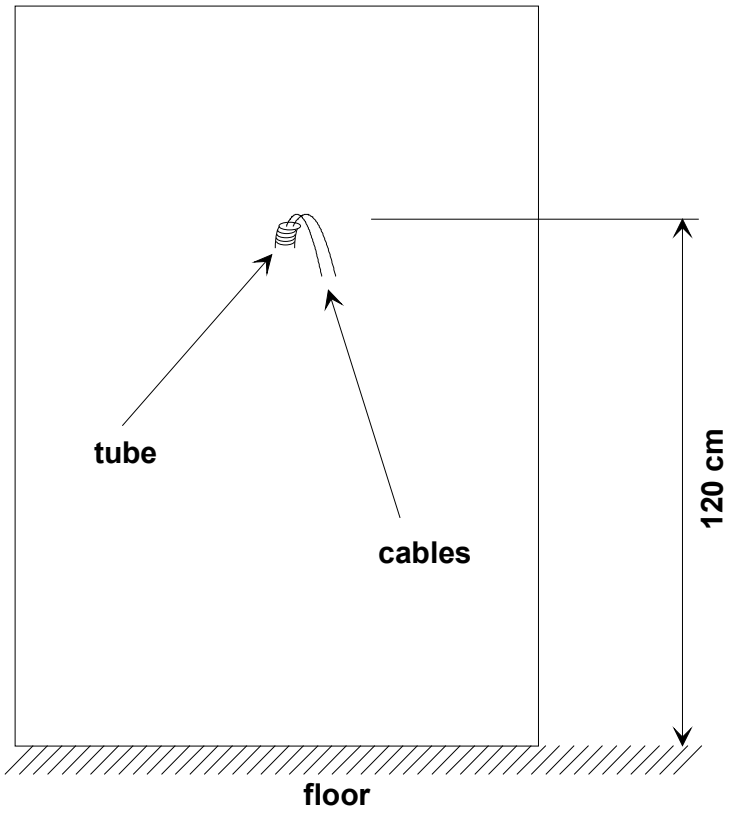


Figure 1. Space Requirements for Mounting

Arranging the Cable Tubes and Junction Boxes

All the cables consist of four wires that must be connected in parallel from one node to the next. You may link the nodes using a free topology, i.e. by means of a star or bus configuration.

Cabling: Recommendations

Figure 2 provides an example of a typical free-topology installation.

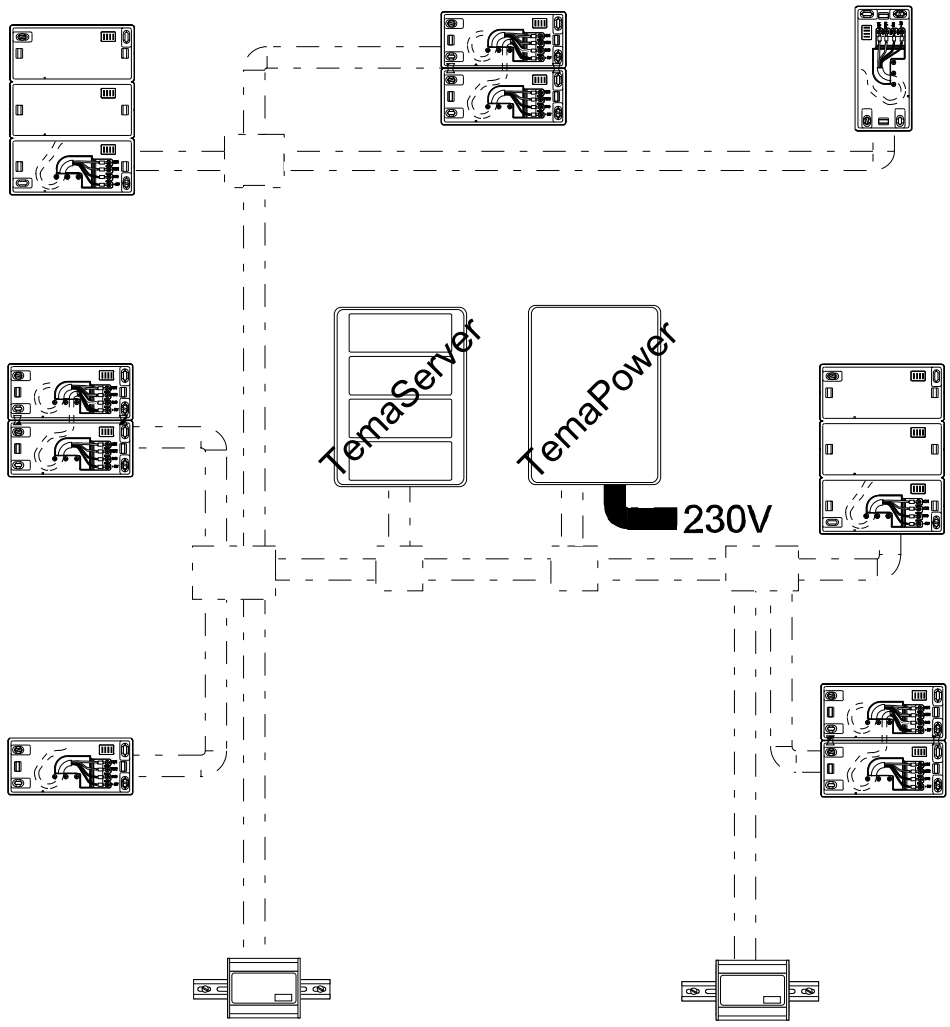


Figure 2. Example of a Free-Topology Installation

If you want to mount the tubes on the surface of the walls, it is advisable to place the junction boxes under the corresponding terminals (see example in Figure 3).

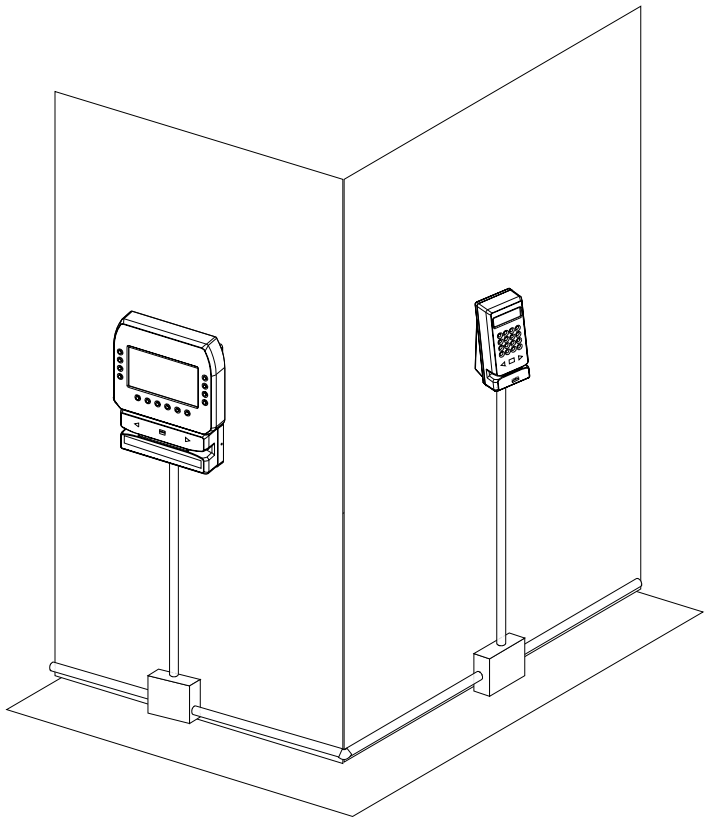


Figure 3. Location of the Junction Boxes

Electrical Connections

The RTU is powered at low voltage ($12V_{DC}$) by a battery-operated power supply module (RTU-Qxx). When determining the correct size for power cables, refer to the table below. (Voltage cable drop max = 0,7V)

Cable Length(m) = 0,7V / (I[A] load x 2 x (res [Ohm/km] /1000))

Type of cable			Length (m) in relation to base load					
AWG	mm2	Ohm/Km	100 [mA]	200 [mA]	500 [mA]	1 [A]	2 [A]	5 [A]
10	5,25	3,41	1026	513	205	103	51	21
12	3,3	5,7	614	307	123	61	31	12
14	2	8,8	398	199	80	40	20	8
16	1,3	14	250	125	50	25	13	5
18	0,9	21	167	83	33	17	8	3
20	0,6	34	103	51	21	10	5	2
22	0,35	52	67	34	13	7	3	1

LONWORKS® Data Cables

- The LONWORKS®[1] data cable must be twisted-pair.
- In a free topology configuration, the sum total of the sections must not exceed 500m.
- In a bus configuration, the sum total of the sections must not exceed 2700m.
- In a free topology configuration, activate the 50ohm terminator by placing the appropriate jumper on the FTT10A plug-in of the CTU-PLG06 board inside the TemaServer.
- In a bus configuration, place two terminators (with resistance values of 100ohm 1% ½W) at each end of the bus.
- Check that the length of the LONWORKS® data cable corresponds to the norms indicated in Table 1.

Type of cable			**Length [m] in relation to cable capacity**				
AWG	mm2	Ohm/Km	50nF/Km	100nF/Km	200nF/Km	500nF/Km	1uF/Km
12	3,3	5,7	2676	1892	1338	846	598
14	2	8,8	2153	1523	1077	681	482
16	1,3	14	1707	1207	854	540	382
18	0,9	21	1394	986	697	441	312
20	0,6	34	1096	775	548	346	245
22	0,35	52	886	626	443	280	198
24	0,2	85	693	490	346	219	155

Table 1. Length/Capacity of LONWORKS® Data Cables (m)

- The FTT10A Echelon® v1.2 User Guide recommends the cables indicated in Table 2.

Producer and Model	AWG	Connection to **bus** -maximum total length [m]	Connection in **free topology** –maximum node-node length max. [m]	Connection in **free topology** –maximum total wire length. [m]
Belden 85102	16	2700	500	500
Belden 8471	16	2700	400	500
Level IV (twisted-pair, typically solid and unshielded)	22	1400	400	500
JY (St) 2x2x0.8 (4-wire helical twist, solid shielded)	20	900	320	500
TIA Cat5	/	900	250	450

Table 2. Recommended LONWORKS® Cables

[1] LONWORKS® is a trademark of Echelon Corporation

Mounting the Unit on the Wall

Horizontal Assembly – Single Module

To assemble the unit in a horizontal position, follow these steps:

1. Drill two holes in the wall (to accommodate the 2 plastic dowels), so that the frame will cover the hole through which the cables pass.
2. Insert the cables in the cable clamp without pulling out the screws.
3. Use the dowels to fasten the frame to the wall. Make sure that the lamellar connector is in the **UP** position.
4. Adjust the length of the cables so that they protrude by ~10cm from the wall, and fasten them to the cable crimp.
5. Fasten the cable crimp to the contacts in the direction shown in Figure 4.
6. Place the remainder of the cable inside the frame and lock the cable clamp.

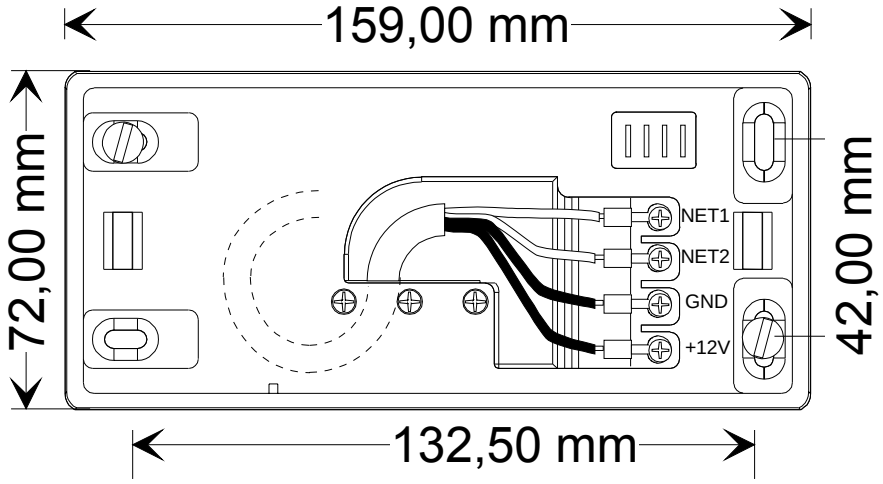


Figure 4. Wall Position – Horizontal Position (Single Module)

Horizontal Assembly – Triple Module

To assemble the unit in a horizontal position, follow these steps:

1. Drill two holes in the wall (to accommodate the 2 plastic dowels), so that the frame will cover the hole through which the cables pass.
2. Insert the cables in the cable clamp without pulling out the screws.
3. Use the dowels to fasten the frame to the wall. Make sure that the lamellar connector is in the **UP** position.
4. Adjust the length of the cables so that they protrude by ~10cm from the wall, and fasten them to the cable crimp.
5. Fasten the cable crimp to the contacts in the direction shown in Figure 5.
6. Place the remainder of the cable inside the frame and lock the cable clamp.

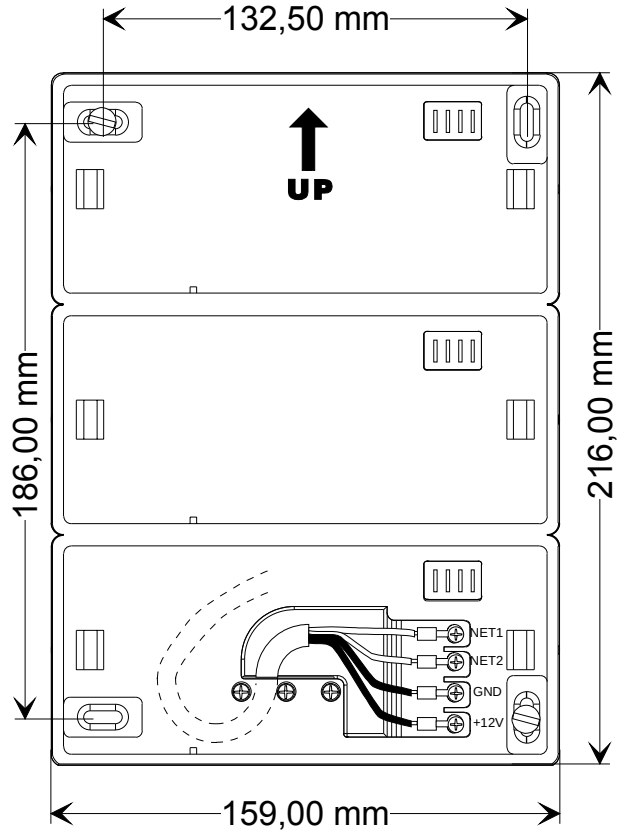


Figure 5. Wall Position – Horizontal Position (Triple Module)

Combined Assembly - Single and Triple Modules

A combined wall assembly of single and triple modules allows you to create units consisting of 2, 4, or 5 units. This procedure consists of the following steps:

1. Drill the necessary holes in the wall (2 plastic dowels for each module), so that the lower plate will cover the hole through which the cables pass.
2. Insert the cables in the cable clamp without pulling out the screws.
3. Link the frames together by inserting the two enclosed attachment clips at the rear of the frames (Figure 6 and Figure 7).
4. Use the dowels to fasten the frame to the wall. Make sure that the lamellar connector is in the **UP** position.
5. Adjust the length of the cables so that they protrude by ~10cm from the wall, and fasten them to the cable crimp.
6. Intertwine the terminators of the cables from the wall with the extension cable terminators, and fasten them to the cable crimps.
7. Fasten the cable crimp to the contacts in the direction shown in Figure 6 and Figure 7.
8. Place the remainder of the cable inside the frame and lock the cable clamp.

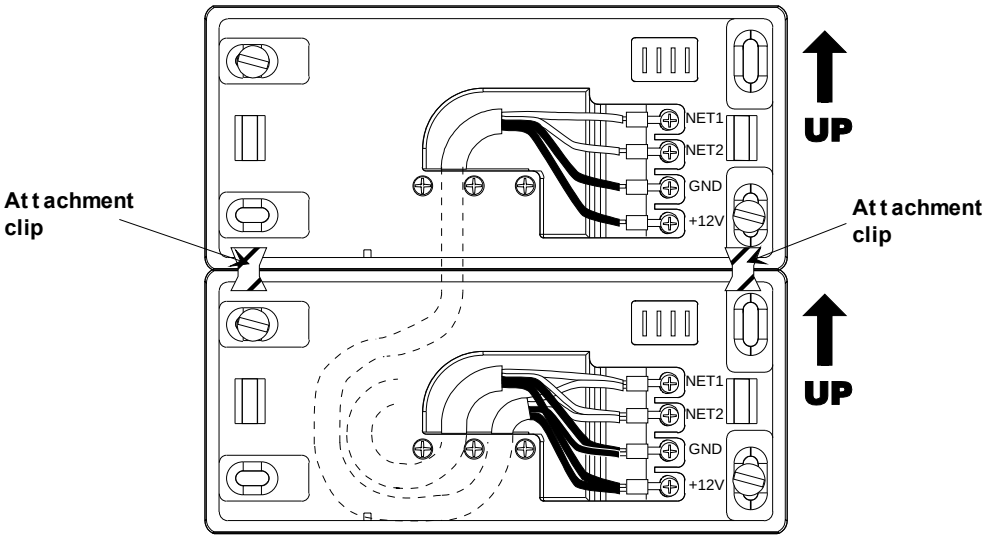


Figure 6. Combined Assembly of Two Single-Module Wall Units

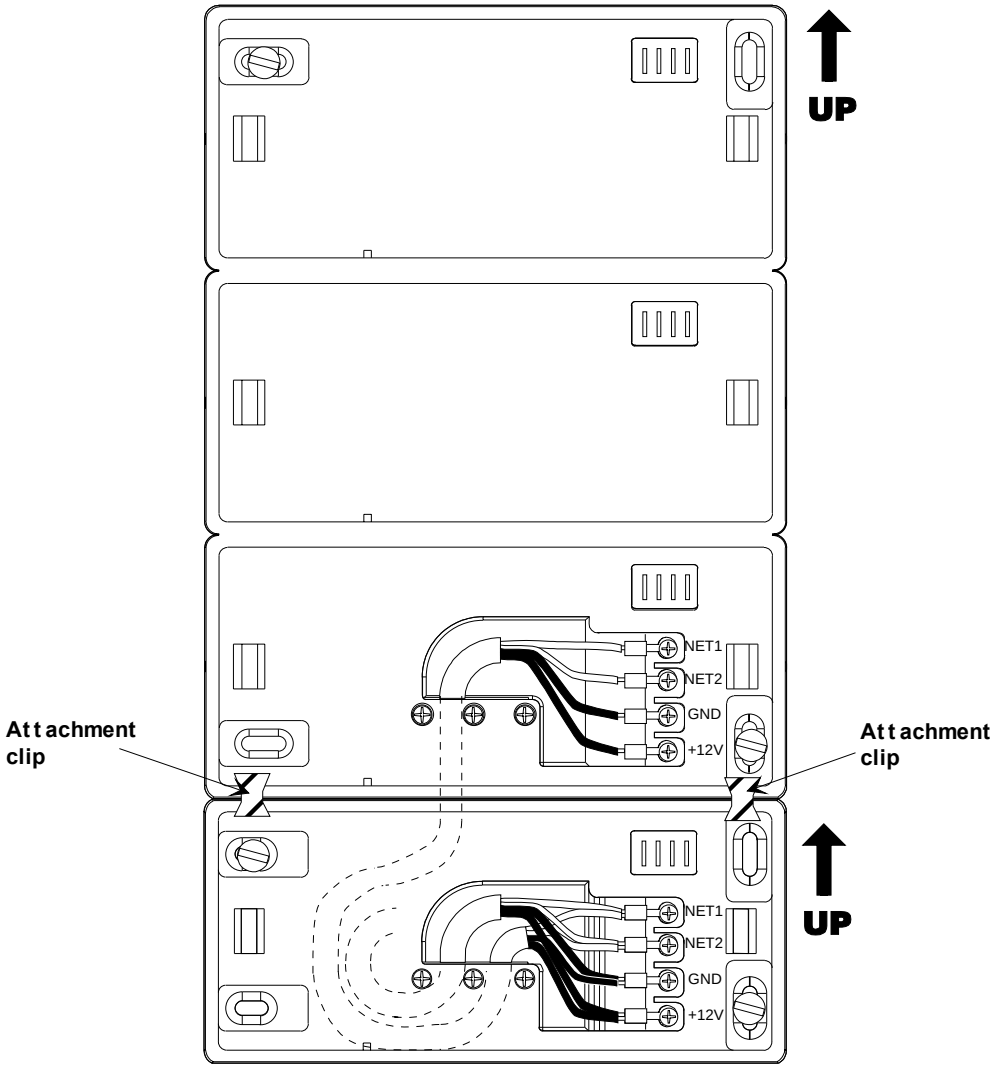


Figure 7. Combined Assembly of Single- and Triple-Module Wall Units

Cable Connections

Fasten the cable clamps to the cable bar so that the cables are arranged towards the **inside** of the frame (see Figure 8).

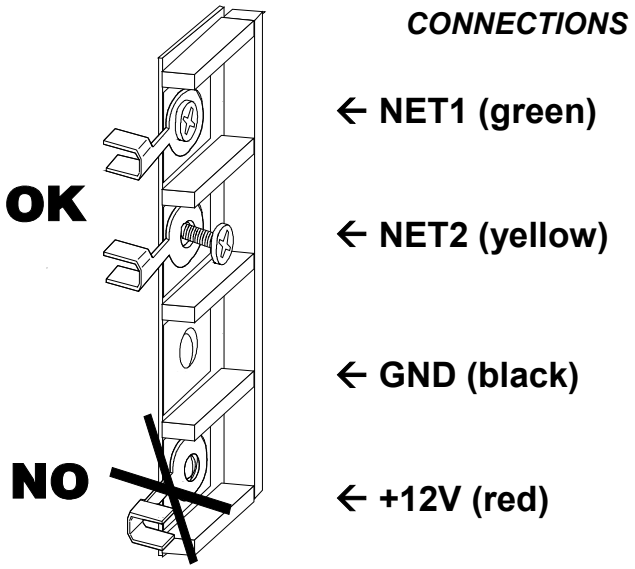


Figure 8. Fastening the Cables

Vertical Assembly

To assemble the unit in a vertical position, follow these steps:

1. Drill two holes in the wall (to accommodate the 2 plastic dowels), so that the frame will cover the hole through which the cables pass.
2. Insert the cables in the cable clamp without pulling out the screws.
3. Use the dowels to fasten the frame to the wall. Make sure that the lamellar connector is in the **UP** position.
4. Adjust the length of the cables so that they protrude by ~10cm from the wall, and fasten them to the cable crimp.
5. Fasten the cable crimp to the contacts in the direction shown in Figure 9.
6. Place the remainder of the cable inside the frame and lock the cable clamp.

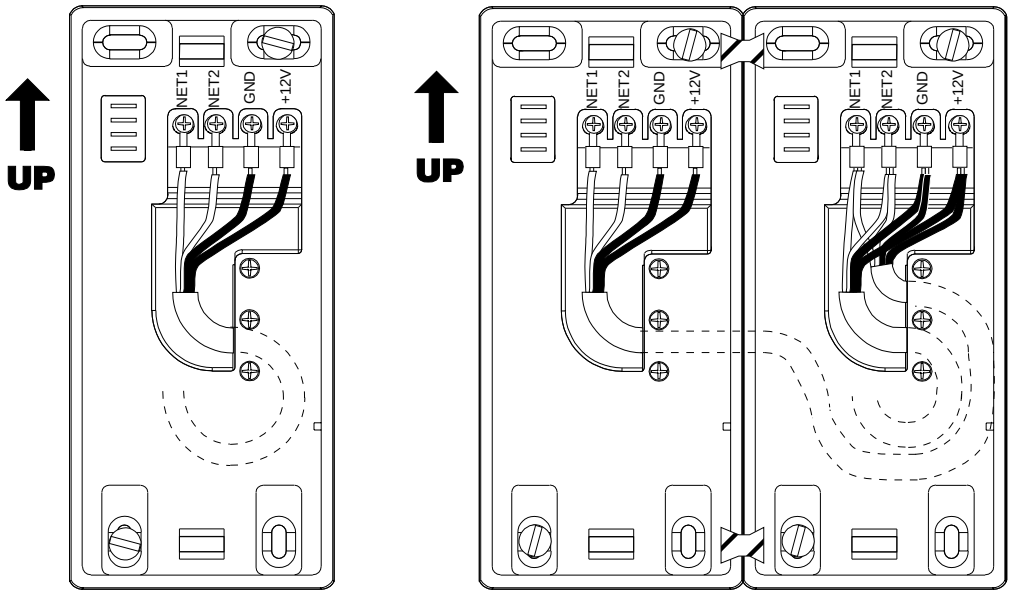


Figure 9. Wall Position – Vertical Assembly

Channeling the Cables from the Bottom of the Box

As an alternative, you can channel the cables so that they issue from the bottom of the frame, using the following steps:

1. Drill a hole in the wall so that the hole from which the cables issue is in the center of the lower plate.
2. Break off the lower removable tab from the upper support.
3. Break off the upper and lower tabs from the lower support.
4. Insert the cables from the wall and the remainder of the cable into the cable clamp (taking care not to pull out the screws).
5. Use the dowels to attach the frame to the wall.
6. Adjust the length of the cables so that they protrude by ~10cm from the wall.
7. Roll up the terminators of the cables from the wall and the extension cables, and fasten them to the cable crimps (see Figure 10).
8. Fasten the cable crimp to the contacts in the direction shown in Figure 10.
9. Place the remainder of the cables inside the frame and lock the cable clamps.

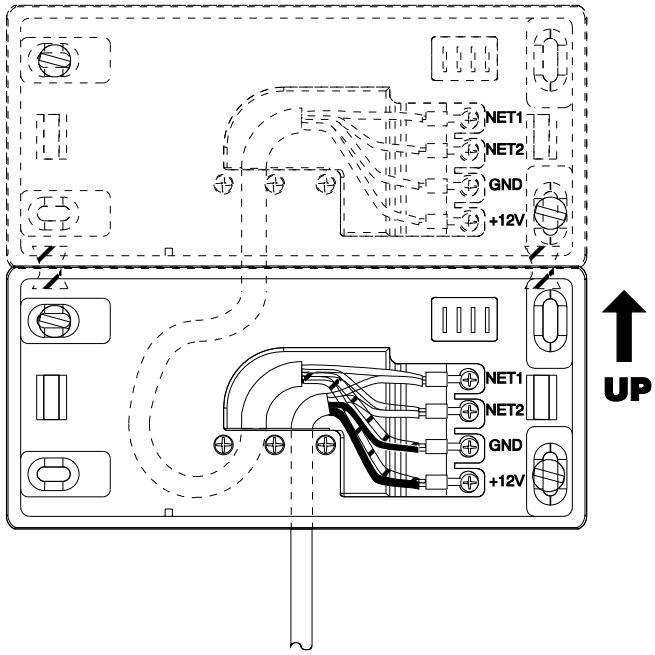


Figure 10. Channeling the Cables from the Bottom of the Box

Mounting Instructions for the Wiegand Module

The wires enter a box or enclosure supplied with DIN rail to which the RTU-A08 or RTUA07 is connected. The size of the enclosure must be at least of the dimensions indicated in Figure 11. You can use larger enclosures to house more modules, as long as it is large enough for the wires to be accessible.

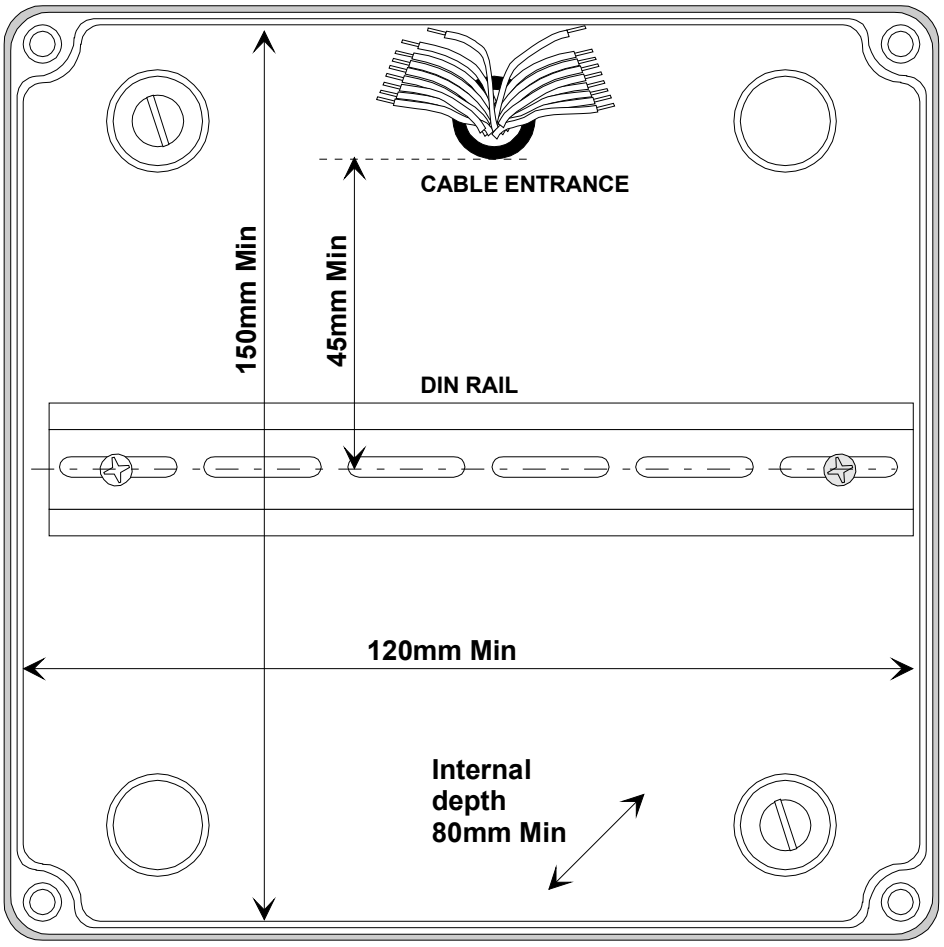
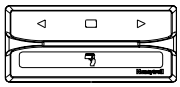
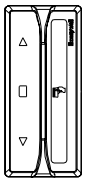
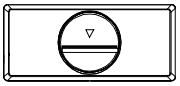
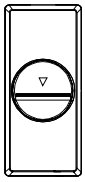
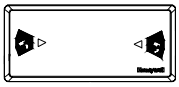
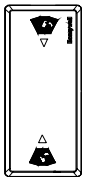
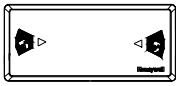
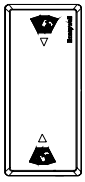
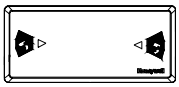
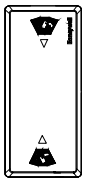
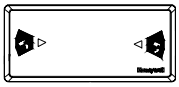
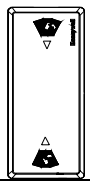


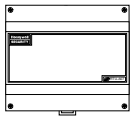
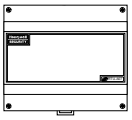
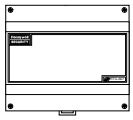
Figure 11. Box with DIN/Ω Rail

Combining the Modules

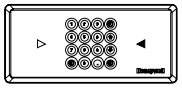
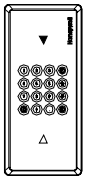
Each TemaKey consists of one or more RTU modules that must be positioned and connected to their respective wall attachment frames (RTU-Sxx) as indicated in the table below.

Readers

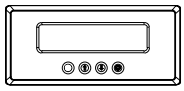
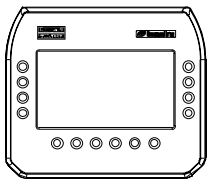
Code	Grouping	Horizontal	Vertical	Notes
TK_S01	1 x RTU-B01 1 x RTU-S01			Weight=0.4Kg Power=0.4W Current=30mA
TK_S03	1 x RTU-B03 1 x RTU-S01			Weight=0.4Kg Power=1.2W Current=90mA
TK_S04	1 x RTU-B04 1 x RTU-S01			Weight=0.45Kg Power=0.8W Current=60mA
TK_S07	1 x RTU-B07 1 x RTU-S01			Weight=0.45Kg Power=0.8W Current=60mA
TK_S012	1 x RTU-B12 1 x RTU-S01			Weight=0.30Kg Power=1.0W Current=90mA
TK_S019	1 x RTU-B19 1 x RTU-S01			Weight=0.30Kg Power=1.2W Current=120mA

Code	Grouping	Horizontal	Vertical	Notes
TK_S013	1 x RTU-A07	WIEGAND READER + 	WIEGAND READER + 	Weight=0.2Kg Power=0.9W Current=70mA (Excluding reader current)
TK_S014	1 x RTU-A08	WIEGAND READER WIEGAND READER + 	WIEGAND READER WIEGAND READER + 	Weight=0.2Kg Power=0.9W Current=70mA (Excluding reader current)

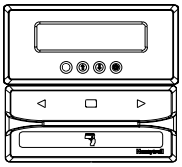
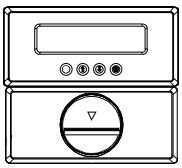
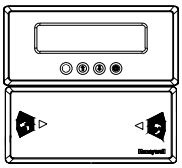
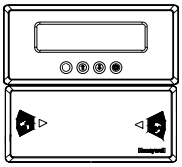
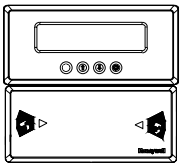
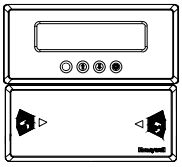
Keyboards

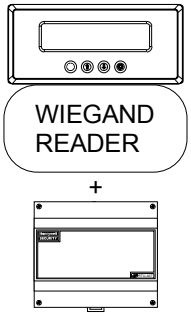
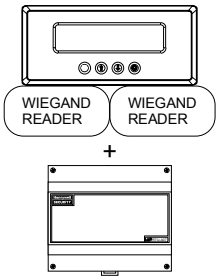
Code	Grouping	Horizontal	Vertical	Notes
TK_S31	1 x RTU-T01 1 x RTU-S01			Weight=0.4Kg Power=0.4W Current=30mA

Display

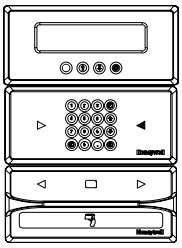
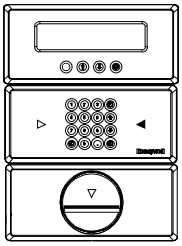
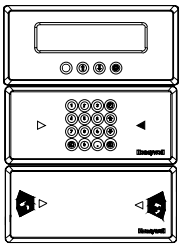
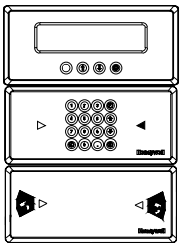
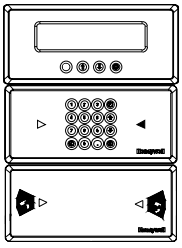
Code	Grouping	Horizontal	Vertical	Notes
TK_S21	1 x RTU-C01 1 x RTU-S01		NO	Weight=0.45Kg Power=1.9W Current=140mA
TK_S22	1 x RTU-C02 2 x RTU-S01		NO	Weight=0.95Kg Power=5.2W Current=380mA

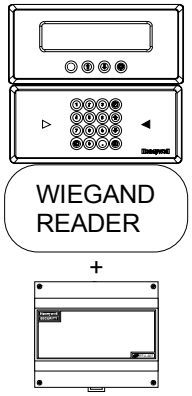
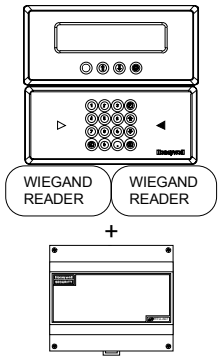
Terminals

Code	Grouping	Horizontal	Vertical	Notes
TK_D01	1 x RTU-C01 1 x RTU-B01 2 x RTU-S01		NO	Weight=0.85Kg Power=2.3W Current=170mA
TK_D03	1 x RTU-C01 1 x RTU-B03 2 x RTU-S01		NO	Weight =0.85Kg Power =3.1W Current =230mA
TK_D04	1 x RTU-C01 1 x RTU-B04 2 x RTU-S01		NO	Weight=0.9Kg Power=2.7W Current=200mA
TK_D07	1 x RTU-C01 1 x RTU-B07 2 x RTU-S01		NO	Weight=0.9Kg Power=2.7W Current=200mA
TK_D012	1 x RTU-C01 1 x RTU-B12 2 x RTU-S01		NO	Weight=0.75Kg Power=2.9W Current=240mA
TK_D019	1 x RTU-C01 1 x RTU-B19 2 x RTU-S01		NO	Weight=0.75Kg Power=3.3W Current=280mA

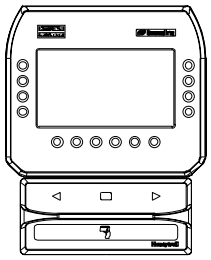
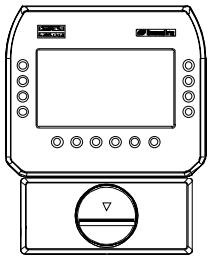
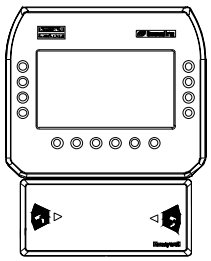
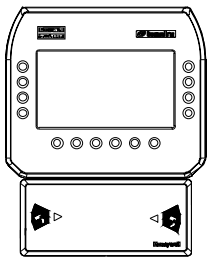
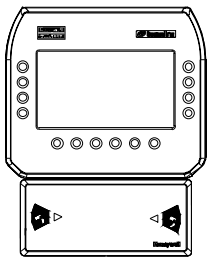
Code	Grouping	Horizontal	Vertical	Notes
TK_D013	1 x RTU-C01 1 x RTU-A08 1 x RTU-S01		NO	Weight=0.65Kg Power=2.8W Current=210mA (Excluding reader current)
TK_D014	1 x RTU-C01 1 x RTU-A08 1 x RTU-S01		NO	Weight=0.65Kg Power=2.8W Current=210mA (Excluding reader current)

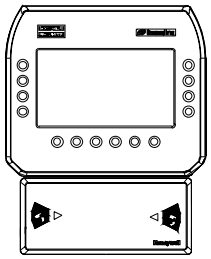
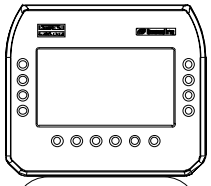
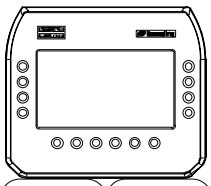
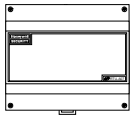
Terminals with Keyboards

Code	Grouping	Horizontal	Vertical	Notes
TK_T01	1 x RTU-C01 1 x RTU-T01 1 x RTU-B01 1 x RTU-S03		NO	Weight=1.1Kg Power=2.7W Current=200mA
TK_T03	1 x RTU-C01 1 x RTU-T01 1 x RTU-B03 1 x RTU-S03		NO	Weight=1.1Kg Power=3.5W Current=260mA
TK_T07	1 x RTU-C01 1 x RTU-T01 1 x RTU-B07 1 x RTU-S03		NO	Weight=1.15Kg Power=3.1W Current=230mA
TK_T012	1 x RTU-C01 1 x RTU-T01 1 x RTU-B12 1 x RTU-S03		NO	Weight=1.0Kg Power=3.3W Current=260mA
TK_T019	1 x RTU-C01 1 x RTU-T01 1 x RTU-B19 1 x RTU-S03		NO	Weight=1.0Kg Power=3.3W Current=300mA

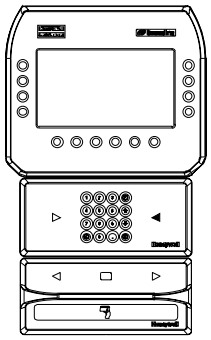
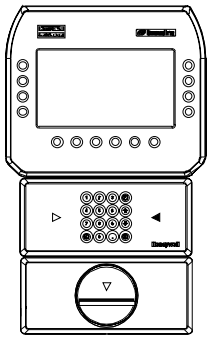
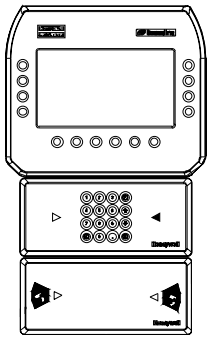
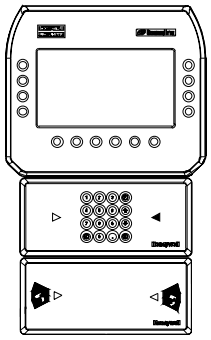
Code	Grouping	Horizontal	Vertical	Notes
TK_T013	1 x RTU-C01 1 x RTU-T01 1 x RTU-A07 2 x RTU-S01		NO	Weight=1.05Kg Power=3.3W Current=240mA (Excluding reader current)
TK_T014	1 x RTU-C01 1 x RTU-T01 1 x RTU-A08 2 x RTU-S01		NO	Weight=1.05Kg Power=3.3W Current=240mA (Excluding reader current)

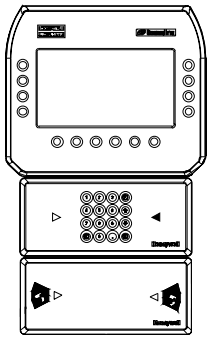
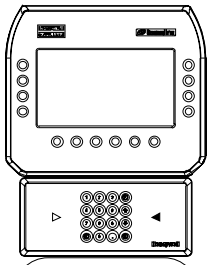
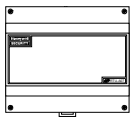
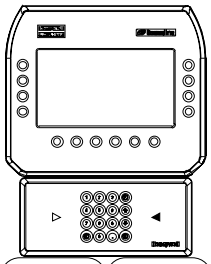
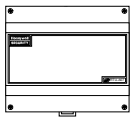
Interactive Terminals

Code	Grouping	Horizontal	Vertical	Notes
TK_D21	1 x RTU-C02 1 x RTU-B01 1 x RTU-S03		NO	Weight=1.2Kg Power=5.6W Current=410mA
TK_D23	1 x RTU-C02 1 x RTU-B03 1 x RTU-S03		NO	Weight=1.2Kg Power=6.4W Curent=470mA
TK_D24	1 x RTU-C02 1 x RTU-B04 1 x RTU-S03		NO	Weight=1.25Kg Power=6W Current=440mA
TK_D27	1 x RTU-C02 1 x RTU-B07 1 x RTU-S03		NO	Weight=1.25Kg Power=6W Current=440mA
TK_D212	1 x RTU-C02 1 x RTU-B12 1 x RTU-S03		NO	Weight=1.25Kg Power=6.2W Current=470mA

Code	Grouping	Horizontal	Vertical	Notes
TK_D219	1 x RTU-C02 1 x RTU-B19 1 x RTU-S03		NO	Weight=1.15Kg Power=6.5W Current=500mA
TK_D213	1 x RTU-C02 1 x RTU-A07 2 x RTU-S01	 WIEGAND READER + 	NO	Weight=1.15Kg Power=6.2W Current=450mA (Excluding reader current)
TK_D214	1 x RTU-C02 1 x RTU-A08 2 x RTU-S01	 WIEGAND READER WIEGAND READER + 	NO	Weight=1.15Kg Power=6.2W Current=450mA (Excluding reader current)

Interactive Terminals with Keyboards

Code	Grouping	Horizontal	Vertical	Notes
TK_T21	1 x RTU-C02 1 x RTU-T01 1 x RTU-B01 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.6Kg Power=6W Current=440mA
TK_T23	1 x RTU-C02 1 x RTU-T01 1 x RTU-B03 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.6Kg Power=6.9W Current=500mA
TK_T24	1 x RTU-C02 1 x RTU-T01 1 x RTU-B04 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.65Kg Power=6.4W Current=470mA
TK_T27	1 x RTU-C02 1 x RTU-T01 1 x RTU-B07 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.65Kg Power=6.4W Current=470mA

Code	Grouping	Horizontal	Vertical	Notes
TK_T219	1 x RTU-C02 1 x RTU-T01 1 x RTU-B19 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.65Kg Power=6.5W Current=500mA
TK_T213	1 x RTU-C02 1 x RTU-B01 1 x RTU-A07 2 x RTU-S01	 WIEGAND READER + 	NO	Weight=1.4Kg Power=6.6W Current=480mA (Excluding reader current)
TK_T214	1 x RTU-C02 1 x RTU-T01 1 x RTU-A08 2 x RTU-S01	 WIEGAND READER WIEGAND READER + 	NO	Weight=1.4Kg Power=6.6W Current=480mA (Excluding reader current)

Multi-Reader Terminals

It is possible to have a mix of readers in a single terminal; the pertinent coding is:

Generic code = TK_ X YZ$

X => M = Double reader without keyboard

Q = Double reader with keyboard

Y=> Display code

0 for module with alphanumeric display - RTUC01

2 for module with graphic display - RTUC02

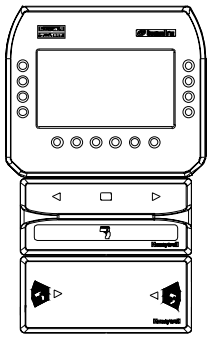
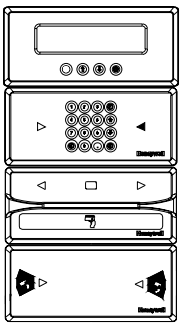
Z=> Numerical code for Reader 1 without initial “0”

$=> Numerical code for Reader 2 without initial “0”

! Warning: Proxy readers working at the same frequency cannot be positioned on the same wall-mounting frame. Minimum distance between readers = 40cm.

Proxy readers with the same frequency: RTUB04, RTUB07 and RTUB19 (125Khz).

Coding example:

Code	Grouping	Horizontal	Vertical	Notes
TK_M2112	1 x RTU-C02 1 x RTU-B01 1 x RTU-B012 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.5Kg Power=6.6W Current=500mA
TK_Q0112	1 x RTU-C01 1 x RTU-T01 1 x RTU-B01 1 x RTU-B12 1 x RTU-S03 1 x RTU-S01		NO	Weight=1.4Kg Power=3.7W Current=200mA

Attaching the Modules to the Wall

All **t**e**ma**line modules are equipped with a simple attachment mechanism; the module clicks into position without the need for tools. To attach the module to the frame, follow these steps:

1. Check that the fitting at the back of the RTU modules is positioned correctly.
2. Attach each RTU module to the support frame as illustrated in Figure 12.

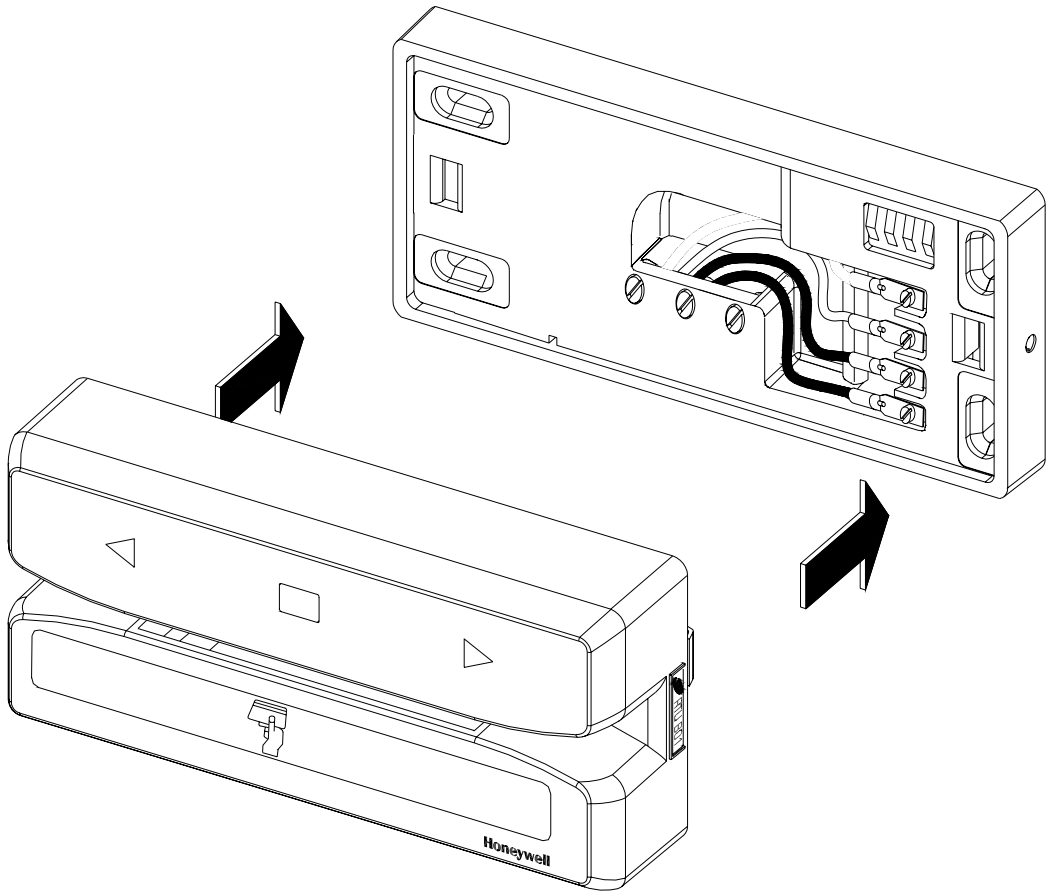


Figure 12. Attaching the Module to the Support Frame

Unlocking Modules

All **tema**line modules are equipped with a system for unlocking that requires a special tool.

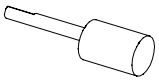


Figure 13. Unlocking Tool

To unlock the module from the frame, follow these steps:

1. Insert the unlocking tool into the two special holes appearing at either side of the support frame, first on one side, then on the other:
2. Push the tool all the way into the hole.
3. Remove the module from its attachment at that side.

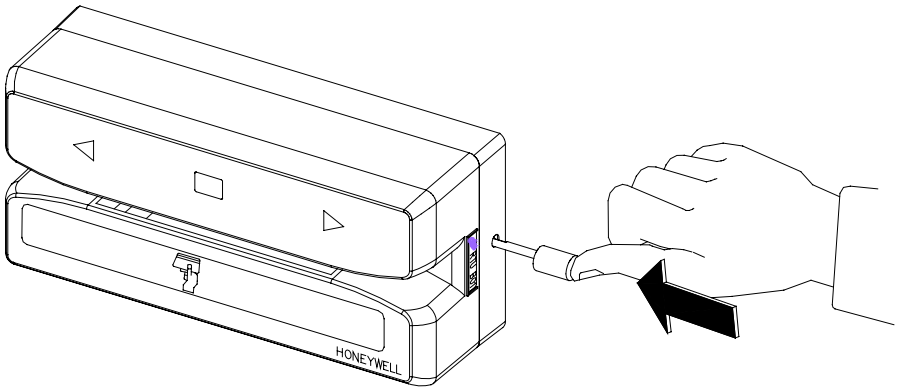


Figure 14. Unlocking the Module from the Support Frame

Applying the Entry/Exit Labels

Apply the two entry/exit labels to the magnetic reader in correspondence with the pre-configured transit directions. Make sure that you place the labels into their appropriate hollows (RTU-B01: see details in Figure 15 and Figure 16; RTU-B04, RTU-B7,RTU-B12: see details in Figure 17 and Figure 18).

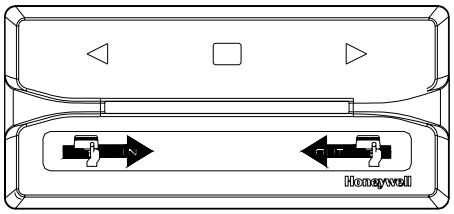


Figure 15. Entry/Exit Labels

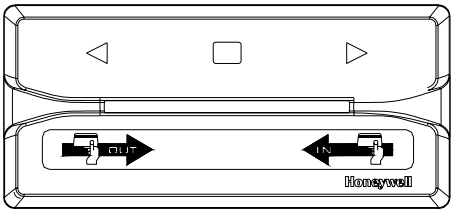


Figure 16. Entry/Exit Labels

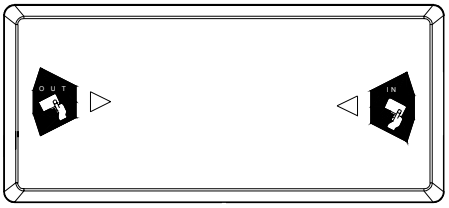


Figure 17. Entry/Exit Labels

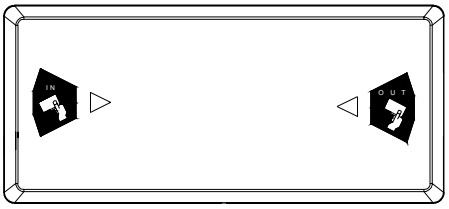


Figure 18. Entry/Exit Labels

Installation of the RTUA07 - Wiegand module

Mounting the module

Follow these steps:

1. Place the top part of the RTU-A07 on the DIN Rail.
2. Push until it clips onto the rail. (See Figure 19).

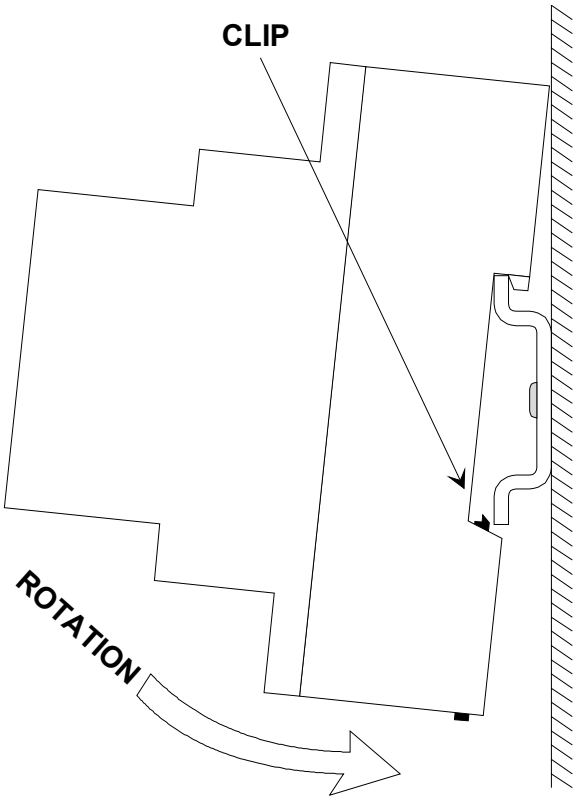


Figure 19. Mounting onto the DIN Rail

Cable Connections

Connect the shielded cable coming from the reader to the terminal screws on the Wiegand module (RTU-A07), as shown in Figure 20.

Insert the EMS filters (code 1520175AA) included in the toolkit onto the power supply and onto the LonWorks cables.

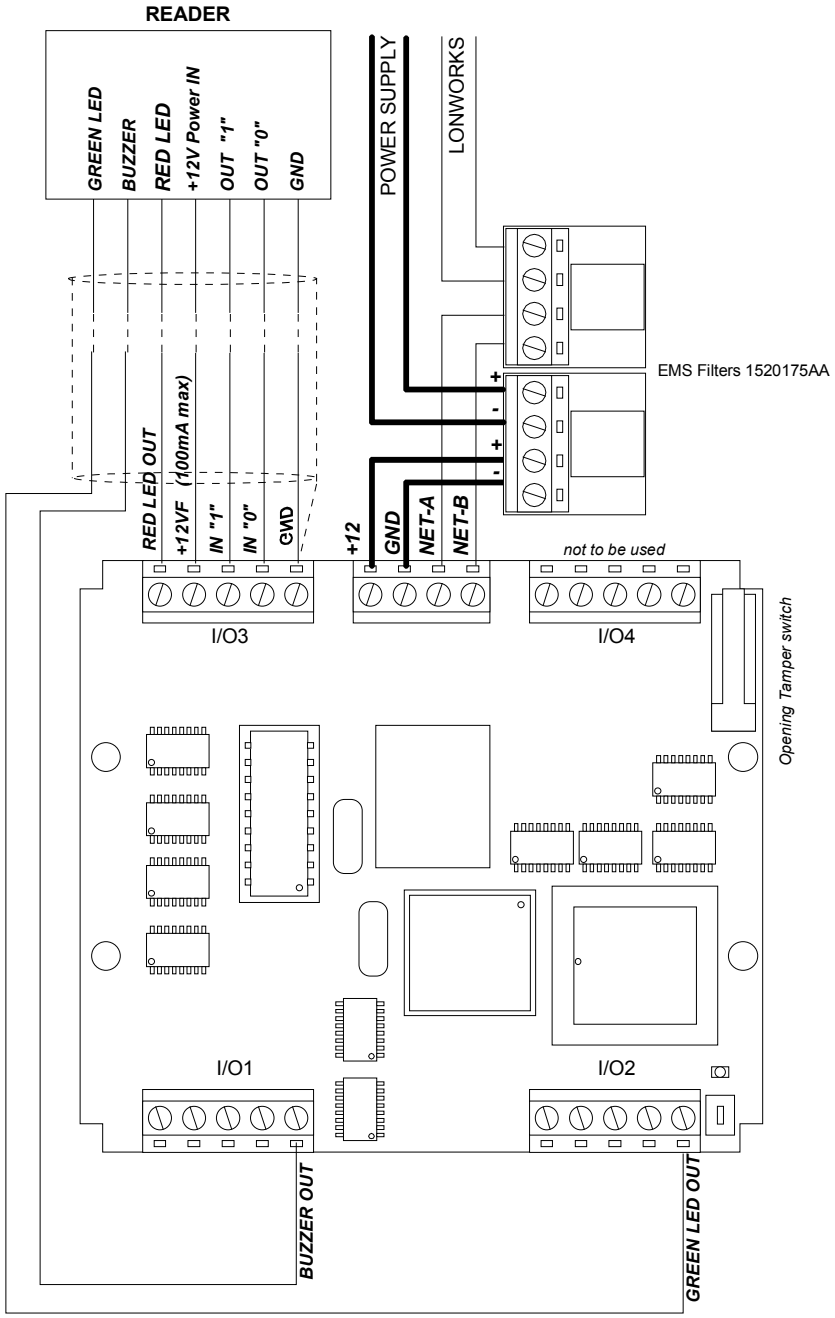


Figure 20. Cable Connection to RTU A07 Wiegand Module

Elemental Detail

Figure 21 shows the details of the electronic board, including the positions of the main connectors and service elements.

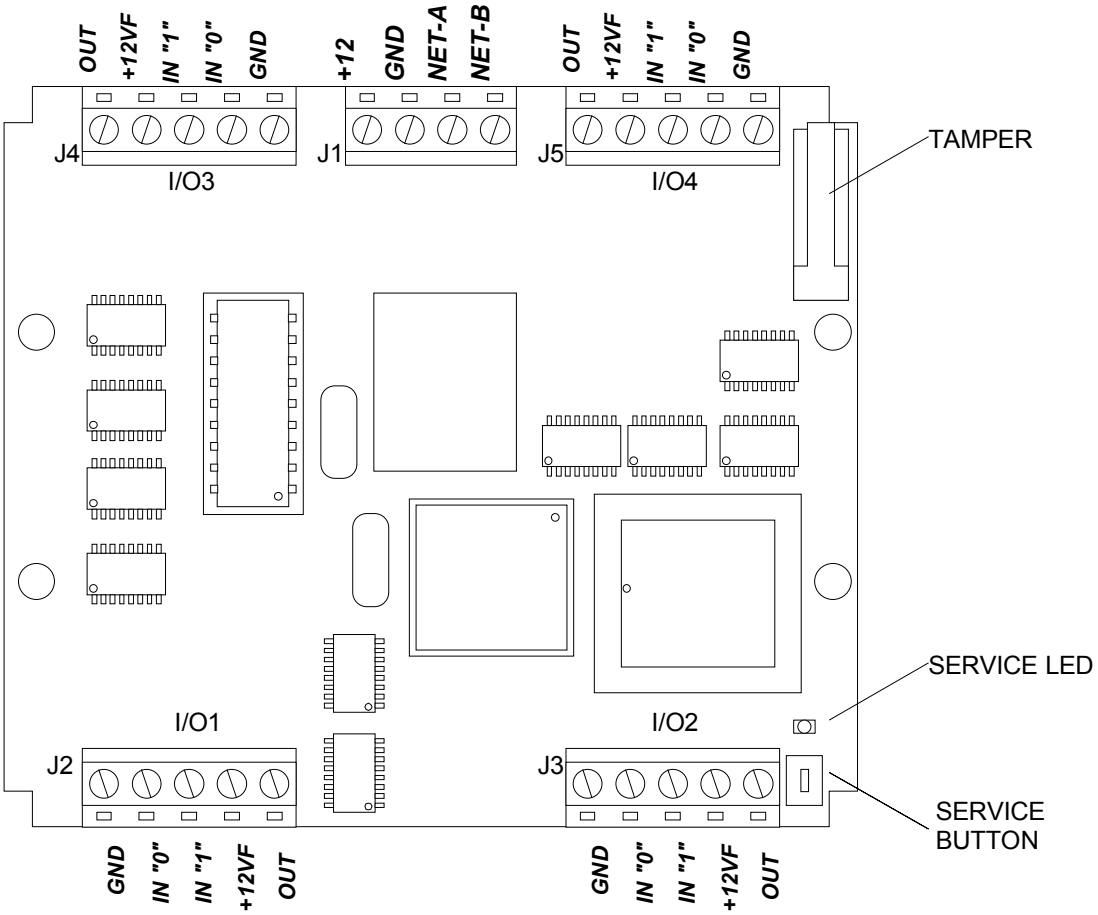


Figure 21. Elemental Detail

Closing the Wiegand module

To close the unit, follow these steps (see Figure 22):

1. Clip the cover onto the module.
2. Screw on the module cover with the 4 self-tapping screws (requires a 3mm Philips screwdriver).

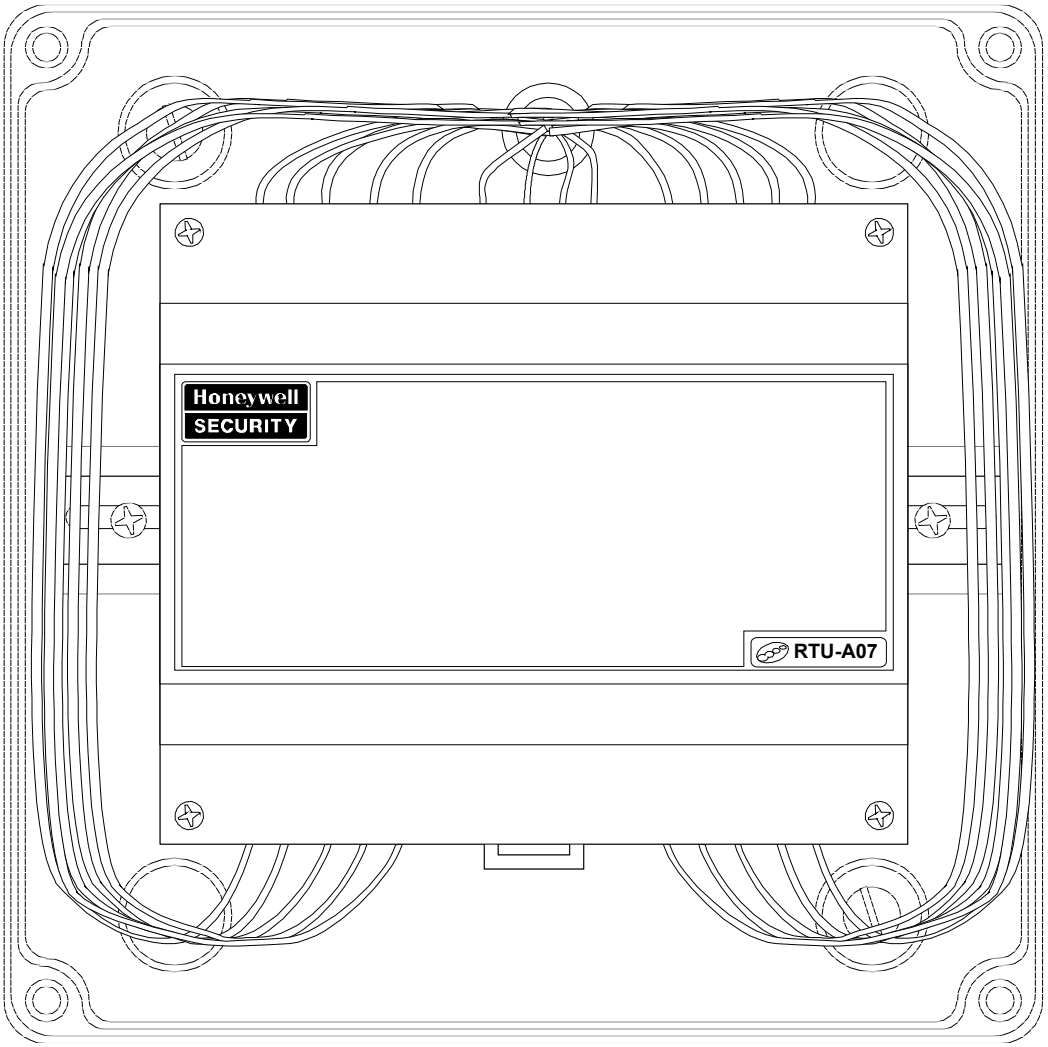


Figure 22. Closing the RTUA07 Module

Installation of the RTUA08 Module

Mounting the module

Follow these steps:

1. Place the top part of the RTU-A08 onto the DIN Rail.
2. Push until it clips onto the rail. (See Figure 23).

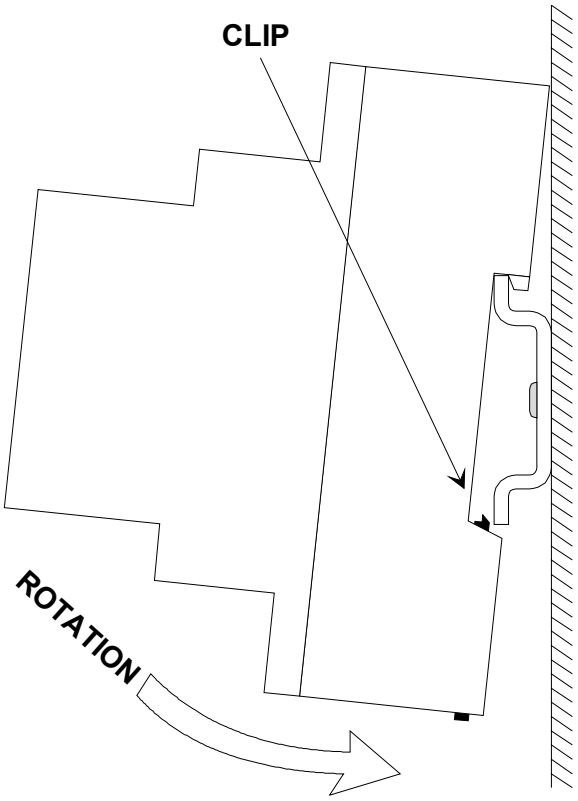


Figure 23. Mounting onto the DIN Rail

Cable Connections

Connect the shielded cables coming from the readers to the terminal screws on the Wiegand module (RTU-A08) as shown in Figure 24. The shields must be connected directly to the main earth ground (see Figure 24).

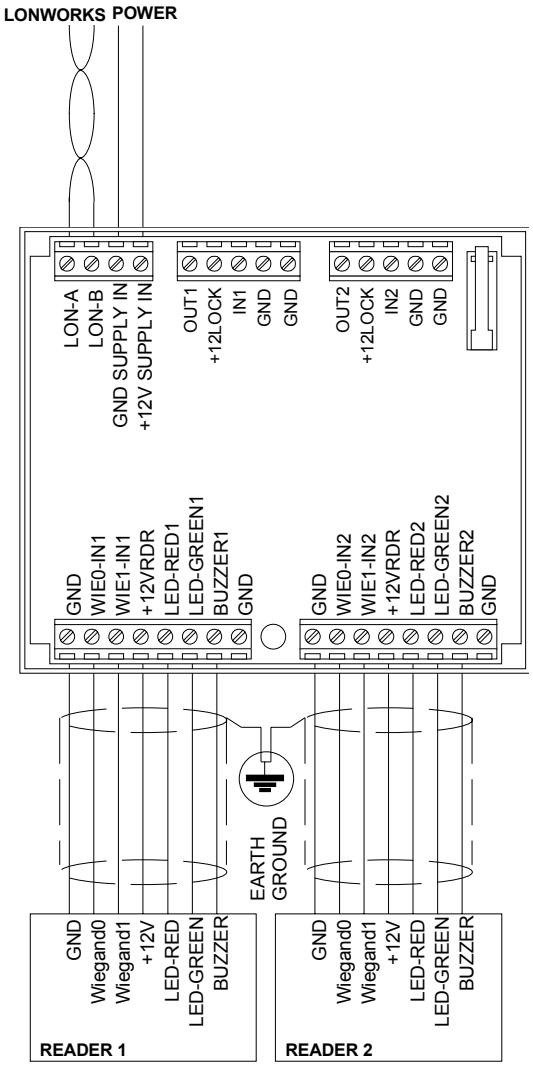


Figure 24. Cable Connection to RTU A08 Wiegand Module

Door Connection (Using +14V Internal Power Supply)

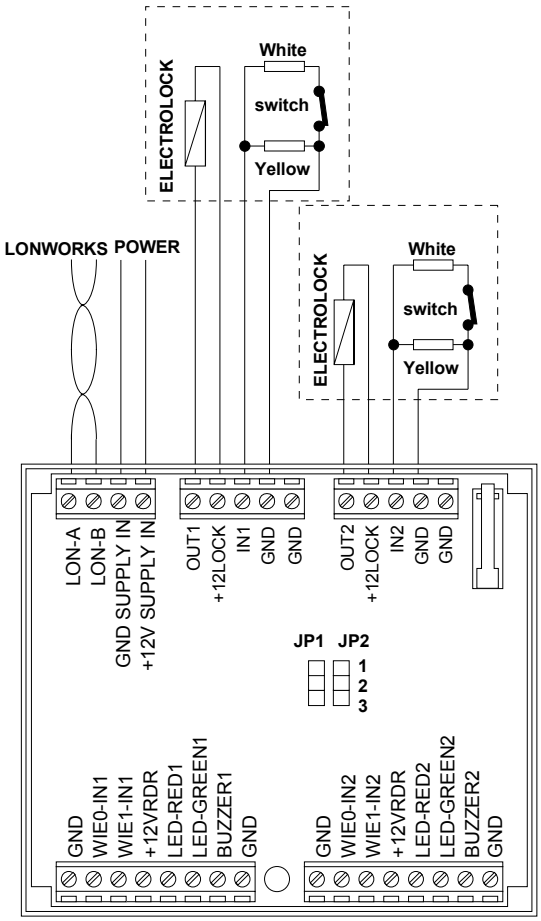


Figure 25. Door Connection Using +14V Internal Power Supply

Jumpers: JP1 and JP2 are used for NO or NC OUT status:

JP1 ➔ OUT 1

JP2 ➔ OUT 2

JPx position 1-2: NC

JPx position 2-3: NO (Standard position)

Note: In the RTUA08 without jumpers the OUT status is NO

Note: if IN1 or IN2 aren't used is mandatory to connect the termination resistors (white and yellow resistor together in parallel between INx and GND)

Door Connection (Using +V External Power Supply)

You may power the electrolock doors using an external isolated power supply (Voltage between 10 and 28VDC).

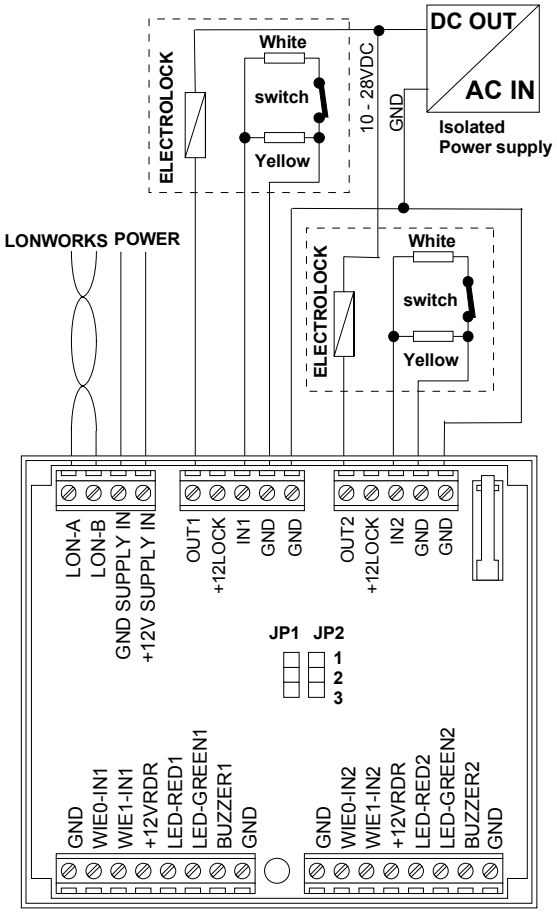


Figure 26. Door Connection Using +V External Power Supply

Jumpers: JP1 and JP2 are used for NO or NC OUT status:

JP1 ➔ OUT 1

JP2 ➔ OUT 2

JPx position 1-2: NC

JPx position 2-3: NO (Standard position)

Note: In the RTUA08 without jumpers the OUT status is NO

Note: if IN1 or IN2 aren't used is mandatory to connect the termination resistors (white and yellow resistor together in parallel between INx and GND)

Elemental Detail

Figure 26 shows a detail of the electronic board, including the positions of the main connectors and service elements.

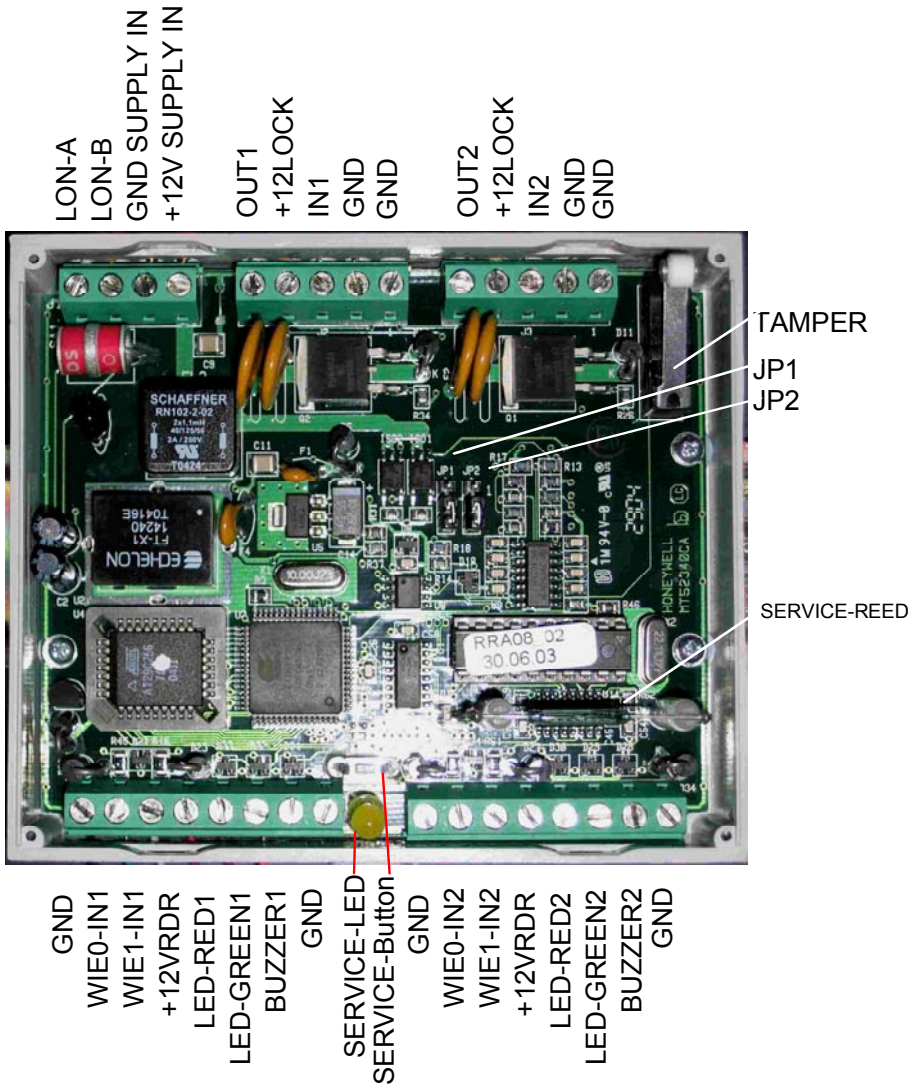


Figure 27. Elemental Detail

Closing the RTUA08 Module

To close the unit, follow these steps (see Figure 28):

1. Clip the cover onto the module.
2. Screw on the module cover with the 4 self-tapping screws (requires a 3mm Philips screwdriver).

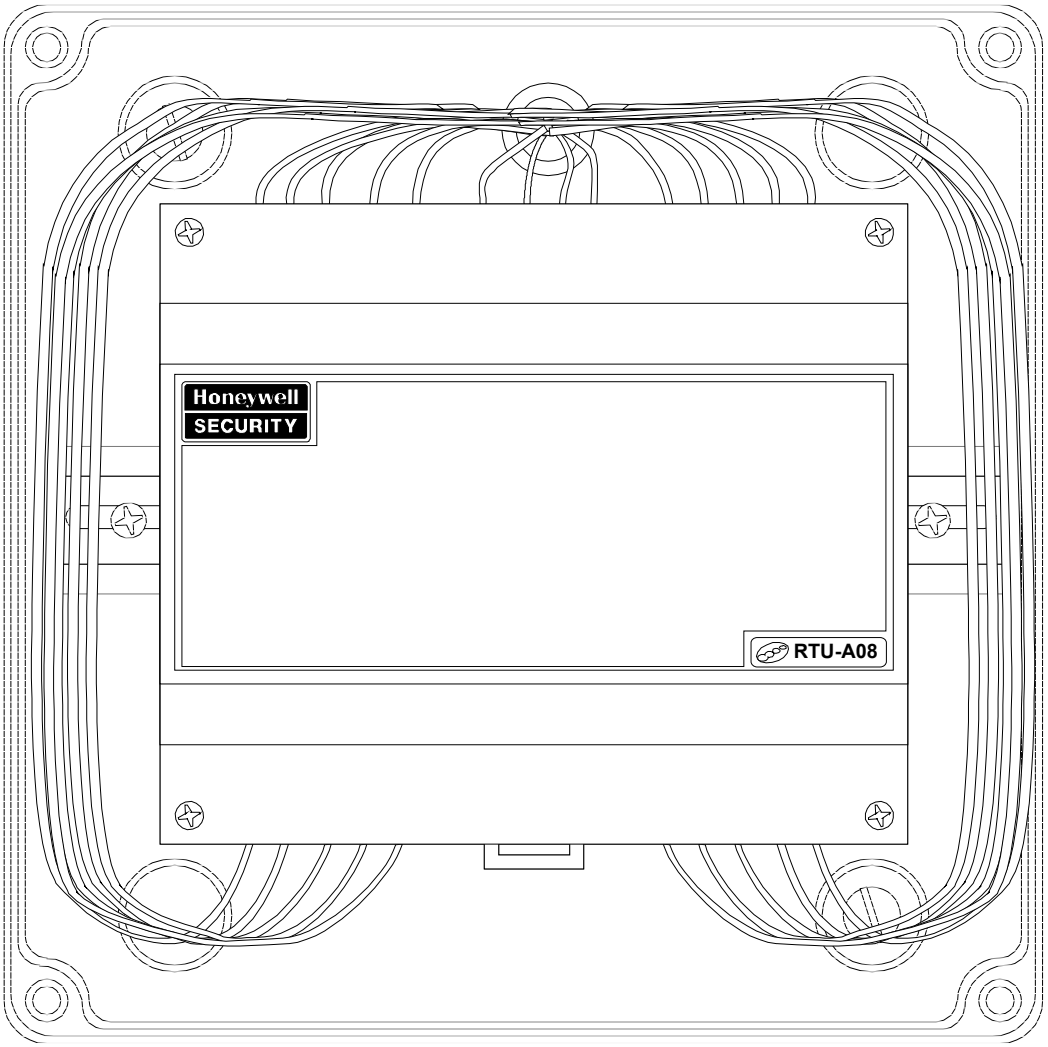


Figure 28. Closing the RTUA08 Module

ACTIVATION

Identification via the Service Pin

To identify the node, you can call the service pin by means of a relay-reed located inside the unit (see Figure 29). This procedure consists of the following steps:

1. Position a small magnet, as illustrated in Figure 29, to activate the service pin. This signal is linked to the yellow service LED, which flashes throughout the node configuration procedure.
2. The TemaServer, in response to the service pin, sends a *wink* command that makes the buzzer beep and, in addition, makes the Red LED flash three times in quick succession (except for the Display modules). This allows you to verify that communication to and from the TemaServer is working.
3. Check that the service LED remains off after you have completed this operation.

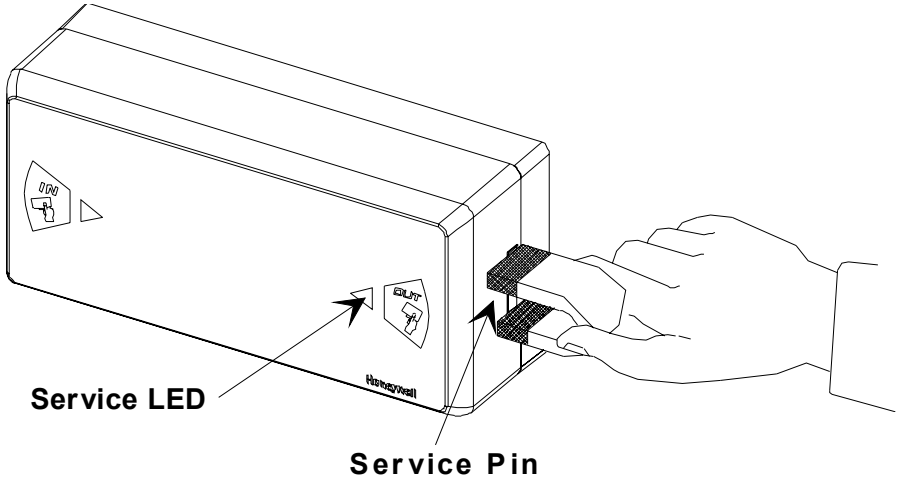


Figure 29. Activation of the Service Pin by Means of a Magnet

Identification of the RTUA07 Module Interface

To identify the node, you can activate the service pin using the button located inside the module. To do this, follow these steps:

1. Push the «service» button
2. The TemaServer will send a *wink*, in response to the service pin, that will cause the yellow Led to remain illuminated for a couple of seconds. This allows you to verify that communication to and from the TemaServer is operational.
3. Make sure that the yellow service LED is off at the end of the operation.

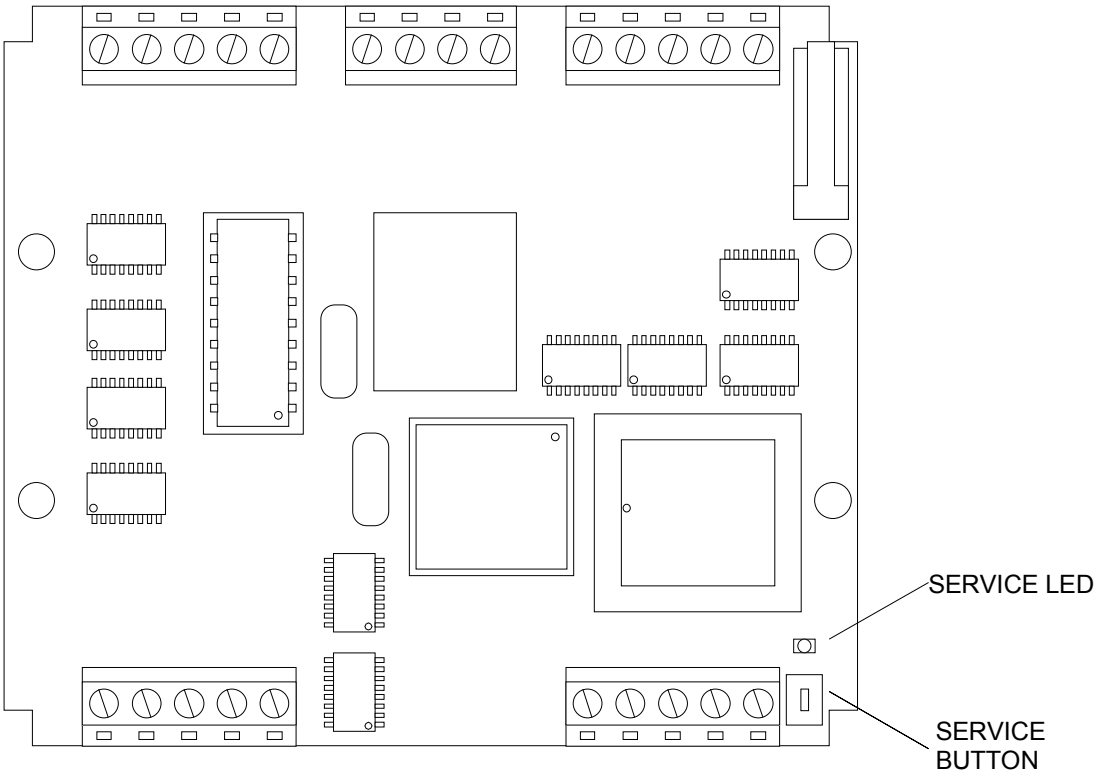


Figure 30. RTUA07 Service Elements

Identification of the RTUA08 Module Interface

To identify the node, you can activate the service pin using the button located inside the module. To do this, follow these steps:

1. Push the internal «service» button
2. The TemaServer will send a wink, in response to the service pin, that will cause the yellow Led to remain illuminated for a couple of seconds. This allows you to verify that communication to and from the TemaServer is operational
3. Make sure that the yellow service LED is off at the end of the operation.

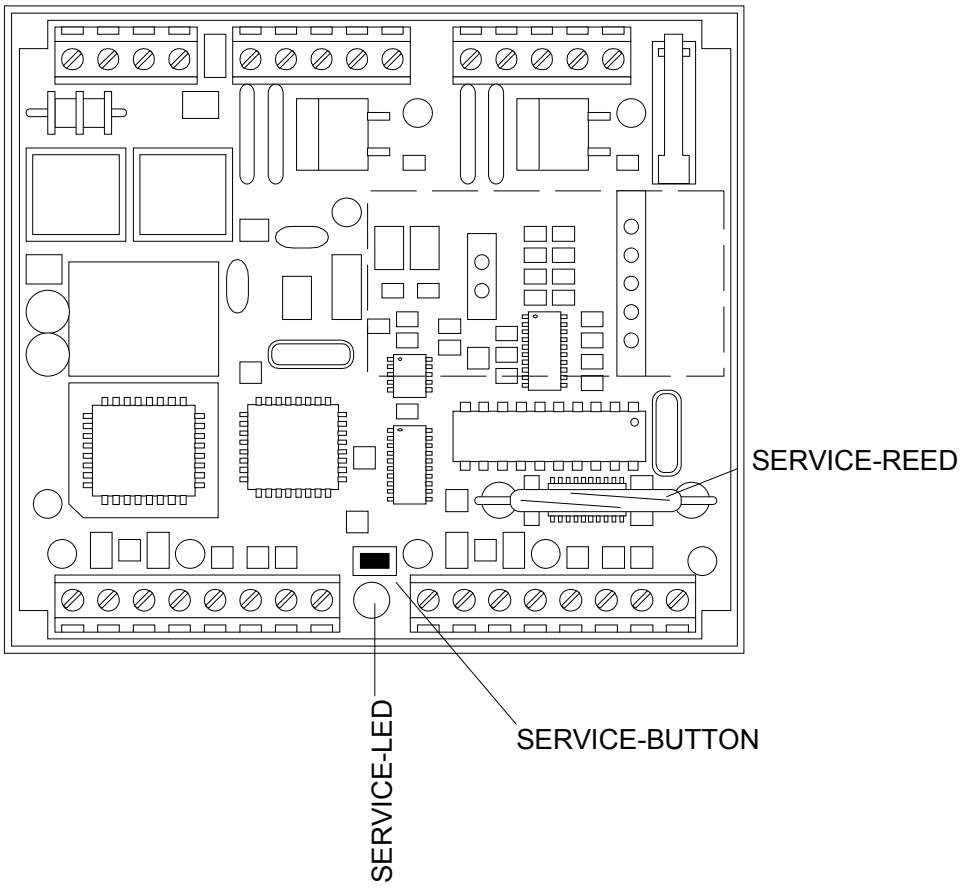


Figure 31. RTUA08 Service Elements

Identification via Bar Code

The components enclosed in the packaging include a bar code label. The person responsible for installing the terminal must apply this label to the corresponding identification form, and indicate the location of the terminal in the appropriate box (see example in Table 3).

Description of location *Office entrance area, first floor - staircase E*	
Description of TemaServer *Panel 2 entrance area, first floor – staircase E*	
RTU *C01*	PROG.ID= 4896873498696586 (2/5 INTERLEAVED - DECIMAL) 2550002550002550000
RTU *T01*	PROG.ID= 34598763569634 (2/5 INTERLEAVED - DECIMAL) 2550012540022530003
RTU *B01*	PROG.ID= 87607506970745 (2/5 INTERLEAVED - DECIMAL) 0010020030040050006
RTU *-*	

Table 3. Example of Completed Identification Form

TECHNICAL DATA

Summary of Modular Devices

This section contains technical data regarding the modular devices:

- RTU-B01 (Reader Module for Magnetic Cards)
- RTU-B03 (Reader Module for Smartcards ISO7816)
- RTU-B04 (Reader Module for Unique Proxy Cards)
- RTU-B07 (Reader Module for HID Proxy Cards)
- RTU-B12 (Reader Module for MIFARE Proxy Cards)
- RTU-C01 (Alphanumeric LCD Module)
- RTU-C02 (Graphic LCD Module)
- RTU-T01 (Numeric keyboard Module)
- RTU-A07 (Wiegand interface Module)
- RTU-A08 (Dual Wiegand Interface Module with I/O)

RTU-BO1 (Magnetic Card Reader)

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

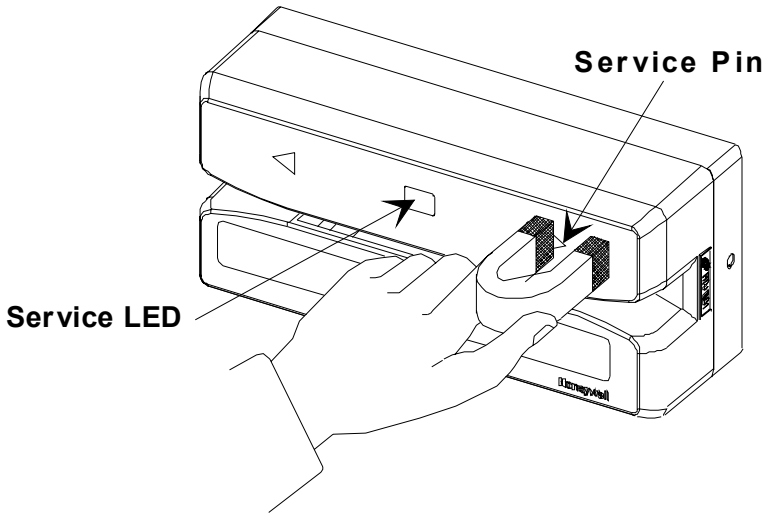
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500079xx

Parameter	Value
DC power supply	$12V_{DC}$±20% 30mA (nominal), 50mA (max)
Weight	0.25 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP31
Operating temperature	0-50 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Magnetic pick-up	ISO 7811 trax 2 5.000.000 swipes
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	2 LED green 1 LED bicolor (red-yellow) 1 buzzer

Compliance with Regulations	CE	Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	FC	**This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**
	c UL US LISTED	**12 Vdc ±20%** **0.6 W** **UL60950** **E221152** Honeywell Model: RTU-B01 Manufacturer: Meg Italia S.R.L.



FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

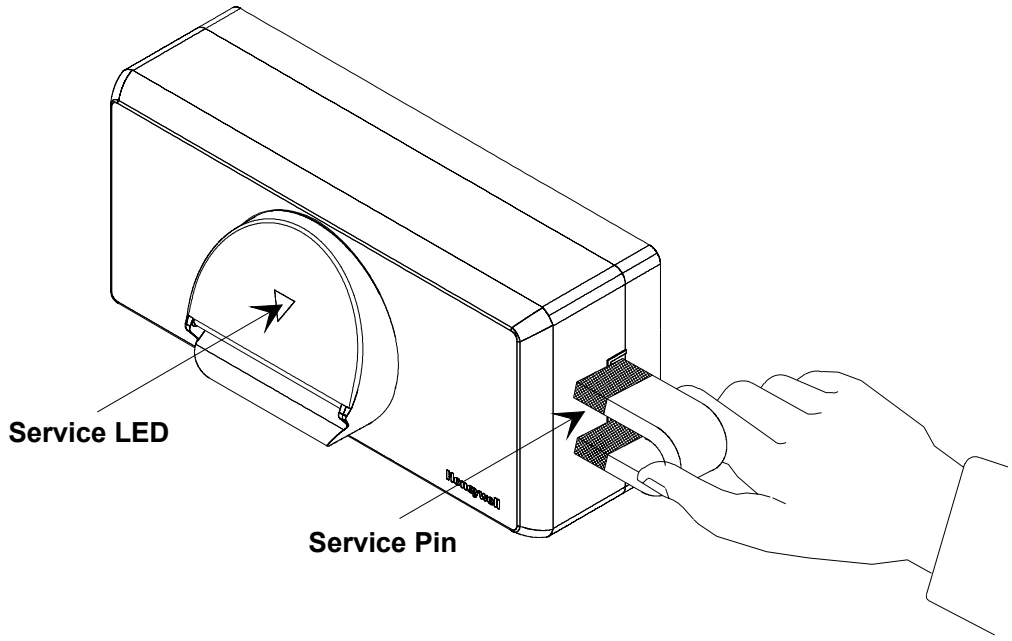
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500117xx

Parameter	Value
DC power supply	$12V_{DC}$±20% 90mA (nominal), 100mA (max)
Weight	0.25 Kg
Dimensions	72 x 160 x 72 mm
IP Protection Rating	IP31
Operating temperature	0-50 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Smartcard pick-up	contact smartcard ISO 7816-4 200.000 insertions
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	1 LED tricolor (red-green-yellow) 1 buzzer

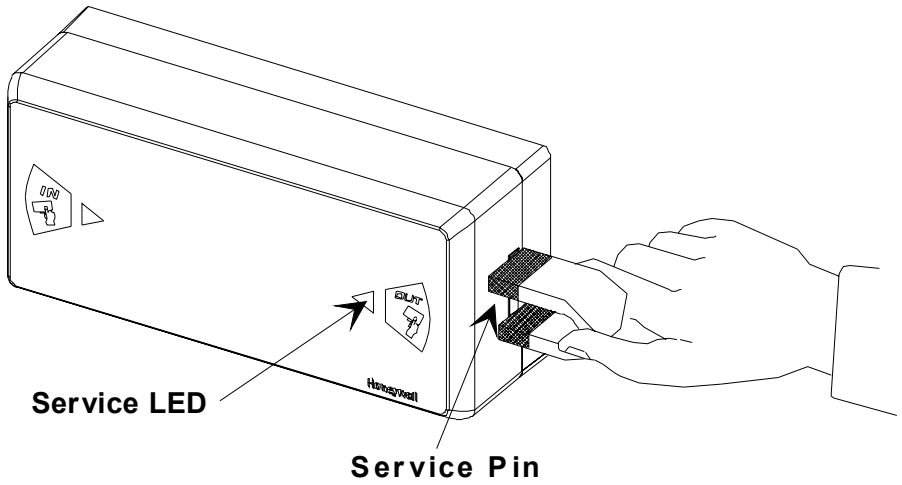
Compliance with Regulations	
	Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	12 Vdc ±20% 1.2 W c UL US LISTED UL60950 E221152 Honeywell Model: RTU-B03 Manufacturer: Meg Italia S.R.L.



RTU-B04 (Proxy Reader for Unique Cards)

Code 1500100xx

Parameter	Value
DC power supply	$12V_{DC}$±20% 60mA (nominal)
Weight	0.30 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operating temperature	0-50 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Proxy receiver	125 KHz for Unique cards Double-antenna receiver (bidirectional) Read distance 0÷50mm
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	2 LED tricolor (green/red/yellow) 1 buzzer
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022, EN 300 330



RTU-B07 (Proxy Reader for HID Cards)

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

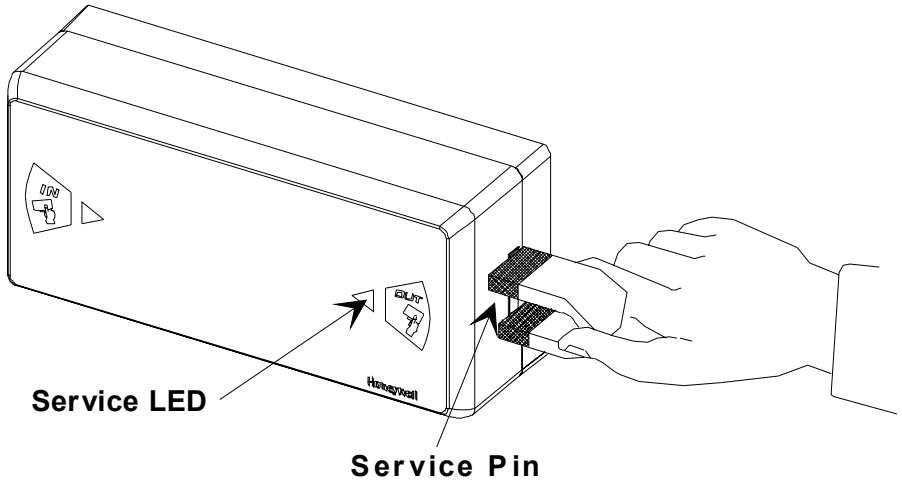
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1520145xx

Parameter	Value
DC power supply	$12V_{DC}$±15% 60mA
Weight	0.30 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operational temperature	-20 ÷ 60 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Proxy receiver	Double antenna 125KHz for HID cards (HID "Prox Point Cod 4068A" controller inside) Read distance 0…50mm
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	2 LED tricolor (green/red/yellow) 1 buzzer

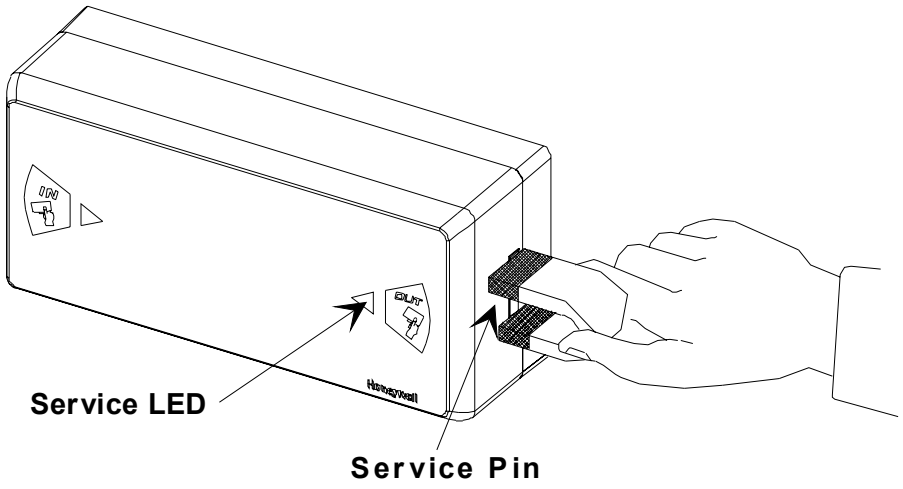
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022, EN 300 330
	FC **FCC-ID = HS9-RTU-B07** **This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**
	c UL US LISTED **12 Vdc ±15%** **0.8 W** **UL60950** **E221152** Honeywell Model: RTU-B07 Manufacturer: Meg Italia S.R.L.



RTU-B19 (Proxy Reader for HID Cards)

Code 1500153xx

Parameter	Value
DC power supply	$12V_{DC}$±20% 120mA
Weight	0.30 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operational temperature	-20 ÷ 60°C
Storage temperature	-20 ÷ 70°C
Storage relative humidity	0 ÷ 90 % without condensation
Proxy receiver	Double antenna 125KHz for HID cards (Two MD-15W controllers inside) Read distance 0…40mm
LONWORKS® connection	Unshielded twisted-pair cable FT3120 smart transceiver 78Kbps
Signaling	2 LED tricolor (green/red/yellow) 1 buzzer
Compliance with Regulations	CE EN60950, EN55024, EN55022, EN 300 330



FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

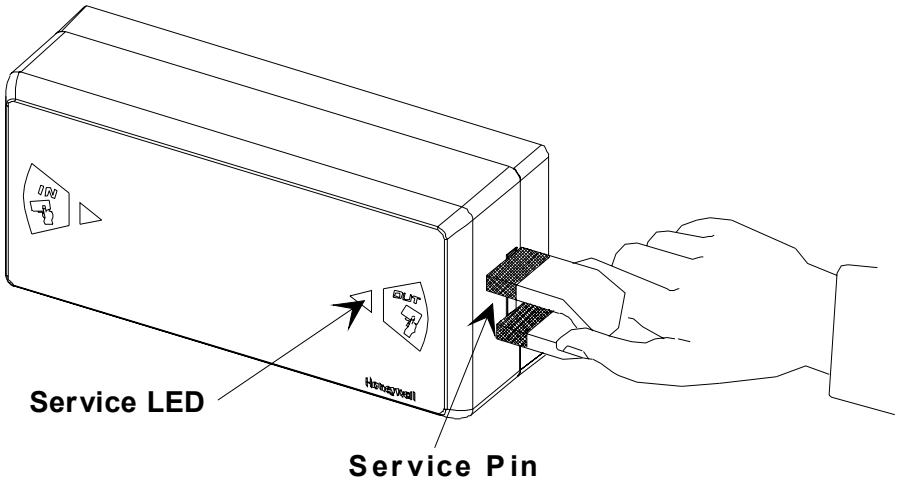
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500119xx

Parameter	Value
DC power supply	$12V_{DC}$±20% 90mA
Weight	0.30 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operating temperature	0-50 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Proxy receiver	ISO 14443A/B 13.56MHz RX/TX for cards: MIFARE (ISO14443-2A) - All version STM (ISO14443B) – only from version 1500119DA Internal controller: MFCM200 or MFRC53101T/0FE Philips Reading distance Mifare up to 7 cm depending on the card Reading distance STM up to 4 cm depending on the card
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	2 LED tricolor (green/red/yellow) 1 buzzer

Compliance with Regulations	CE	Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022, EN 300 330
	FC	**FCC-ID = HS9-RTU-B12** This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



RTU-CO1 (Alphanumeric LCD Module)

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

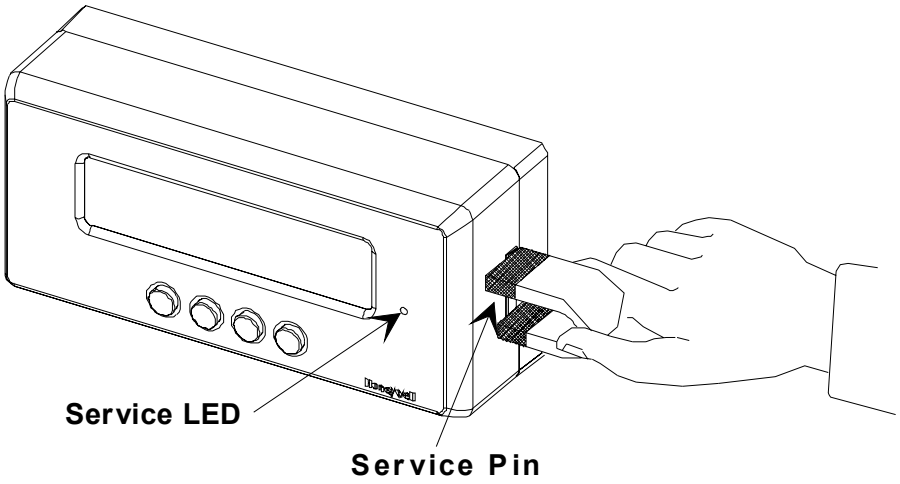
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500105xx

Parameter	Value
DC power supply	$12V_{DC}$±15% 140mA (nominal) 70mA (backlight off)
Weight	0.30 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operating temperature	0-50 °C
Storage temperature	-10 ÷ 60 °C
Storage relative humidity	0 ÷ 85 % without condensation
Display	Alphanumeric LCD with backlight 2 rows of 16-character format
Keyboard	4 keys with symbols
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	1 LED yellow 1 buzzer

Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	FC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, these is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

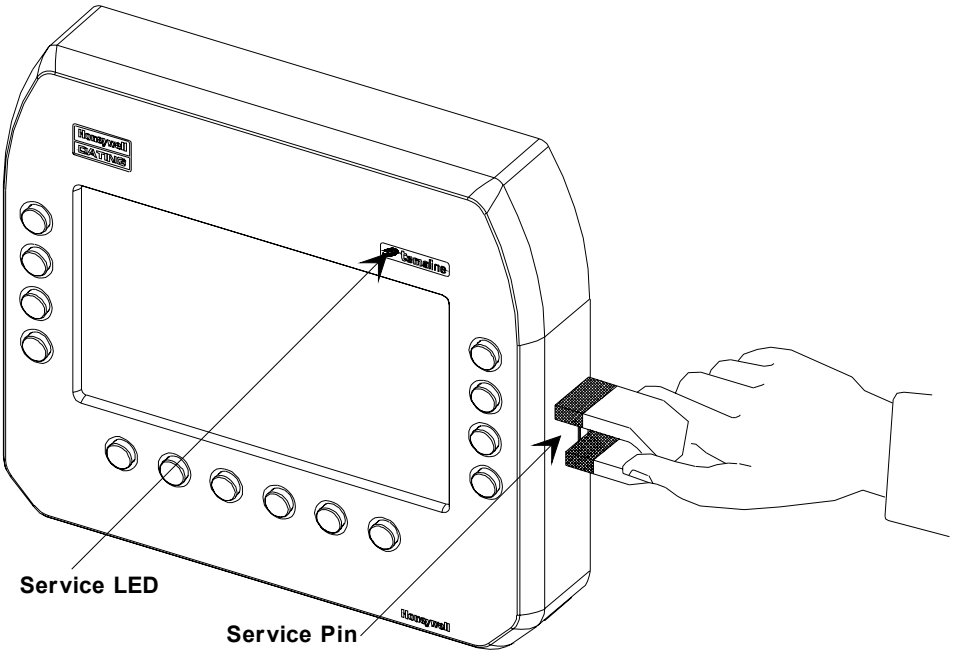
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500101xx

Parameter	Value
DC power supply	$12V_{DC}$±15% 380mA (nominal) $12V_{DC}$±20% 260mA (nominal) (vers. HA or subsequent) 140mA (backlight off)
Weight	0.65 Kg
Dimensions	166 x 190 x 52 mm
IP Protection Rating	IP55
Operating temperature	0-50 °C -20 ÷ 60 °C (vers. 1500101HA or subsequent)
Operating humidity	0 ÷ 75 % without condensation
Storage temperature	-10 ÷ 60 °C -30 ÷ 70 °C (vers. 1500101HA or subsequent)
Storage humidity	0 ÷ 85 % without condensation
Display	grafic LCD 240 x 128 pixel Backlight: CCFL or White LED(vers. 1500101HA or subsequent) FSTN Black and white (vers. 1500101HA or subsequent) Direct sunlight vision (vers. 1500101HA or subsequent)
Keyboard	14 function keys
LONWORKS® connection	Unshielded twisted-pair cable FT3150 Smart Transceiver, 78Kbps
Signaling	1 LED yellow - 1 buzzer

Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	FC **This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.**



FCC NOTICE

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-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

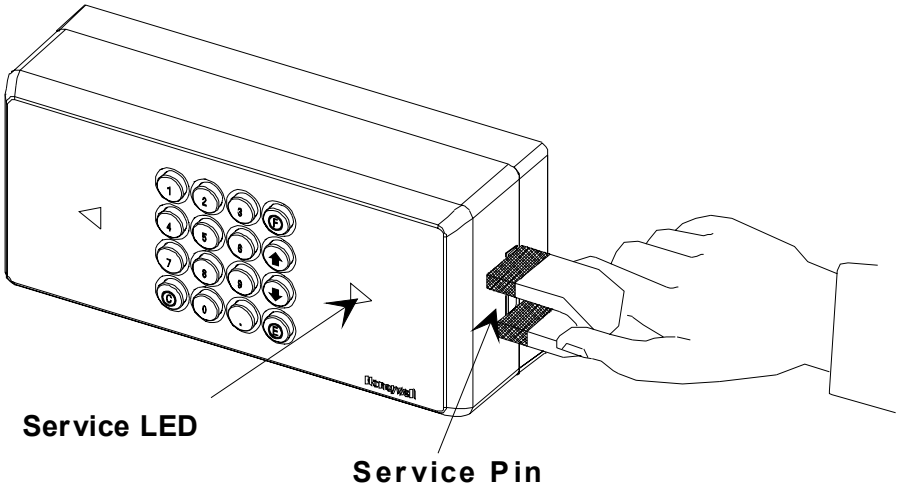
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500104xx

Parameter	Value
DC power supply	$12V_{DC}$±15% 30mA (nominal), 50mA (max)
Weight	0.25 Kg
Dimensions	72 x 160 x 52 mm
IP Protection Rating	IP55
Operating temperature	-20 ÷ 60 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Keyboard	16 keys with symbols
LONWORKS® connection	Unshielded twisted-pair cable Transceiver FTT10A, 78Kbps
Signaling	1 LED Tricolor (red/green/yellow) 1 LED green 1 buzzer

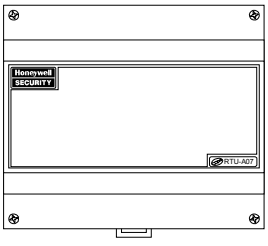
Compliance with Regulations	
	Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	12 Vdc ±15% 0.8 W c UL US LISTED UL60950 E221152 Honeywell Model: RTU-T01 Manufacturer: Meg Italia S.R.L.



RTU-A07 (Wiegand interface module)

Code 1500106xx

Parameter	Value	
DC power supply	12V +/-15% 70mA [nominal internal]	
Weight	0,2 Kg	
Dimensions	90x105x70 mm	
Mounting	Standard DIN/omega rail	
IP Protection Rating	IP31	
Operating temperature	0-50°C	
Storage temperature	-20 ÷ 70 °C	
Storage relative humidity	0 ÷ 90 % without condensation	
LONWORKS® connection[2]	Unshielded twisted-pair cable in free topology connection	
Output	Type	Open Collector
	Voltage	+14V max
		0V min
	Current	0,1A max
Input	Type	Wiegand
	Voltage	0V...+5V nominal (TTL)
		+14V Max
Output for reader power supply	Voltage	12V +/-15% (line voltage)
	Current	125mA Max (per channel)
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022	



[2] LONWORKS® is a registered trademark of Echelon Corporation

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, this is no guarantee that interference will not occur in a particular installation.
If this equipment does cause harmful interference to radio or television reception, which can be determined by tuning the equipment off and on, the user is encouraged to try to correct the interference by one or more the following measures:

-- Reorient or relocate the receiving antenna.
-- Increase the separation between the equipment and receiver.
-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
-- Consult the dealer or an experienced radio/TV technician for help.

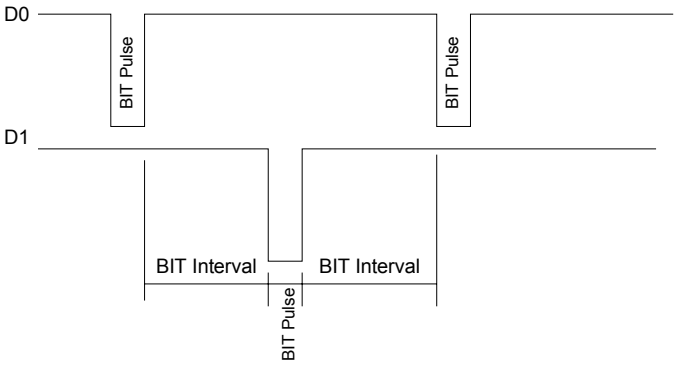
Canadian Compliance Statement

This Class B Digital apparatus meets all the requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numerique de la classe B respecte les exigences du Reglement sur le material broilleur du Canada.

Code 1500129xx

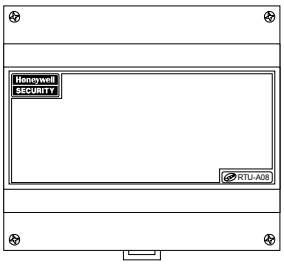
Parameter	Value
DC power supply	12V +/-15% 70mA [nominal internal] [up to 2.5A when driving power loads]
Weight	0,2 Kg
Dimensions	90x105x70 mm
Mounting	Standard DIN/omega rail
IP Protection Rating	IP31
Operating temperature	0-50°C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
LONWORKS® connection[3]	Unshielded twisted-pair cable in free topology connection FT3150 smart transceiver 78Kbps
Controlled Inputs	Type: Controller on 5 states (open, close, cut, short, tamper) Number: 2 Supply Voltage 0V...+10V Supply current 0…3 mA Voltage (absolute max) -24V...+40V Wire length connection: total resistance < 10 Ohm – not shielded

[3] LONWORKS® is a registered trademark of Echelon Corporation

Wiegand Inputs	Type Wiegand (normally high) Number 2 Voltage 0V...+5V nominal (TTL) +14V Max Timing[4] BIT Pulse width: min 50uS – max 10mS BIT Interval time: min 500uS – max 20mS  Wire type and length connection: see the reader installation manual – usually shielded
Power supply output for readers	Voltage 12V +/-15% (line voltage) Current 200mA Max (per channel) Wire length connection: it depends on cable diameter, reader current sink and reader min power supply– usually shielded – see reader installation manual Example: cable 0,35mmq : resistance 52 Ohm/Km Reader : V min 10 VDC Current max 50mA Power supply min : 12V – 15% = 10,2V Voltage drop max : 10,2 – 10 = 0,2V Cable resistance: Voltage drop / reader current max = = 0,2 / 50mA = 4 Ohm Cable length (mt): Resistance / (cable resistance / 1000) / 2 = = 4 / (52 /1000) / 2 = 38 mt

[4] Timing tested for RTU code version 1500129BA or following

Outputs to control LEDs and buzzer	Type Open Collector Number 3 each Wiegand channel Function Red LED, Green LED, Buzzer Voltage 0V...+14V max Current 80mA Max Wire length connection: see installation manual – usually shielded
Outputs	Type Power Open Collector (Drain) Number 2 Voltage 10V...+14V (internal Power supply) Voltage (absolute max) 10V...+30V (from external Power supply). Current inductive 1,2A [5A / 2sec peak max – load] Normality[5] NO or NC via JP1 and JP2 Standard = NO Wire length connection: it depends on cable diameter, load current sink and load min power supply – Not shielded
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022 FC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. c UL us LISTED 12 Vdc ±15% 0.7 W UL60950 E221152 Honeywell Model: RTU-A08 Manufacturer: Meg Italia S.R.L.

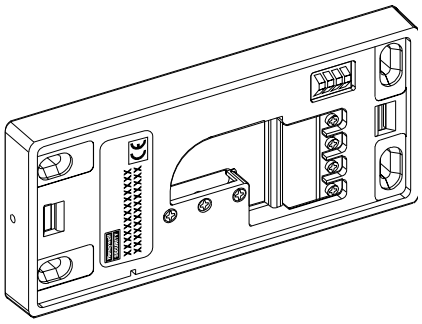


[5] In the RTUA08 without jumpers the normality OUT status is NO

RTU-SO1 (1-Unit Wall-Mounted Frame)

Code 1500083xx

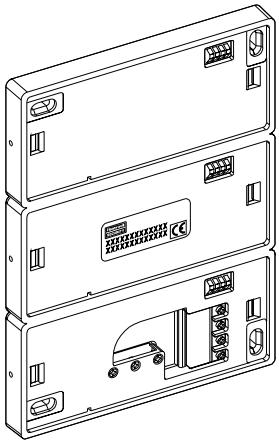
Parameter	Value
DC power supply	12V +/-20% 500mA [Max each unit]
Operational temperature	-20 ÷ 60 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	FC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	c UL us LISTED UL60950 E221162 Plastic support for wall mounting



RTU-S03 (3-Unit Wall-Mounted Frame)

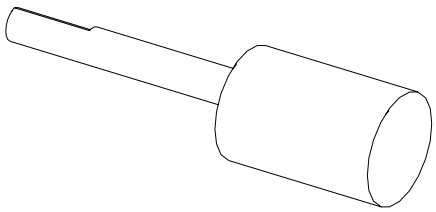
Code 1500084xx

Parameter	Value
DC power supply	12V +/-20% 500mA [Max each unit]
Operational temperature	-20 ÷ 60 °C
Storage temperature	-20 ÷ 70 °C
Storage relative humidity	0 ÷ 90 % without condensation
Compliance with Regulations	CE Directive EMC 89/336/EEC, 92/31/EEC, Directive Low Voltage 72/23/EEC, 93/68/EEC: EN60950, EN55024, EN55022
	FC This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
	c UL us LISTED UL60950 E221162 Plastic support for wall mounting



Optional Parts

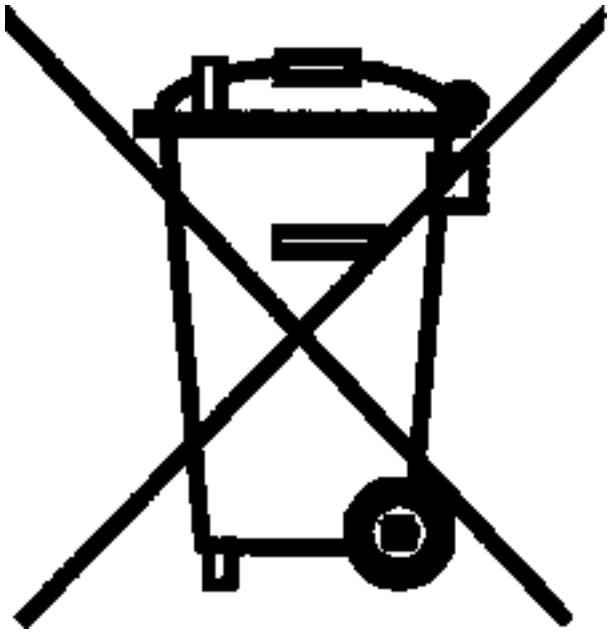
Unlocking tool	code 3900695AB



Recycling

In application of directive 2002/96/EC regarding waste electrical and electronic apparatus, effective beginning 13 August 2005, Honeywell commits, when requested by the customer, to the collection, treatment, recovery, and disposal of the apparatus produced.

Customers in European Union are advised to dispose this product, at the end of its useful life, as per applicable local laws, regulations and procedures



Notes

Honeywell
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