



# **Tema-Voyager™ Compact**

## **Installation Guide**

Document	Release	Issue	Date
800-07074	2.0		

## Notice

This document contains Honeywell proprietary information. Information contained herein is to be used solely for the purpose submitted, and no part of this document or its contents shall be reproduced, published, or disclosed to a third party without the express permission of Honeywell Europe.

This document and the data in it shall not be duplicated, used or disclosed to others for procurement or manufacturing, except as authorized by and with the written permission of Temaline, Inc. The information contained in this document or in the product itself is the exclusive property and trade secrets of Temaline, Inc. Copyright laws of the United States protect all information in this document or in the software product itself.

While this information is presented in good faith and believed to be accurate, Honeywell disclaims the implied warranties of merchantability and fitness for a purpose and makes no express warranties except as may be stated in its written agreement with and for its customer.

In no event is Honeywell liable to anyone for any direct, special, or consequential damages. The information and specifications in this document are subject to change without notice.

Copyright 2014 – Honeywell International Inc.

## Trademarks

Tema-Voyager™ is a trademark of Honeywell International Inc.

MIFARE® is a registered trademark of Philips Electronics N.V.

HID, iCLASS®, and Sokymat are trademarks or registered trademarks of HID Global Corporation.

Any other trademarks that appear in this document are used only to the benefit of the trademark owner, with no intention of trademark infringement.

## Compliance

To obtain applicable EU compliance Declaration of Conformities for this product, please refer to our website, <https://extranet.honeywell.com>. For any additional information regarding the compliance of this product to any EU-specific requirements, please send email to [temaline.orders@honeywell.com](mailto:temaline.orders@honeywell.com)

## **Support and other contacts**

For technical assistance, call your nearest Honeywell office.

## ***FCC Notice***

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.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the 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, there 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 turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of 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.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

# Contents

<b>Warnings and Cautions</b> .....	<b>1</b>
Before installation .....	1
Fire Safety and Liability Notice .....	1
Damage during shipment .....	1
Electrostatic discharge .....	1
Disclaimer – Product Liability; Mutual Indemnification .....	2
Compliance .....	2
<b>Unpacking</b> .....	<b>3</b>
<b>Shipping instructions</b> .....	<b>4</b>
<b>Limited warranty</b> .....	<b>5</b>
<b>Confidentiality</b> .....	<b>6</b>
<b>Device overview</b> .....	<b>7</b>
<b>Preparing for installation</b> .....	<b>8</b>
Contents of the kit .....	8
Readers .....	8
Supports .....	8
Toolkit for reader .....	8
Toolkits for supports.....	9
Mounting tools .....	10
Wire characteristics .....	10
Power supply wire .....	10
Ethernet connector and cable .....	11
Input/output/RS485 wire .....	11
<b>Mounting the device</b> .....	<b>13</b>
Device connectors .....	13
Mounting the reader on the support .....	14
Mounting the reader on the wall mount .....	14
Mounting the reader on the swivel support .....	21

Turnstile mounting using the swivel support .....	34
<b>Setting inputs, outputs, and jumpers .....</b>	<b>35</b>
Digital inputs .....	35
Supervised inputs .....	36
Outputs .....	37
External relays powered by the reader .....	37
Connecting the door lock directly using an external power supply ..	38
Jumpers .....	39
<b>Voyager door backup line .....</b>	<b>40</b>
<b>Voyager door module .....</b>	<b>42</b>
<b>Technical specifications .....</b>	<b>44</b>
<b>Regulation .....</b>	<b>47</b>
FCC Notice .....	47
Industry Canadian Compliance Statement .....	48
Australian CTick Conformity .....	48
<b>Appendix 1- Internal Jumpers .....</b>	<b>49</b>
<b>Recycling.....</b>	<b>51</b>

# Warnings and Cautions

## Before installation



**Warning:** Before installation, **TURN OFF** the external circuit breaker which supplies power to the device.

Before connecting the device to the power supply, verify that the output voltage is within specifications of the power supply. (See “Technical specifications” on page 44.)

Do not apply power to the device until **after** the installation has been completed. The equipment can be damaged if this precaution is not observed.

## Fire Safety and Liability Notice



**Warning:** Never connect card readers to any critical entry, exit door, barrier, elevator or gate without providing **an alternative exit** in accordance with all the fire and life safety codes pertinent to the installation.

These fire and safety codes vary from city to city and you must get approval from local fire officials whenever using an electronic product to control a door or other barrier. Use of egress buttons, for example, may be illegal in some cities. In most applications, single action exit without prior knowledge of what to do is a life safety requirement. Always make certain that any required approvals are obtained in writing. **DO NOT ACCEPT VERBAL APPROVALS SINCE THEY ARE NOT VALID.**

### Damage during shipment



**Caution:** IF ANY DAMAGE TO THE SHIPMENT IS NOTICED, A CLAIM MUST BE FILED WITH THE COMMERCIAL CARRIER RESPONSIBLE FOR THE DAMAGE.

### Electrostatic discharge



**Caution:** Electrostatic discharge (ESD) can damage integrated circuits and modules.

To prevent damage always follow these procedures:

- Use static shield packaging and containers to transport all electronic components, including completed reader assemblies.
- Handle all ESD sensitive components at an approved static-controlled workstation. These workstations consist of a desk mat, floor mat and an ESD wrist strap. Workstations are available from various vendors.



**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the installation and user guides, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## **Disclaimer – Product Liability; Mutual Indemnification**

If a Customer receives a claim that a Product or any component thereof has caused personal injury or damage to the property of others, Customer shall immediately notify Honeywell S.r.l. Italy in writing of all such claims. Honeywell S.r.l. Italy shall defend or settle such claims and shall indemnify and hold Customer harmless for any costs or damages including reasonable attorneys' fees which Customer may be required to pay as a result of the defective Product or the negligence of Honeywell S.r.l. Italy, its agents, or its employees.

Customer shall hold harmless and indemnify Honeywell S.r.l. Italy from and against all claims, demands, losses and liability arising out of damage to property or injury to persons occasioned by or in connection with the acts or omissions of Customer and its agents and employees, and from and against all claims, demands, losses and liability for costs of fees, including reasonable attorneys' fees, in connection therewith.

## **Compliance**

For any additional information regarding the compliance of this product to any EU-specific requirements, please send an e-mail to [temaline.orders@honeywell.com](mailto:temaline.orders@honeywell.com).



# Unpacking



**Caution:** If any damage to the shipment is noticed before unpacking, a claim must be filed with the commercial carrier.

All containers should be opened and unpacked carefully in order to prevent damage to the contents.

Follow these steps to unpack equipment in preparation for installation:

1. Open the container and remove the unit(s) and all packing material. Retain the container and all the packing materials. They may be used again for reshipment of the equipment, if needed.
2. Inspect the contents to see if anything is missing. If you notice any missing items, send an e-mail to [temaline.orders@honeywell.com](mailto:temaline.orders@honeywell.com).
3. Visually check the contents. If you see any damage, do the following:
  - a. If shipping has caused damage to the unit, file a claim with the commercial carrier.
  - b. If any other defect is apparent, call for a return authorization.

# Shipping instructions

To ship equipment back to Temaline, contact the customer service department at [temaline.orders@honeywell.com](mailto:temaline.orders@honeywell.com) before returning the equipment. When you call, please have available:

- A description of the problem or the reason you are returning the equipment.
- Your original purchase order number, invoice number and if the unit is still under warranty.
- A new purchase order number if the unit is not under warranty.

From the customer service department, obtain the **Return Merchandise Authorization (RMA)**.

Show the RMA number on all packages shipped. Packages which are not marked with an RMA number will be refused at the factory and returned to you **COD**.

Carefully pack the equipment for shipment. Use the original packing material whenever possible

# Limited warranty

All warranty work shall be handled through Customer who shall notify Temaline and apply for a Return Merchandise Authorization (RMA) number prior to returning any Product for service, repair, credit or exchange. Temaline warrants that its Products shall be free from defects in materials and workmanship for a period of 18 months from the date of shipment from the Temaline warehouse. Satisfaction of this warranty shall be limited to repair or replacement of Products which are defective or defective under normal use. Temaline's warranty shall not extend to any Product which, upon examination, is determined to be defective as a result of misuse, improper storage, incorrect installation, operation or maintenance, alteration, modification, accident or unusual deterioration of the Product due to physical environments in excess of the limits set forth in Product manuals. THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THIS PROVISION. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES WHETHER EXPRESS, IMPLIED OR STATUTORY, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE. NO REPRESENTATION OR WARRANTY OF THE DISTRIBUTOR SHALL EXTEND THE LIABILITY OR RESPONSIBILITY OF THE MANUFACTURER BEYOND THE TERMS OF THIS PROVISION. IN NO EVENT SHALL TEMALINE BE LIABLE FOR ANY RE-PROCUREMENT COSTS, LOSS OF PROFITS, LOSS OF USE, INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES TO ANY PERSON RESULTING FROM THE USE OF TEMALINE'S PRODUCTS.

# Confidentiality

All software, drawings, diagrams, specifications, catalogs, literature, manuals and other materials furnished by Honeywell HSG -Temaline relating to the design, use and service of the Products shall remain confidential and shall constitute the proprietary rights of Honeywell HSG -Temaline and Customer agrees to treat such information as confidential. Customer shall acquire no rights in the design of the Products or the related materials except to use such information solely for the purpose of and only during the time it sells the Products. Customer shall not copy the design of any of the Products or use or cause to be used any Product design or related materials for its own benefit or for the benefit of any other party. The covenants contained in this section shall remain effective throughout the term of this Agreement and thereafter unless specifically waived by Honeywell HSG -Temaline in writing.

# Device overview

The Voyager Compact is an RFID proximity smart technology card reader that is used with access controls and time and attendance systems.

These installation instructions contain the following information:

- Mounting instructions
- Connecting the reader to the network and door

Temaline recommends that before you begin, read and familiarize yourself with these instructions. This preparation should facilitate the installation.

# Preparing for installation

## Contents of the kit

Before you begin, unpack the shipment and check the parts list against the components in the shipment.

Your shipment should contain one reader, one support, one toolkit for the reader, and one toolkit for the support.

### Readers

Your kit should include one of the following readers:

Label Name	Description
VCU-01xxxxxxxxxx	Voyager Compact Unit HID Prox
VCU-02xxxxxxxxxx	Voyager Compact Unit MIFARE
VCU-03xxxxxxxxxx	Voyager Compact Unit HID Prox & MIFARE
VCU-04xxxxxxxxxx	Voyager Compact Unit iClass
VCU-05xxxxxxxxxx	Voyager Compact Unit iClass & HID Prox
VCU-06xxxxxxxxxx	Voyager Compact Unit Sokymat Prox
VCU-07xxxxxxxxxx	Voyager Compact Unit Sokymat Prox & MIFARE

### Supports

Your kit should include one of the following supports:

Label Name	Description
VCM-W7015	Wall Base Support
VCM-T7015	Turnstile Base Support
VCM-S7015	Swivel Base Support

### Toolkit for reader

Your kit should include a toolkit for the reader that contains the following items:

Quantity	Description
1	Green connector 1x5 position (3.5 mm)
1	Green connector 1x6 position (3.5 mm)

Quantity	Description
1	Balance resistors kit and diodes
1	RS-485 connector with cable
1	Jumper

## Toolkits for supports

Your kit should contain one of the following three support toolkits:

- Wall support toolkit
- Turnstile support toolkit
- Swivel support toolkit

The wall support toolkit contains the following items:

Quantity	Description
1	Tamper switch with cable
1	Drilling template
4	Screws for Fisher plug S5V
4	Plastic plug Fisher S5C
2	Torx screws for reader closing

The turnstile support toolkit contains the following items:

Quantity	Description
1	Tamper switch with cable
1	Drilling template
4	Screws for turnstile
2	Torx screws for reader closing

The swivel support toolkit contains the following items:

Quantity	Description
1	Tamper switch with cable
1	Drilling template
3	Screws for Fisher plug S5V
3	Plastic plug Fisher S5C
2	Torx screws for reader closing

## Mounting tools

The following screwdrivers are required for the installation:

- One small cross screwdriver
- One T10 Torx screwdriver
- One medium cross screwdriver
- One 0-1 flat head screwdriver

## Wire characteristics

To optimize the installation, Temaline recommends that you use the cable with smallest AWG allowed according to the tables below. If the power supply wire exceeds the AWG 20, Temaline strongly recommends that you terminate the wire with a smaller AWG.

### Power supply wire

The Voyager device can be powered either with a 10V-30V DC power supply or 48V PoE. To determine the correct size of the power cable, see the table below.



**Warning:** Max voltage cable drop allowed must not exceed 0.8 VDC when the voltage is 12V. (Typical input current is 500mA.)

The tables below show the values for one reader. If more than one reader is connected to the same line, divide the distance by the number of the readers on the same line.

The following table lists examples of wire gauge and distance for a 12V and a 24V power supply.



Max distance (m) from the Power Supply for 12V	Max distance (m) from the Power Supply for 24V	AWG	mm2	Ohm/km
30	190	20	0.52	34
20	125	22	0.35	52
12	75	24	0.2	85
8	45	26	0.13	137

## Ethernet connector and cable

For the Ethernet connector and cable, Temaline recommends:

- **RJ45 male connector:** Module plug assembly, 8 position, unshielded, round cable, stranded wire, high performance.
- **Cable:** APC CAT 5 UTP 4 PAIR, 24 AWG, no longer than 100 ft.

## Input/output/RS485 wire

**Input wires:** Use a twisted pair cable for the contacts connections. AWG24 or AWG26 is recommended for the best wire recovery behind the reader.

The following table lists wire gauges and distances for inputs contacts.

AWG	mm2	Ohm/km	Max distance (m)*
22	0.35	52	240
24	0.2	85	147
26	0.13	137	93

- **Output wires:** AWG24 or AWG 26 are recommended when the load is powered with current @30mA. This will facilitate the reader closing.

AWG	mm2	Ohm/km	Max distance (m)*
20	0.52	34	550
22	0.35	52	380
24	0.2	85	200
26	0.13	137	130

Use the minimum AWG allowed from the table below when the power is provided by an external power supply and the current is more than 30mA.

AWG	mm2	Ohm/km	Max distance (m)*
20	0.52	34	15
22	0.35	52	10
24	0.2	85	5.5
26	0.13	137	3.5

\*One-volt voltage drop is considered typical.

- **RS-485 wire:** Cable spec: UL, 24 AWG, 85ohm/Km twisted. Because the RS-485 is used for door backup line between the two readers installed on the two sides of the door. Also, the RS-485 is used for connection of a Voyager device with a Voyager door module installed on the safe side of the door, where the cable is usually short.

# Mounting the device

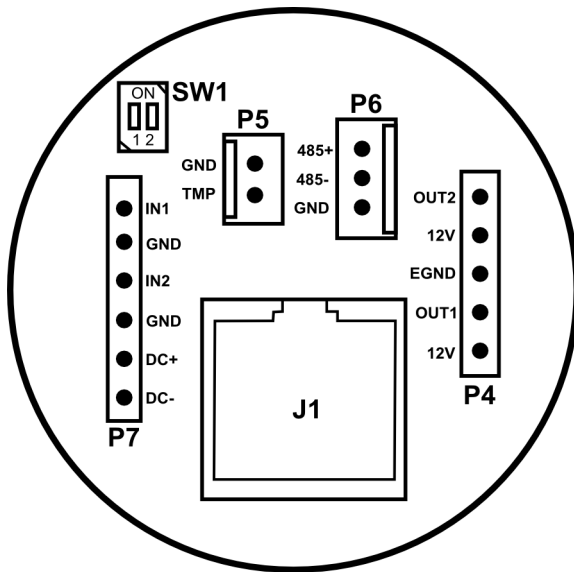


**Warning:** For satisfactory RF reader performance, you should install the Voyager device as far as possible from electrical conducting and metal surfaces. If you install the device on a metal surface, the reading performance will be affected. For a good performance, install the reader at least 5 cm away from the metal surface.

## Device connectors

All the connections are on the back of the reader inside the round area.

Figure 1 Connectors layout



Connector	Function	Specification
J1	POE & Ethernet interface	RJ45 Female Connector
P4	Output interface	5Pin,--3.5MM pitch, Header connector
P5	TAMPER Switch interface	2Pin,--2.5MM Pitch, Header connector
P6	RS-485 communication interface	3Pin,--2.5MM Pitch, Header connector

Connector	Function	Specification
P7	Inputs and DC power interface	6Pin,--3.5MM Pitch, Header connector
SW1	RS-485 length settings	2Pin,--1.27MM DIP switches

## Mounting the reader on the support

The Voyager device is composed of reader and support. The reader must be installed on one of the following three supports:

- Wall mount
- Turnstile mount
- Swivel mount

You do not need to open the reader to install it on the support.

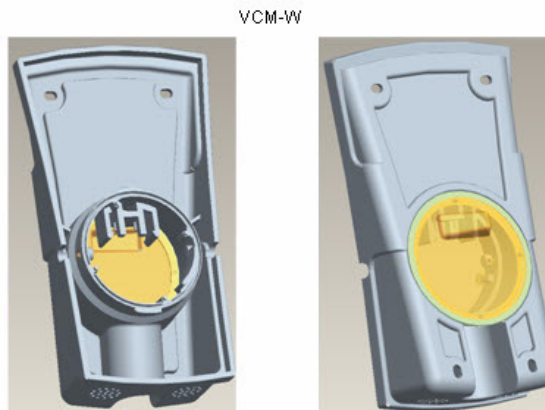


**Warning:** If you do not use the tamper, close the P5 connector with the jumper (included in the toolkit).

### Mounting the reader on the wall mount

Use this support to install the reader on a wall.

Figure 2 Wall mount (front and back views)

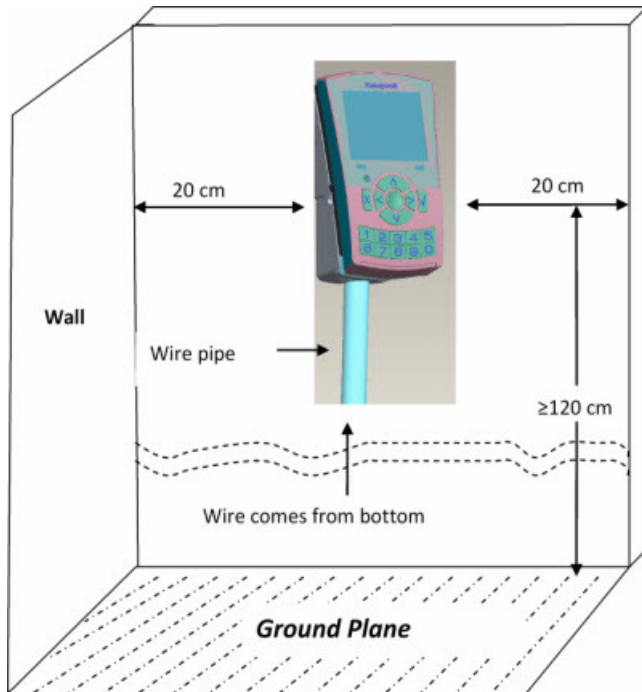


The cable pipe can come from either the wall (internal pipe) or the bottom (external pipe).

To install the reader on a wall mount:

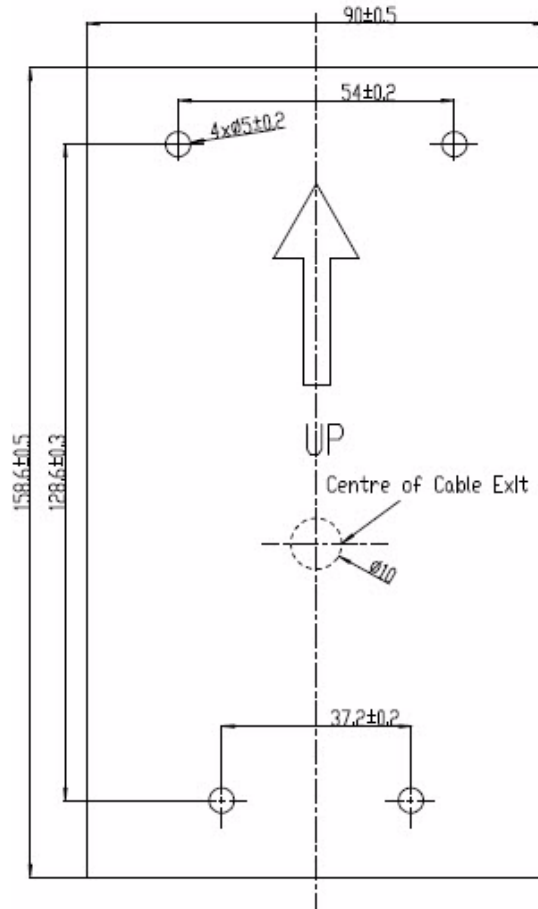
- 1 Determine an appropriate mounting position for the reader.
- 2 Make sure that the space is large enough to mount the reader on the support and close the Torx screws. See the dimensions in [Figure 3](#).

**Figure 3** Wall mount positioning



- Center the drilling template (see [Figure 4](#)) on the “Centre of Cable Exit” and, using the template as a guide, drill four holes (the size of the holes is indicated on the template).

**Figure 4** Wall mount drilling template (unit:mm)

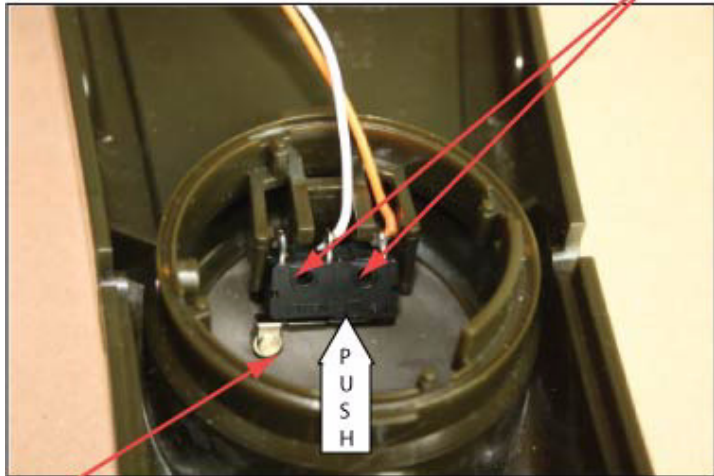


The cables coming from the pipe embedded in the wall shall be on the bottom of the support (not center or top). (See the Centre of Cable Exit position in the drilling template.)

- 4 If required, install the tamper switch into the appropriate guide as shown in [Figure 5](#).

**Figure 5** Installing the tamper switch

Thread the plastic sticks through the holes.



Pay attention to the direction of the hinge lever.

- 5 Route the interface and power cable from the wall/pipe to the reader. Leave about 5-6 cm of excess cable.
- 6 Attach the support to the wall using the 4 screws provided with the support.

- 7 Connect the cables to the 3.5mm Pitch Plugs using the 0-1 screwdriver. Make sure that there are no short circuits between the wires. There is only one way to insert the connectors (see [Figure 6](#)).

**Figure 6** Cable illustration for tamper switch installation

**Note:** Use the connector as shown in the picture; otherwise you will not be able to close the reader on the support.



- 8 Plug the RJ45 connector into the Ethernet port and other cables if present.
- 9 Arrange the cables so that the connectors are on the same side of their sockets without crossing the cables.
- 10 Check the right position of the gasket.



- 11 Close the reader on the support using the bayonet fitting shown in [Figure 7](#).

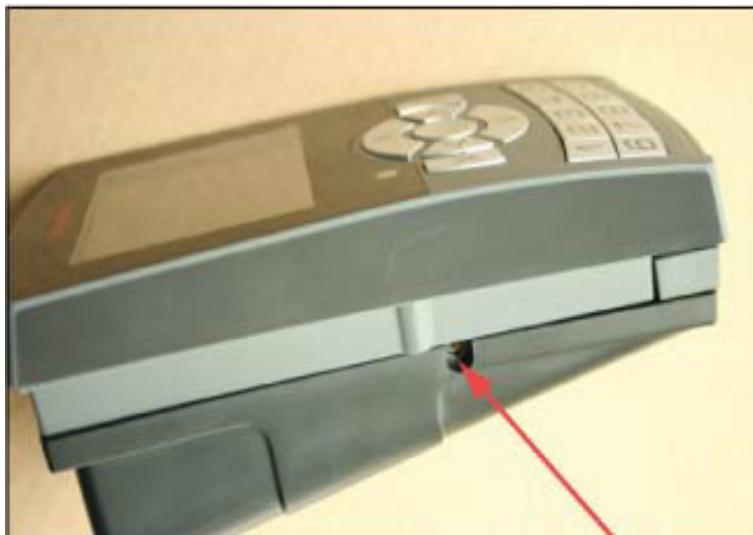
**Figure 7** Attaching the reader to the support

Attach the reader to the support as shown, then turn the reader clockwise until it is vertical.



12 Lock the reader onto the support using the 2x Torx screws.

**Figure 8** Locking the reader to the support



Torx screws go here to lock the reader to the support.

## Mounting the reader on the swivel support

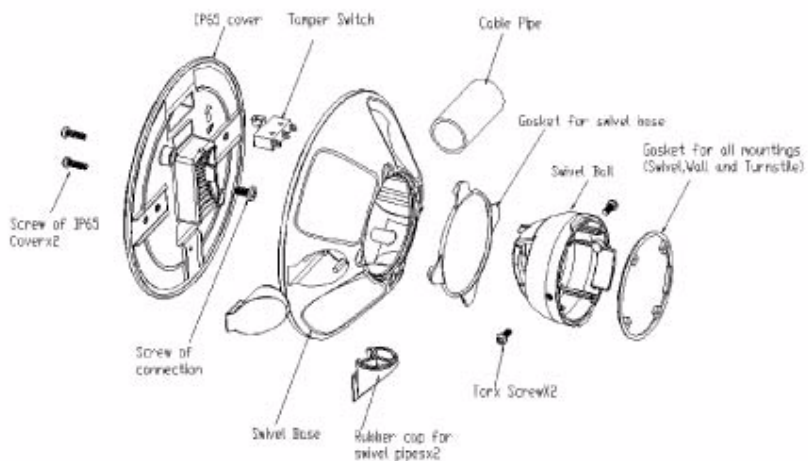
Use the swivel support to install the reader on a swivel base. This support gives the reader the desired slope (top-down) within a 24-degree range ( $+12^{\circ}$  to  $-12^{\circ}$ ).

**Figure 9** Swivel support types



The swivel support can be installed either on a flat surface (horizontal or vertical) or directly on a junction box.

**Figure 10** Exploded view of swivel support

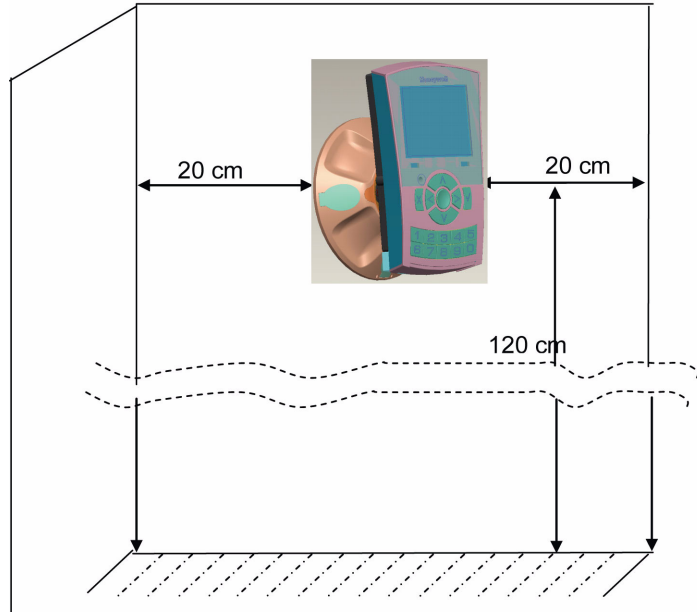


**To mount the reader on a swivel support:**

- 1 Determine an appropriate mounting position for the reader on the wall.

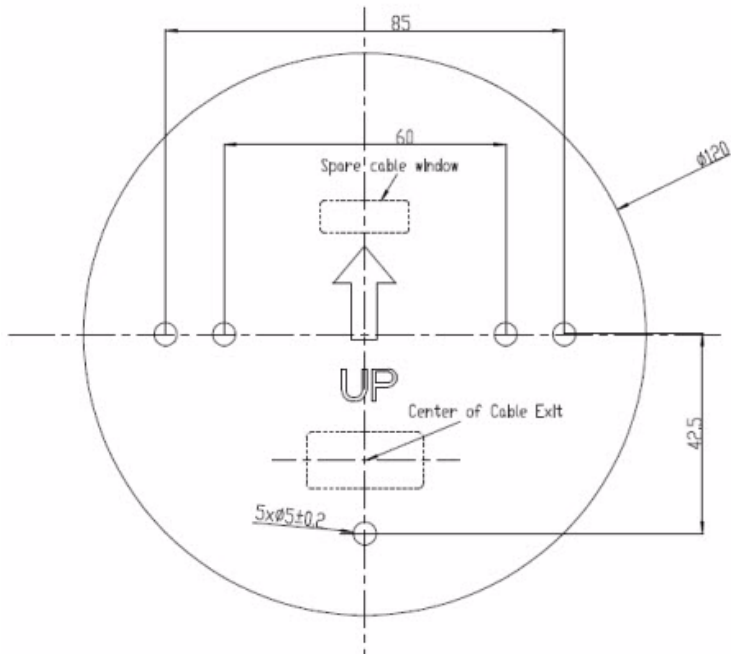
- 2 Make sure that the space is large enough to mount the reader on the support and screw in the Torx screws. See [Figure 11](#).

**Figure 11** Space required to install swivel support



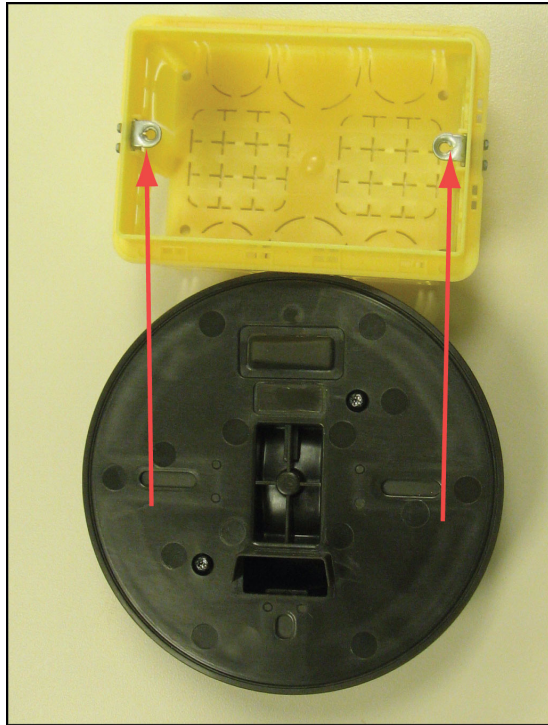
- Center the drilling template on the “center of cables exit” and, using the template as a guide, drill three holes (the size of the holes is indicated on the mounting template in [Figure 12](#)).

**Figure 12** Swivel mount drilling template (unit:mm)



- 4 When the installation is on a junction box fixed into the wall, center the template on the existing screws of the junction box and drill the third hole (the lowest one).

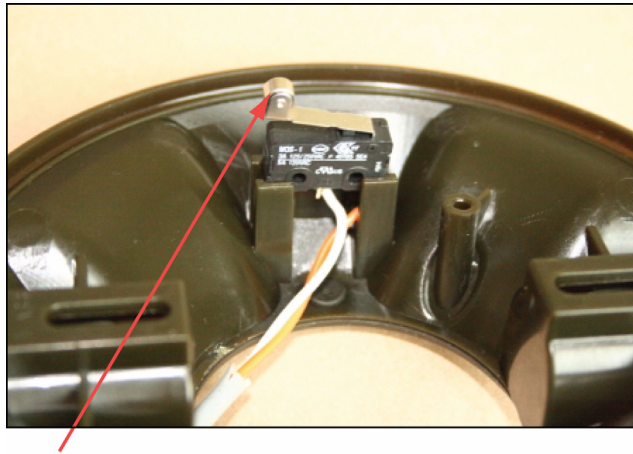
**Figure 13** Swivel mount using gang box



The cables must come out from the wall in correspondence with the bottom of the support. (See the position on the drilling template.)

- 5 Insert the tamper if used.

**Figure 14** Installing the tamper



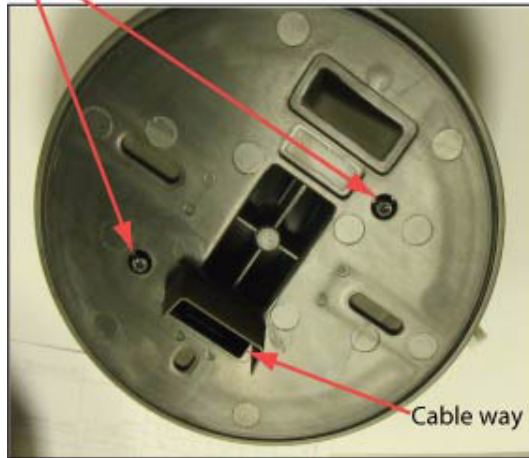
Pay attention to the direction of the hinge lever.



- 6 Attach the IP65 cover to the swivel body using two screws inserted from the back (see [Figure 15](#)), then check to make sure that the tamper works properly.

**Figure 15** Installing the tamper

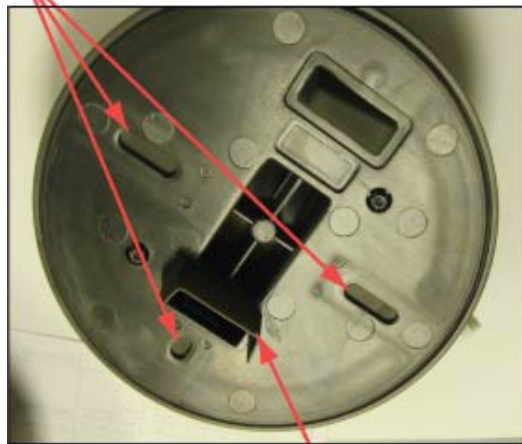
Use two screws to attach the IP65 cover to the swivel base.



- 7 Route the interface and power cables from the wall to the reader through the rectangular window in the base of the swivel. Attach the swivel to the wall using the three holes, paying attention to the correct position. (Check the arrow UP inside the base.)

**Figure 16** Attaching the swivel to the wall

Use these three holes to attach the swivel to the wall or junction box.



Waterproof plug



**Warning:** For IP65 installations, make sure that the waterproof plug on the back of the support is inserted into the hole in the wall.

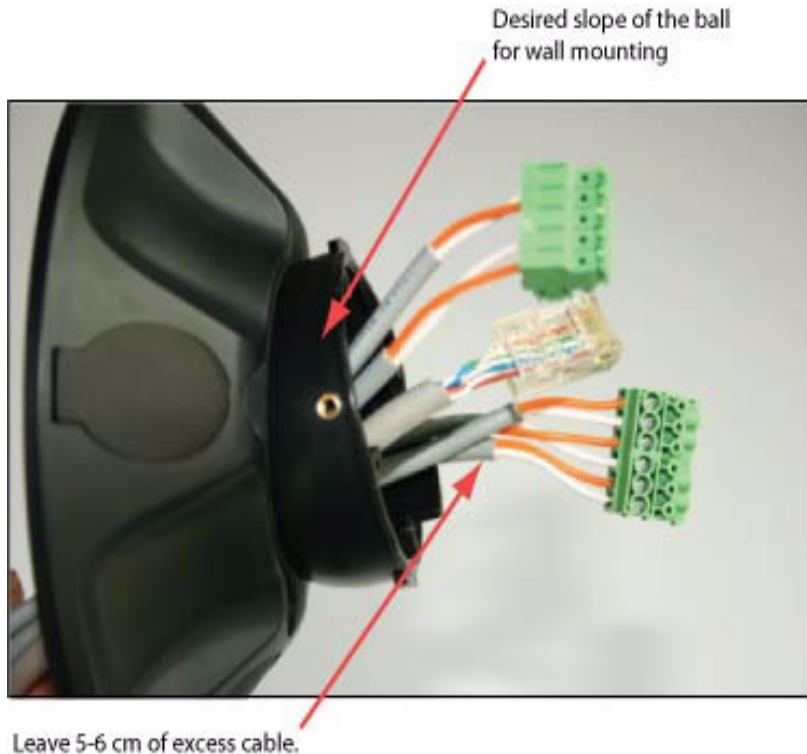
- 8 Route the cables through the swivel ball, ensuring that the cables are on the same side as the connectors located on the reader. Avoid crossing the cables inside the ball. Leave about 5-6 cm of excess cable.

**Figure 17** Routing the cables into the swivel



- 9 Fix the swivel ball on the support by giving the desired slope. The swivel ball has a key that prevents you from installing the support upside down.

Figure 18 Adjusting the slope



- 10 Connect the cable to the 3.5mm Pitch Plugs and other connectors. Be sure that there are no short circuits between the wires. Be sure to connect the wires by paying attention to the right position shown in [Figure 6](#) (the screws must be on the side of the Ethernet connector).
- 11 Close the reader on the support using the bayonet fitting as shown in [Figure 7](#).

- 12 Use the 2x Torx screws to lock the reader onto the support (see [Figure 19](#)).

**Figure 19** Locking the reader onto the swivel support



Insert the screws here to lock the reader to the support.

**When the cables come from the external pipe (this installation may not be IP65)**

There are three conduits on the swivel, each with a diameter of 20mm. Choose the best one and remove the rubber cap.

- 1 Determine an appropriate mounting position for the reader on the wall.
- 2 Make sure that the space is large enough to mount the reader on the support and attach it with the Torx screws. See dimensions in [Figure 11](#).
- 3 Using the template as a guide, drill three holes (the size of the holes is indicated on the mounting template) when the installation is on the wall.
- 4 Remove the waterproof plug on the swivel base using a pair of pliers.
- 5 Insert the tamper (if used).
- 6 Attach the base to the swivel body using two screws inserted from the back (see [Figure 15](#)). Check to make sure the tamper is working properly.

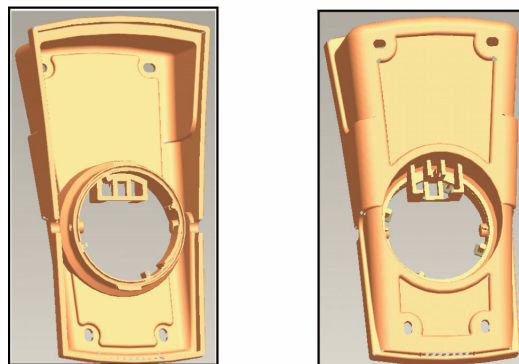
- 7 Route the interface and power cables from the wall to the reader through one of the three holes in the base of the swivel.
- 8 Route the cables through the swivel ball, being careful to ensure that the cables are on the same side of the connectors on the reader. Do not cross the cable inside the ball. Leave about 5-6 cm of excess cable.
- 9 Attach the swivel to the wall using the three screw holes, paying attention to the right position as shown in [Figure 15](#). (Check the arrow UP inside the base.)
- 10 Fix the swivel ball on the support by giving the desired slope. The swivel ball has a key to prevent you from installing the ball upside down.
- 11 Connect the cable to the 3.5mm Pitch Plugs and other connectors. Be sure to connect the wires by paying attention to the right position shown in [Figure 6](#) (the screws must be on the side of the Ethernet connector). Be sure that there are no short circuits between the wires.
- 12 Use the bayonet fitting shown in [Figure 7](#) to close the reader.
- 13 Use the 2x Torx screws to lock the reader onto the support.

## Mounting the device on the turnstile mount

This support is used for installing the reader on horizontal surfaces. Typical installation is for the use on the turnstile.

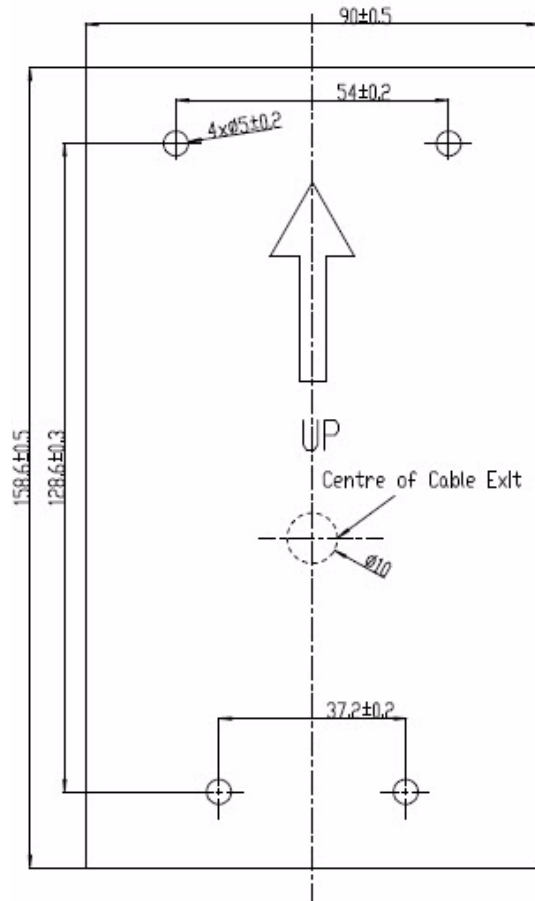
**Figure 20** Turnstile support (front and back views)

VCM-T



- 1 Determine an appropriate mounting position for the reader.
- 2 Ensure that the space is large enough to mount the reader on the support and attach it with the Torx screws.
- 3 Using the template as a guide, drill four holes (the size of the holes is indicated in the mounting template).

Figure 21 Drilling template for turnstile support (unit:mm)



The cables must come out from the surface in correspondence with the bottom of the support. (See the Centre of Cable Exit position in the drilling template.)

- 4 If required, install the tamper switch into the appropriate guide.
- 5 Route the interface and power cables from the surface of the turnstile to the reader. Leave about 5-6 cm of excess cable.
- 6 Arrange the cable so that the connectors are on the same side as their sockets without crossing the cables.
- 7 Connect the cable to the 3.5mm Pitch Plugs and other connectors. Be sure that there are no short circuits between the wires. Be sure to connect the wires by paying attention to the correct position (shown in [Figure 6](#)). (The screws must be on the side of the Ethernet connector.)
- 8 Use the bayonet fitting shown in [Figure 7](#) to close the reader on the support.
- 9 Lock the reader onto the support with the 2x Torx screws.

## **Turnstile mounting using the swivel support**

The sequence is the same as the sequence for wall mounting, except that the swivel ball shall be fixed to give the reader the opposite slope. See “Mounting the reader on the wall mount” on page 14.



# Setting inputs, outputs, and jumpers

## Digital inputs

The device has 2 inputs and 2 outputs. The 2 inputs can be used either as digital dry contacts or supervised contacts. The type of contacts used is defined from the configuration of the device performed by the EBI. By default, the inputs are set as supervised.

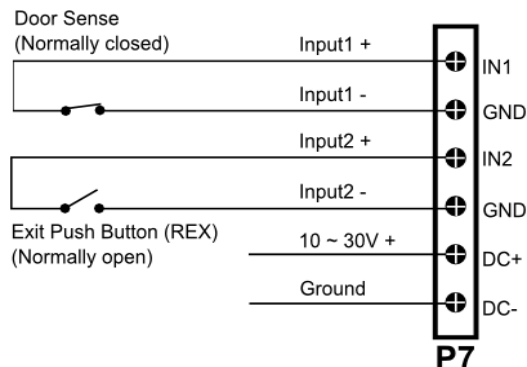
Usually the IN1 is dedicated to the door contact.

Usually the IN2 is dedicated to the push button (request to exit).

However, the inputs can also be used as general purpose inputs.

The typical connection for digital dry contacts is shown in [Figure 22](#).

Figure 22 Dry contacts connections



Temaline recommends that you establish an electrical environment where the cables are well separated, even at short runs, especially to the power cables or external cables which can be essentially subjected to interference or lightning.

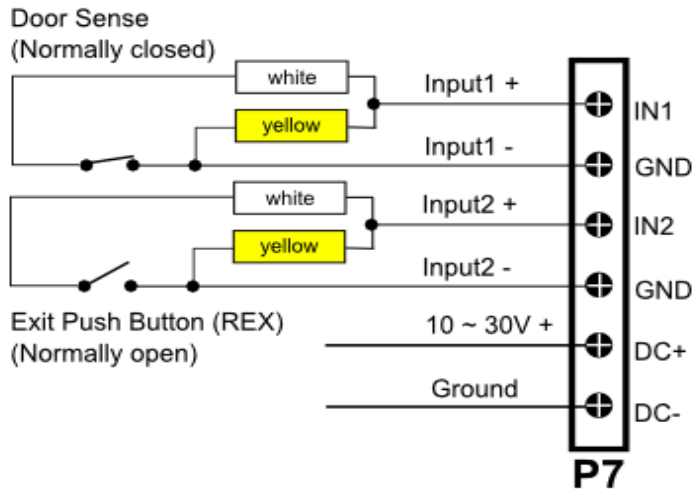
Use a twisted-pair cable for the contact cables. Make sure that the cables correspond in size to the norms indicated in “Wire characteristics” on page 10.

Max contact resistance = 25 Ohm

# Supervised inputs

The typical connection for supervised inputs is shown in Figure 23. Put the resistors close to the contact.

Figure 23 Supervised input connection



Yellow resistor: 1210 Ohm 1%

White resistor: 392 Ohm 1%

Close contact resistance: 296 Ohm

Open contact resistance: 1210 Ohm

Temaline recommends that you establish an electrical environment where the cables are well separated, even at short runs, especially to the power cables or external cables which can be essentially subjected to interference or lightning.

Use a twisted-pair cable for the contact cables. Make sure that the cables correspond in size to the norms indicated in section INPUT WIRES...

Max contact resistance = 25 Ohm

# Outputs

Internally, the output lines are provided with Power Mosfet. Using an external power supply, the output current must not exceed 1.2A/30V continuous or 5A/30V (0.5 sec) peak current for inductive loads. Using the internal power supply, the output current must not exceed 30mA.

Usually the OUT1 is dedicated to the Door Electro lock.

Usually the OUT2 is dedicated to the busy lamp.

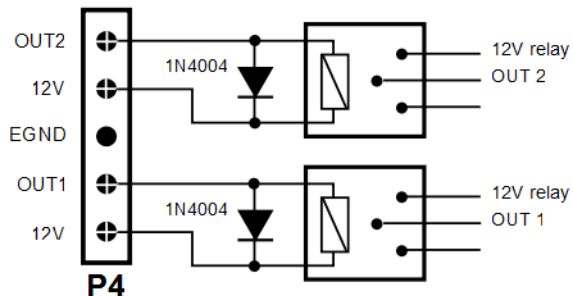
Outputs can be also used as general purpose outputs.

Temaline recommends that you establish an electrical environment where the cables are well separated, even at short runs, especially to the power cables or external cables which can be essentially subjected to interference or lightning.

## External relays powered by the reader

When the load exceeds the max internal current of 30 mA you must use an external relay.

Figure 24 Relays OUT



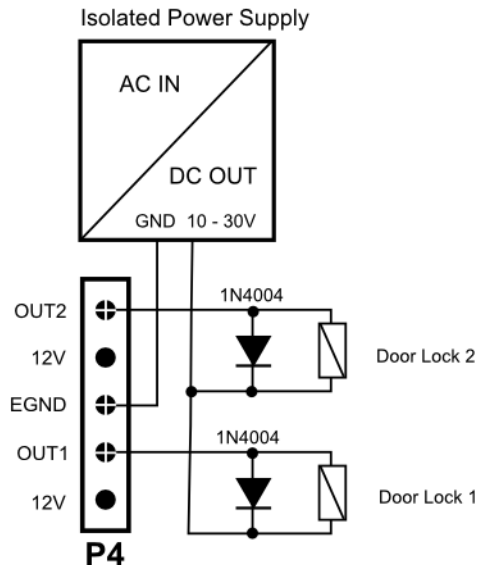


**Note:** Use 12VDC relay - max coil current = 30mA each. In this case you must use the 1N4004 diodes shown in [Figure 24](#).

## Connecting the door lock directly using an external power supply

You can connect the door lock directly to the reader using an external power supply. The current shall not exceed 1.2A or a peak of 5A for a period of 0.5 sec max.

**Figure 25** Connecting loads using an external isolated power supply



**Notes:** For not-resistive loads:

- You must use the 1N4004 diodes as shown in [Figure 25](#). Two diodes are included in the package.
- The external power supply must be isolated.

# Jumpers

There is a DIP switch (include two bits) in the circle. It is used for selecting RS-485 matched distance mode.

The Voyager equipment supports biasing and end-of-line termination for the RS-485 network.

- a. RS-485 allows the wiring of a multidrop communication network of up to 1200 m in length. SW1 DIP switches Pin1, Pin2 set in ON position.
- b. RS-485 Port communication network should not exceed 15 m in length. SW1 DIP switches PIN1, PIN2 set in OFF position.

Figure 26 Jumpers

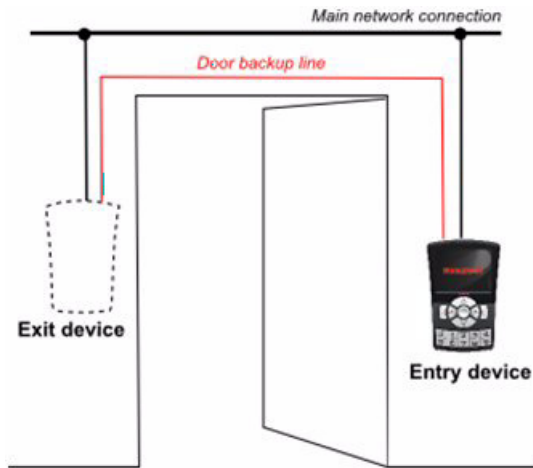


Jumper	ON/OFF	Function
SW1.1&2	ON	Long distance - up to 1200m
	OFF	Short distance - up to 15m

# Voyager door backup line

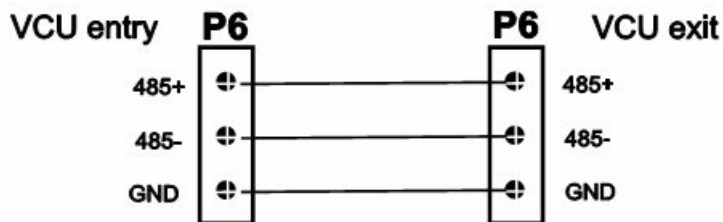
A door is managed using two Voyager devices (one on each side of the door). During a network failure, to ensure the complete door functionality, you can have a backup connection between the devices using the RS 485 serial line with encrypted protocol as shown in [Figure 27](#).

Figure 27 - Use of Voyager door backup line



The typical connection for the Voyager door backup line appears as shown in [Figure 28](#).

Figure 28 - Voyager backup line connection



You can set the RS485 wiring length using the SW1 jumpers. For more information on jumpers, see “Jumpers” on page 39.

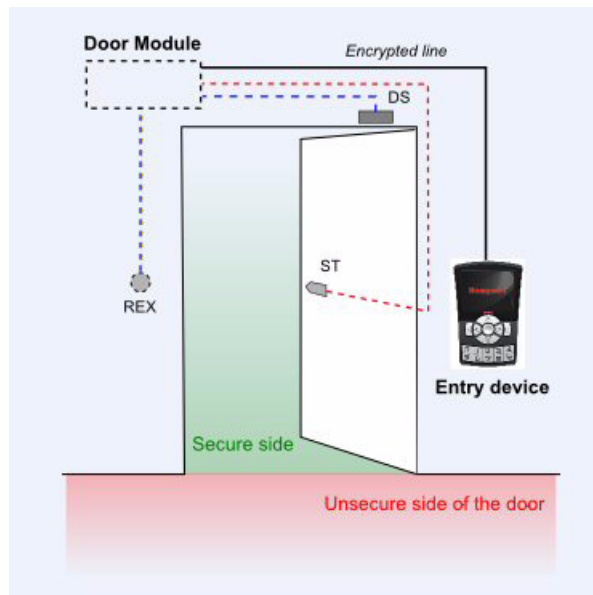
The use of the Voyager door backup line must be enabled and configured from the EBI supervision center. For more information, refer to the Temaline Access Control Guide.

# Voyager door module

You can use the Voyager door module when you must manage the door in a secure way, using a Voyager device. In this type of architecture as shown in [Figure 30](#), the Voyager device is installed on the unsecure side of the door and the Voyager door module is installed on the secure one.

The input/output for the management of the door (Strike, Request to exit, and Door sense) are connected to the door module. The communication between the Voyager device and the door module occurs through the RS485 serial line with encrypted protocol.

Figure 29 - Use of Voyager door module

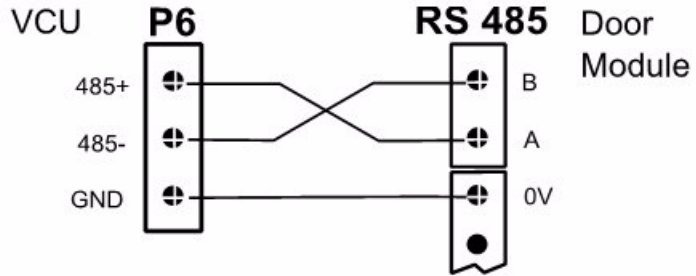


The typical connection of the Voyager door module line appears as shown in [Figure 29](#). For more information on the Voyager door module



installation and characteristics, refer to the Voyager Door Module - Installation Manual.

Figure 30 - Voyager Door Module connection



You can set the RS485 wiring length using the SW1 jumpers. For more information on jumpers, see “Jumpers” on page 39.

The use of Voyager door module must be enabled and configured from the EBI supervision center. For more information, refer to the Temaline Access Control Guide.

# Technical specifications

**Table 1** Technical specifications

Parameter	Value
DC power supply	10VDC~30VDC
PoE power supply	IEEE802.3af - class 2 (48VDC – from 3.84 to 6.49 W)
Consumption	<ul style="list-style-type: none"> <li>• VCU-01: 5W (400 mA @ 12VDC)</li> <li>• VCU-02: 5W (400 mA @ 12VDC)</li> <li>• VCU-03: 6W (500 mA @ 12VDC)</li> <li>• VCU-04: 5W (400 mA @ 12VDC)</li> <li>• VCU-05: 6W (500 mA @ 12VDC)</li> <li>• VCU-06: 5W (400 mA @ 12VDC)</li> <li>• VCU-07: 6W (500 mA @ 12VDC)</li> </ul>
Weight	0.46 kg
Dimensions	40 x 103 x 163 mm
Protection level	IP65
Operational temperature	<ul style="list-style-type: none"> <li>• VCU-01: -20 - 55°C</li> <li>• VCU-02: -20 - 60°C</li> <li>• VCU-03: -20 - 55°C</li> <li>• VCU-04: -20 - 60°C</li> <li>• VCU-05: -20 - 55°C</li> <li>• VCU-06: -20 - 60°C</li> <li>• VCU-07: -20 - 60°C</li> </ul>
Storage temperature	-20 ~ 70°C
Storage relative humidity	0 ~ 95% without condensation
Display	3.5", 230,400 DPI (RGB 320x240) True Color TFT-LCD
Audio output	One 0.4W output speaker
Keyboard	10 number keys: 0-9 6 navigation keys: left, right, up, down, Enter, Cancel

**Table 1** Technical specifications

Parameter	Value
Reading distance	<p>The reading distance depends on the quality of the cards used. The distances for Voyager devices are:</p> <ul style="list-style-type: none"> <li>• VCU-01: 6 cm</li> <li>• VCU-02: 6 cm</li> <li>• VCU-03: HID 5cm, MIFARE 6 cm</li> <li>• VCU-04: 6 cm</li> <li>• VCU-05: HID 5 cm, iCLASS 5 cm</li> <li>• VCU-06: 7 cm</li> <li>• VCU-07: Sokymat 6 cm, MIFARE 6 cm</li> </ul>
Inputs	<p>Two supervised or digital inputs: Mode select:</p> <ul style="list-style-type: none"> <li>• Supervised inputs for four statuses: Normal, Alarm, Cut, and Short</li> <li>• Digital inputs with two statuses: Open, Close</li> </ul> <p>Current: 0~10mA for each input Voltage: +6 VDC maximum; 0V minimum</p>
Outputs	<p>Number: 2 Type: Power Open Drain (Mosfet) Load: Inductive load admitted</p> <p>When supplied directly from the reader: Current: 30mA Voltage: 12 VDC</p> <p>When supplied from external power supply: Current: 1.2A contiguous; 5A impulsive (0.5sec) Voltage: 10-30 VDC</p>

**Table 1** Technical specifications

Parameter	Value
Compliance with regulations	<p>CE (2004/108/EC Electromagnetic Compatibility Directive, 2006/95/EC Safety Directive 1, 999/5/EC R&amp;TTE Directive)</p> <p>EN 301489-1 V1.8.1 (2008-04)&amp;EN 301489-3 V1.4.1 (2002-08)</p> <p>EN 55022:2010</p> <p>EN 61000-6-3: 2007 + A1: 2011&amp;EN 61000-6-4: 2007 + A1: 2011</p> <p>EN 50130-4:1995/A2:2003/AC:2003&amp;EN-50130-5:2011</p> <p>EN 300330-2 V1.5.1 (2010-02)</p> <p>EN 60950-1: 2006 + A12: 2011</p> <p>EN 50371:2002</p> <p>EN-50133-1:2010&amp;EN-50133-2:2010&amp;EN-50133-7:2010</p> <p>CTick. For more information on CTick regulation, see <a href="#">“Australian CTick Conformity”</a> on page 48.</p> <p>Industry Canadian. For more information on Industry Canadian compliance, see <a href="#">“Australian CTick Conformity”</a> on page 48.</p> <p>FCC Part15 Class B. For more information on FCC Part15 Class B rules, see <a href="#">“FCC Notice”</a> on page 47.</p> <p>UL 294-S319 (pending)</p>
Environmental impact	RoHS/WEEE-compliant device directives 2002/95/EC 2002/96/EC (WEEE: Waste Electrical and Electronic Equipment)
Real-time clock	Retention time: 48 hours (big capacitor)

# Regulation

## FCC Notice

**FCC IDs: HS9VCU-01;HS9VCU-02;HS9VCU-03;2ACDRVCU-04;2ACDRVCU-05**

This device complies with FCC rules Part 15. Operation is subject to the following two conditions:

- This device may not cause harmful interference and
- This device must accept any interference received, including interference that may cause undesired operation.

This equipment has been tested and found to comply with the limits for class B digital devices, pursuant to part 15 of the 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, there 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 turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to 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

The user is cautioned that changes and modification made to the equipment without the approval of the manufacturer could void the user's authority to operate this equipment.

# Industry Canadian Compliance Statement

**Company Name:** Honeywell SRL

**Company Number:** 573U

**Certificates Numbers:**

573U-VCU-017015EN1N00, 573U-VCU-017015EN1N01

573U-VCU-027015EN1N00, 573U-VCU-027015EN1N01

573U-VCU-037015EN1N00, 573U-VCU-037015EN1N01

573U-VCU-047015EN1N00, 573U-VCU-047015EN1N01

573U-VCU-057015EN1N00, 573U-VCU-057015EN1N01

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 brouilleur du Canada.



## Australian CTick Conformity

**Brand;** Honeywell

**Model numbers:** VCU-017015EN1N00, VCU-017015EN1N01, VCU-027015EN1N00, VCU-027015EN1N01, VCU-037015EN1N00, VCU-037015EN1N01, VCU-047015EN1N00, VCU-047015EN1N01, VCU-057015EN1N00, VCU-057015EN1N01

**Attestation Number:** HSQ-CTick-110014

For compliance levels 1, 2 and 3 in Australia As required by notices under:

Section 182 of the Australian Radiocommunications Act 1992.

The product complies with the requirements of the Radiocommunications (Electromagnetic Compatibility) Standard 2008. Evidence of compliance is demonstrated by test reports to the following applicable standards:

CISPR 22: 2006 Information technology equipment - Radio disturbance characteristics - Limits and methods of measurement.

# Appendix 1- Internal Jumpers

#	Jumper name	Description
1	Spare	-
2	FW application roll back Open = Current FW application valid (default) Close = Force FW application rollback	The Voyager maintains two versions of the application. When a new version of the application is downloaded to the device, the previous version is maintained so that it is possible, in case of problems, to roll back the application to the previous one. This jumper forces a roll back of the application running on the device. The alternative version of the application present on the device is restored when the jumper is closed and the device is restarted.  After the restart, the jumper must be set back to Open. This will enable you to work again with the device.
3	Restore Factory Open = Use current configuration Close = Restore factory configuration	Restore the device to factory configuration.  The device is restarted and is restored to factory configuration when the jumper is closed. All the data present in the memory and in the database of the device is lost and the communication parameters reset to the factory default values. The IP address of the device is set to 160.221.230.127.  After the restart, the jumper must be set back to Open. This will enable you to work again with the device.
4	Linux Console activation Open = Linux console not active (default) Close = Linux console active	This jumper is used to activate the LINUX console of the device. The console usage is enabled when the jumper is closed and the device is restarted. The activation of LINUX console is required only for deep debug purpose. You must not change this jumper if it is not specifically required from Honeywell Technical Assistance Center.
5	Spare	-
6	Manufacturing test Open = FW application active (default) Close = Manufacturing test active	After the restart, the jumper activates the manufacturing test application instead of the FW application. This jumper is used during the test in factory and is not suitable for field operations.



**Note:** Internal jumpers can be used only for maintenance purpose and only on request of Technical Assistance Center personnel.



# Recycling

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

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



