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Metra Wristband Collector - *Technical Manual*

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Trade Mark:	Metra MEW System		
Model/Type ref.:	Metra Wristband Collector		
Part Number:	1389		
FCC ID:	2ABT80006P1389		
Year of Construction:	2017		

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CE This product is in conformity with the essential requirements and other relevant requirements of the following EU Directives:

- Radio and Telecommunications Terminal Equipment (R&TTE) Directive 2014/53/EU

- RoHS Recast (RoHS2) Directive 2011/65/EU of the European Parliament and of the Council on the restriction of the use of certain hazardous substances in electrical and electronics equipment.

- Low Voltage Directive (LVD) 2014/35/EU that ensures that electrical equipment within certain voltage limits provides a high level of protection for European citizens.

Environmental Information for EU customers – WEEE Directive Statement:

This symbol indicates the product is in conformity with the protection requirements of European Council Directive 2012/19/EU. It requires that products marked with this symbol must not be disposed of with unsorted municipal waste.

This product must be disposed of separately from household waste via designated collection facilities appointed by local authorities. Please contact your local authorities or waste disposal service for more detailed information.

FC Model/Type ref.: Metra Wristband Collector
Part Number: 1389
FCC ID: 2ABT80006P1389

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.

This device 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.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment."

• Product Marking Label

Product Marking Label is placed on the front right side of the device (photo bellow).

Metra inženiring d.o.o. integrates "Metra Wristband Collector" into different final products **and is responsible for proper labelling of the final product. The final product's label** must include a statement **"Contains FCC ID: 2ABT80006P1389"**.

• Product description

"Metra Wristband Collector" is a standalone module which can be integrated into different Metra access control systems. It is used whenever RFID Wristband has to be retained when a guest leaves the facility. It grants the exit signal only when the Wristband (ticket) is successfully erased and retained. This dramatically cuts costs of the system operation and the chance of fraud. That innovative product Metra first developed and patented in 1998 together with contactless RFID Wristband.

"Metra Wristband Collector" can be integrated into different Metra access control products such as Tripod Turnstile, Metra Access Terminal or similar.
It is presented to the retaining device.

• Connections
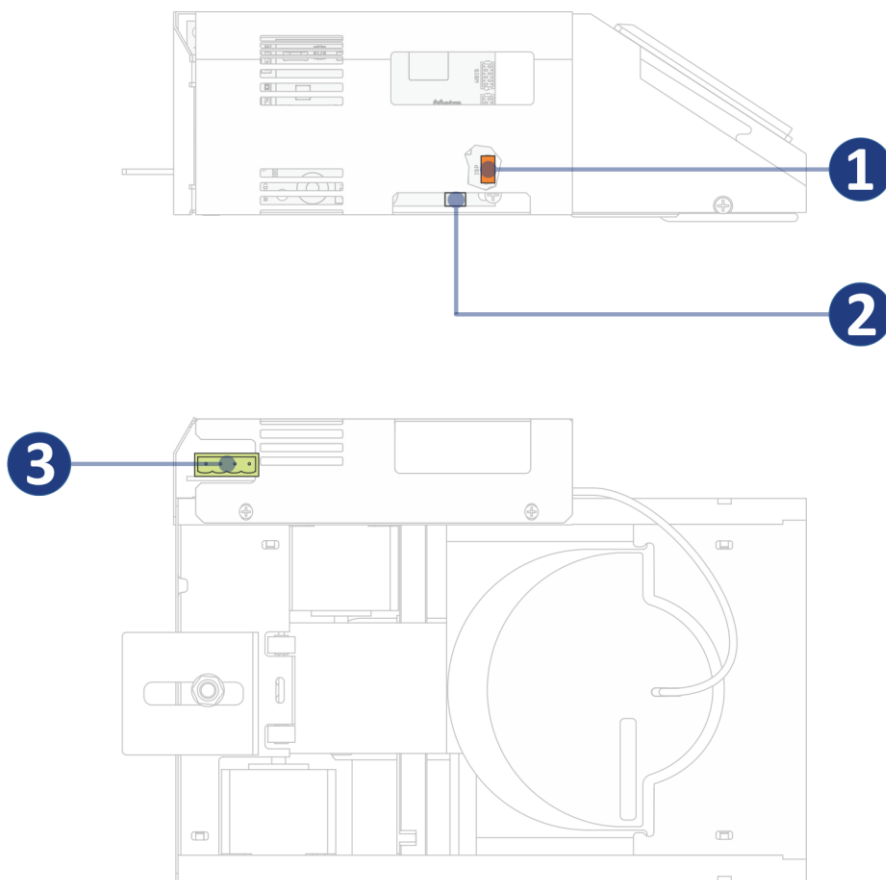
#	description
1	ISP Loader
2	COM (Terminal)

#	description
3	Power and Metra EasyWire

*NOTE: Metra EasyWire connection must be connected for the Wristband Collector to communicate with the Control Device; not needed for TEST mode of operation. See next chapter for details.

# • Control Device connection

☝ WARNING ☝
- Mind the power and Metra EasyWire polarity! Wrong polarity could result in irreparable damage to the device.
- Respect power requirements data! Using unsuitable power supply could result in damage to the power supply and to the device.

Regulated DC power supply is required for proper operation. See chapter *"Technical Data"* for power requirements.

Connect regulated power supply and Metra EasyWire cable to designated terminals as shown on the picture. For control device connector pin out details see next chapter.

• Control Device connector pin out details
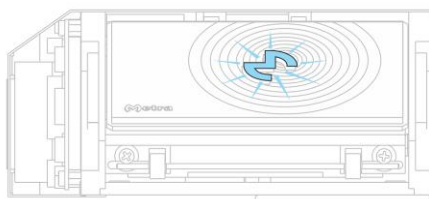
MEW
MEW
GND
+ 24 V DC
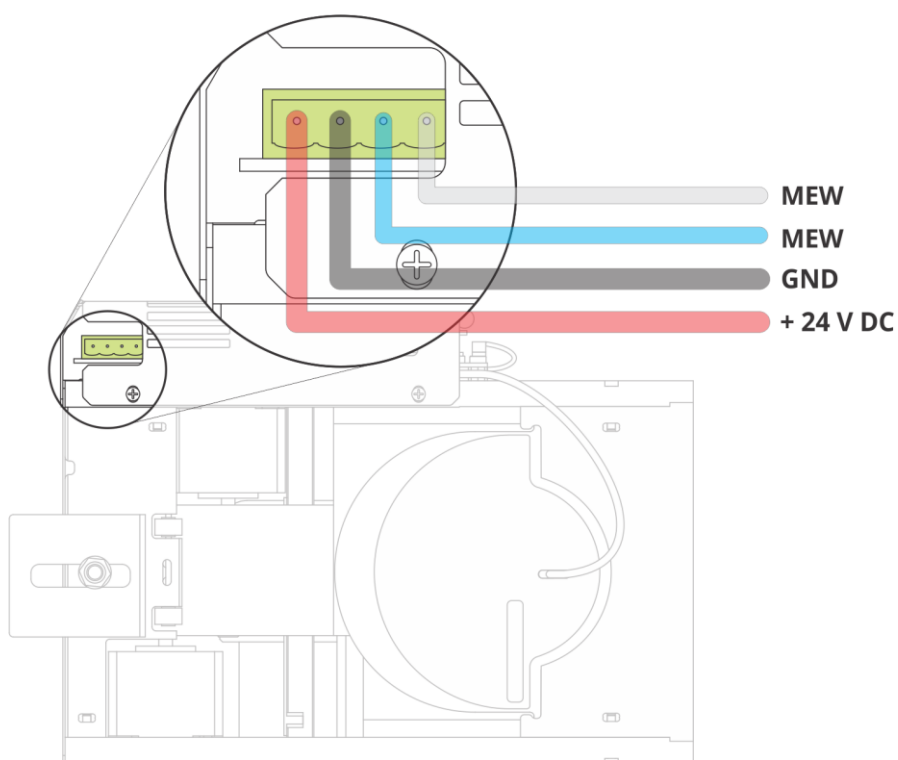
• Terminal connection

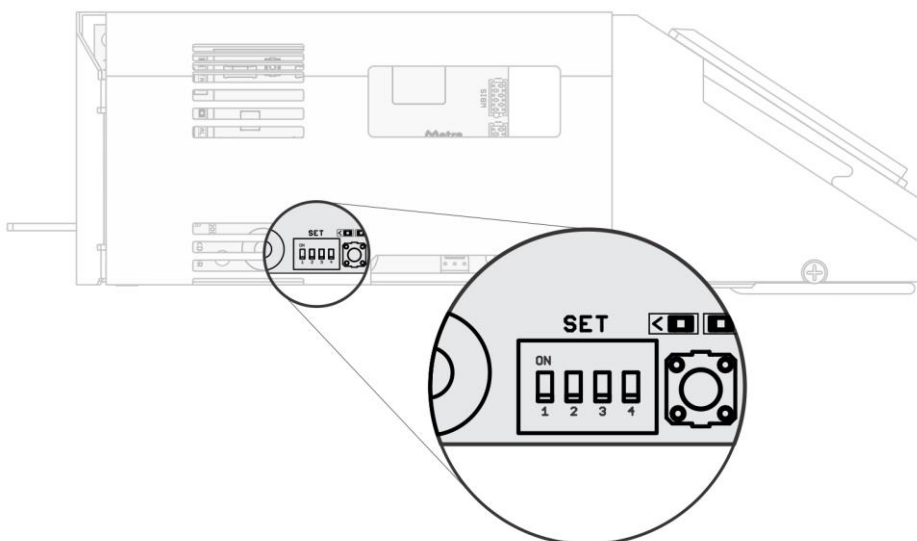Terminal connection is intended for TEST mode of operation.

Connect the RS-232 serial cable as shown on the picture. For further information see chapter *"TEST Mode"*.

• Operating indicator

When the unit is running, Metra logo on the front panel is blinking.

• DIP switch settings

By changing the DIP Switch pins position, different operating modes and parameters can be set. To change between different operating modes, use a small flat screwdriver or similar object to push DIP switch pins to desired position.

• Application Code

Look up the code for desired application in the coding table below. Set switches **#3** and **#4** to indicated positions, where:
- 0 indicates the corresponding switch is in OFF position (switch down)
- 1 indicates the corresponding switch is in ON position (switch up)

switch positions		application code
3	**4**	
0	0	Reserved
0	1	Reserved
1	**0**	**009 ISO**
1	1	Reserved

☝ NOTE ☝
Always select only the application that is supported by the connected reader!

☝ NOTE ☝
The new application code will take effect after the next device power-up!

• Operating Mode

Set switch **#6** to desired position, where:
- OFF position (switch down) activates **NORMAL** mode
- ON position (switch up) activates **TEST** mode

☝ NOTE ☝
The device should always operate in **NORMAL** mode.

• Capture Mode

Set switch **#3** to desired position, where:
- OFF position (switch down) activates CLOSED mode
- ON position (switch up) activates OPEN mode

In the **CLOSED** mode the device cover is open only when proper wristband is presented, otherwise the cover is closed.

In the **OPEN** mode the cover is always open and the wristband to be captured can be introduced directly on to the capture pan.

• TEST Mode

• Test kit

Kit is used for TEST mode of operation.

Kit includes:
- Power Supply Unit
- RS-232 serial cable

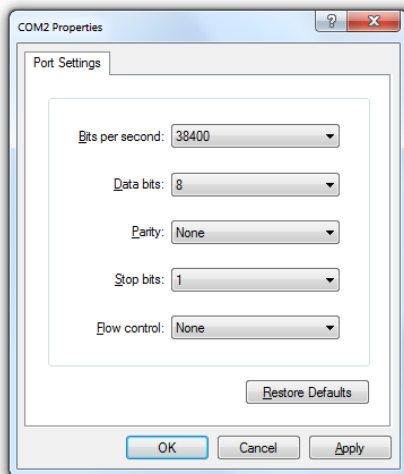## • Testing procedure

☝ NOTE ☝
The TEST Mode is intended for factory testing and maintenance purposes only!

STEP 1:

With the power switched off connect the RS-232 serial cable as indicated in *"Terminal connection"* chapter.

STEP 2:

Run ASCII terminal program on your computer (Figures indicate the Hyper Terminal application for MS Windows®). Set communication parameters:
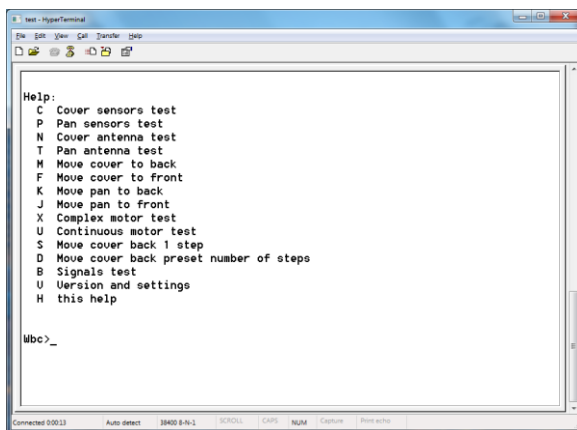

STEP 3:

Set the DIP switch #6 to ON (switch up) to activate the TEST mode of operation.

STEP 4:

Switch the power on. Upon the device start-up, a list of all available commands is listed in the terminal window:

STEP 5:

Run the selected command by pressing the appropriate key. Any number of commands can be executed one after another. For the commands list, press <H>.

STEP 6:

When finished, set the DIP switch #6 to OFF (switch down) to return to the NORMAL mode of operation.

• Commands description

Cover / Pan sensors test:
Each time one of the hall sensors changes state, the WBC will beep shortly. The corresponding LED (the green 'operate' LED for the back sensor and the red 'error' LED for the front sensor) indicates the state of the sensor. Press any key to finish the test.

Cover / Pan antenna test:
Approach the RFID tag to the antenna to be tested. Close the cover when testing the cover antenna and open the cover when testing the pan antenna. Each time the tag comes in or out of the antenna field, the WBC will beep shortly. All LEDs will be turned ON while the tag is in the antenna field. Press any key to finish the test.

Move cover / pan to front / back:
The command will drive the appropriate motor to execute the selected move. The motor will be turned OFF when the corresponding sensor is activated or after the timeout occurs.

Complex motor test:
The command will execute the following moves: the cover to back, the pan to back, the pan to front, the cover to front. For the command to be effective, both the cover and the pan should be in the front position before executing.

Signals test:
The command will consecutively turn ON the green LED, the red LED and the pan illumination, beeping shortly after each operation. After a short delay all the signals will be turned OFF.
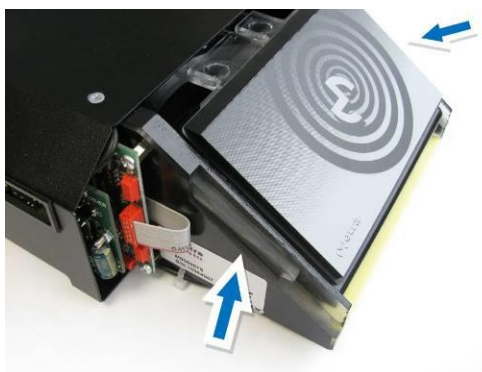
Version and settings:
The command will return the current firmware version and text description of the DIP switch settings.
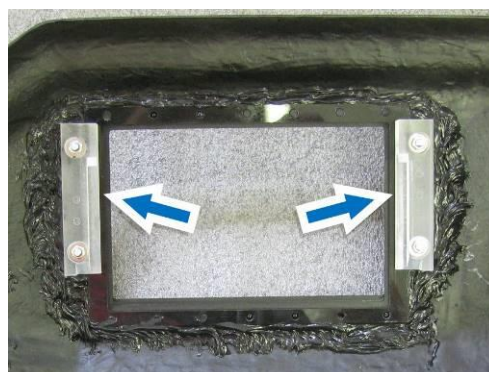
Help:
All the available commands for the current operating mode will be listed.

• Mounting instructions

**Mounting slides positions
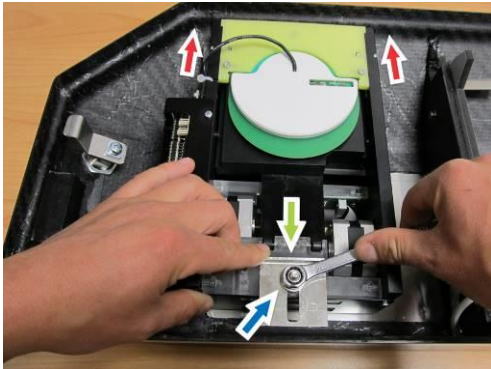on the Wristband Capturer**

**Mounting guides positions
on the mounting surface**

STEP 1: Position the capturer

Put the Wristband Capturer onto the provided mounting surface so that the mounting slides of the Wristband Capturer mate with the mounting guides of the mounting surface.
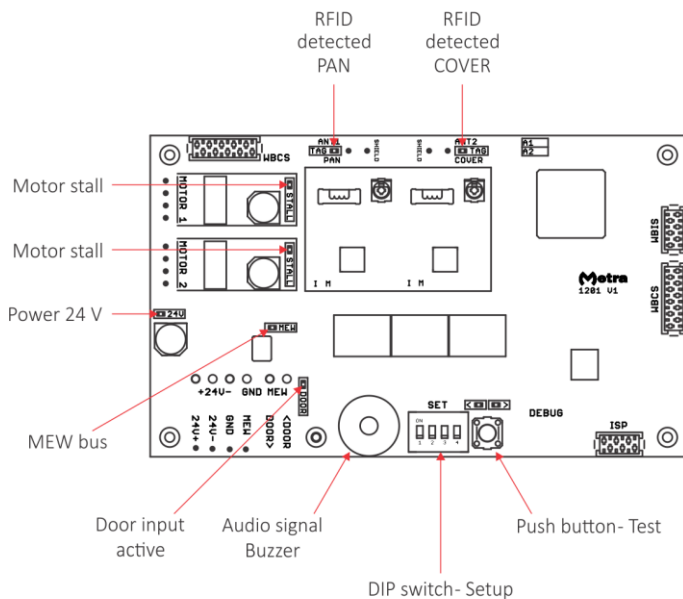

STEP 2: Secure the position

Push the Wristband Capturer housing towards the mounting surface (red arrows), then push the metal carrier plate against the cover back wall (green arrow) to secure the position and then tighten the nut (blue arrow).
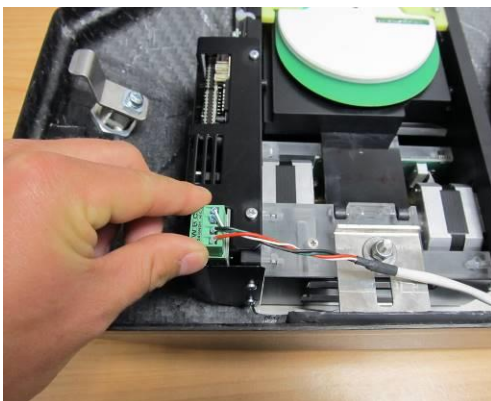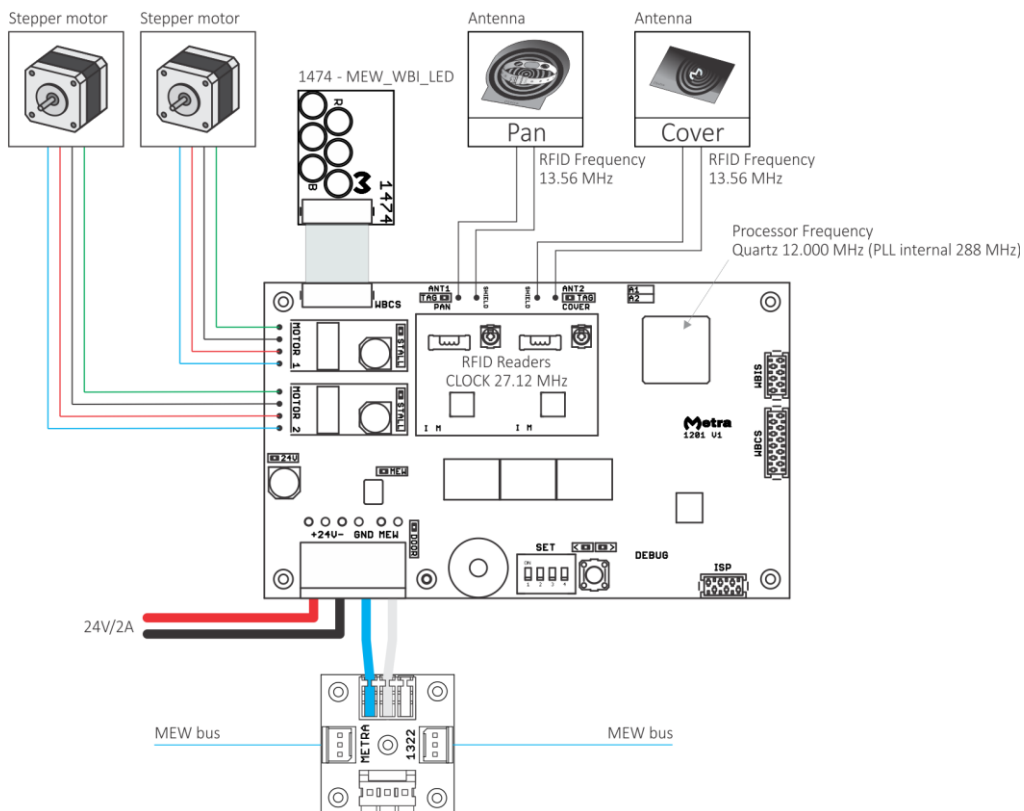

STEP 3: Connect the Power/Local CAN

Check that no cables are in the way of the wristband collecting pan or the flip antenna.
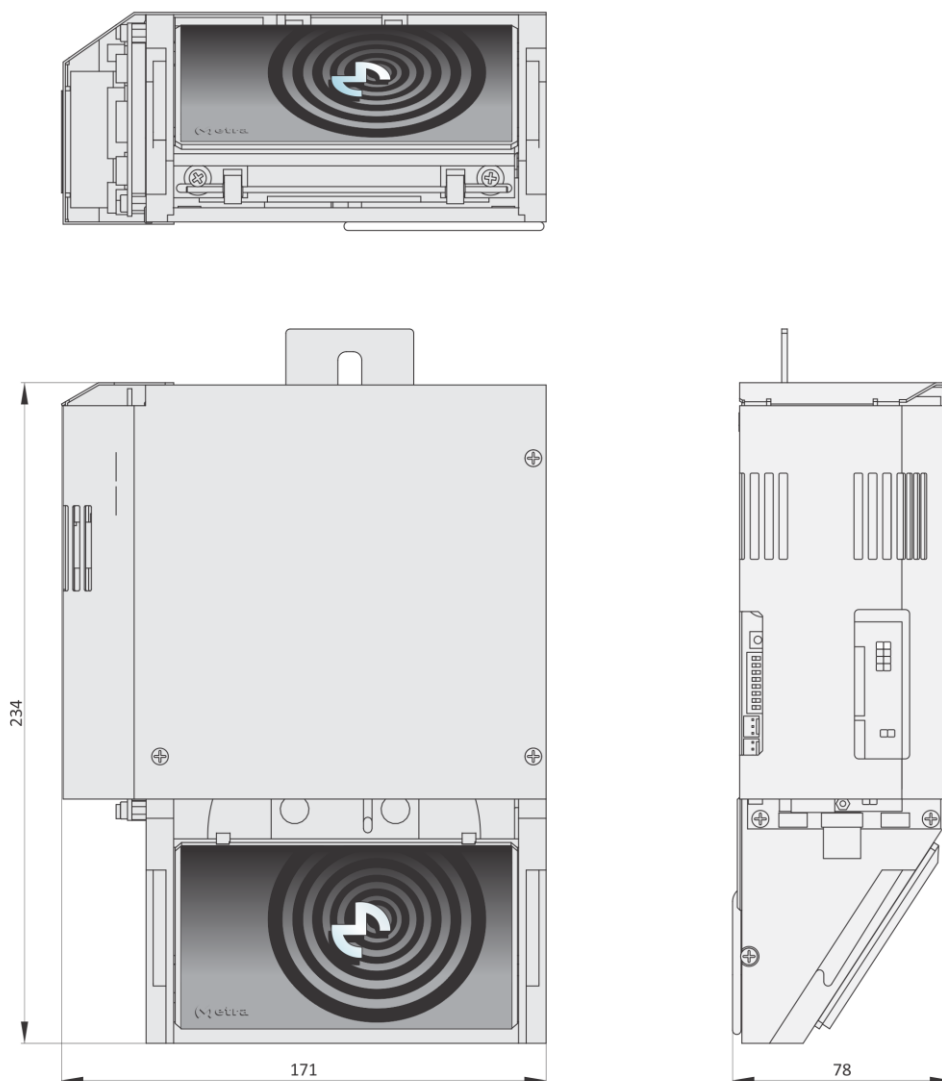
• PCB LED Indications and Inputs

RFID detected PAN

RFID detected COVER

Motor stall

Motor stall

Power 24 V

MEW bus

Door input active

Audio signal Buzzer

DIP switch - Setup

Push button - Test

• Blok Scheme

Stepper motor

Stepper motor

1474 - MEW_WBI_LED

Antenna

Pan

Antenna

Cover

RFID Frequency 13.56 MHz

RFID Frequency 13.56 MHz

Processor Frequency Quartz 12.000 MHz (PLL internal 288 MHz)

RFID Readers CLOCK 27.12 MHz

24V/2A

MEW bus

MEW bus

• Technical data

Operating voltage	24V DC regulated
Current consumption	0.5A average / 1.4 A max.
Operating temperature range	-10 °C to +50 °C
Visual signalization	Blue, red and green LEDs.
Built-in RFID readers	Two RFID Readers that read ISO 15693, ISO 1443A, ISO 14443B compatible RFID media.
RFID Antennas	Two passive antennas tuned to 13.56 MHz.
Connections	1x MEW, 1x Power
Dimensions	234 x 171 x 78 mm