

MACE MM (QR)

quick reference guide

2017-11-10 | v1.3 | 5285887



1 INSTALLATION

SAFETY INSTRUCTIONS

The following safety precautions should be observed during normal use, service and repair:

- The MACE may only be installed and serviced by qualified service personnel.
- Disconnect the power supply before (dis)connecting any wires, MACE is NOT hot-swappable, so when making or changing connections, power must be switched off.
- The cable shield shall be connected with safety ground and the metal case of the external device(s).
- To be sure of safety, do not modify or add anything to the MACE other than mentioned in this installation guide or indicated by NEDAP N.V.

MOUNTING INSTRUCTIONS

The MACE can be mounted to any surface, including directly to metal. See the picture below for details about the dimensions.

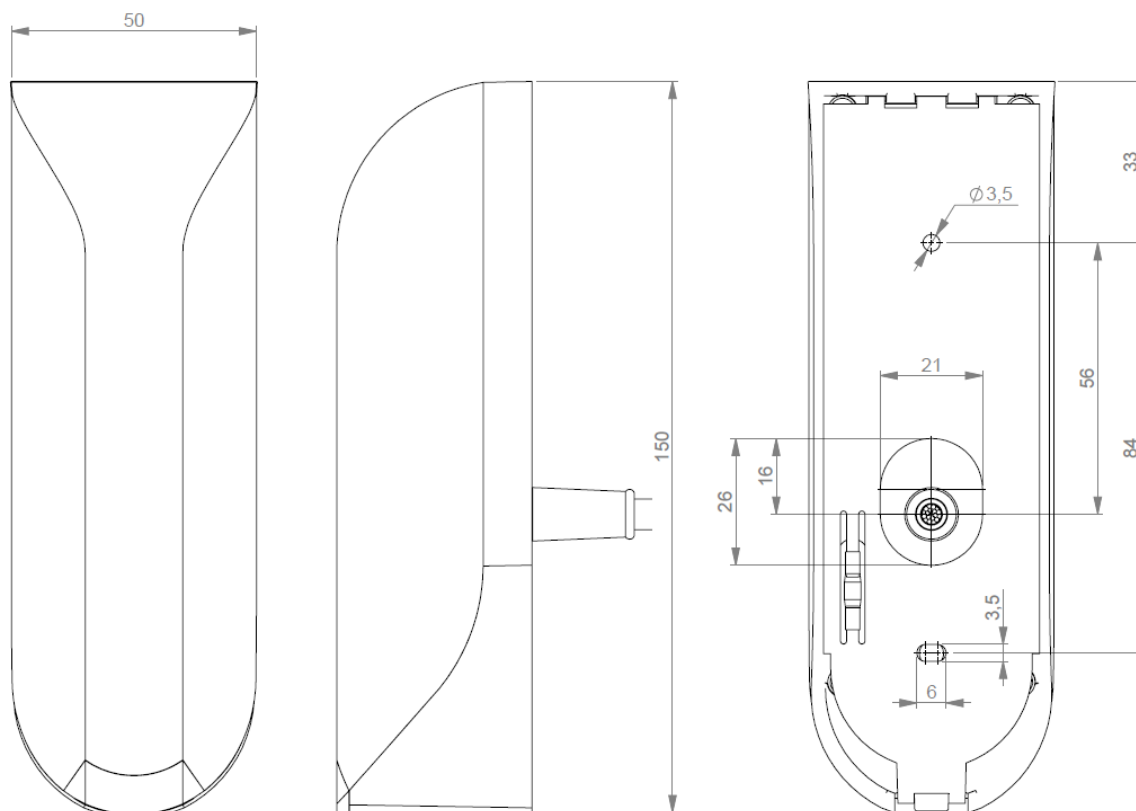


Figure 1: MACE dimensions (mm)

Mount the base-plate on the required location:

- 1 Ensure that it is placed correctly covering the cable entry hole.
- 2 Properly fix the base-plate into its position using the 2 screws. When mounting on a stone or concrete wall drill 5mm holes for the plugs. When mounting on wood, drill with 2.5mm.

Install the MACE reader onto the base-plate:

- 3 Feed the cable through the cable entry hole. Important note: minimum bending radius 30mm.
- 4 Attach the top of the MACE onto the base-plate.
- 5 Fix the assembly using the screw on the bottom.

2 CONNECTIONS

The MACE is supplied with a 5 meter (15 feet) shielded cable pigtail with 12 colored wires.

RED	Power supply 12 - 24VDC
BLACK	Power supply 0VDC, DC-Ground
BROWN	RS485 A (-)
GREEN	RS485 B (+)
GRAY	Data-0 / Clock
PINK	Data-1 / Data
YELLOW	Tamper switch (normally closed)
GRY/PNK	Tamper switch (common)
RED/BLU	Led_UL_IN (active-low)
WHITE	Led_NA_IN (active-low)
PURPLE	Nedap antenna interface. Connect to ANT
BLUE	Beeper_IN (active-low)
SHIELD	Shield

Notes

Cable shield shall be connected to the metal case of the external device(s). Cable extensions shall only be made by means of shielded cable(s).

The cable shield shall be connected to the metal case of the external device.

Extending the wire connections beyond the 5 meter pig tail length shall ONLY be allowed using shielded cable. The minimum voltage at the end of the fixed shielded pigtail cable shall be greater than 12VDC -10%.

3 USB

The MACE reader features an USB interface for service, installation and firmware upgrade purposes. The Mini-USB connector is located on the bottom of the device and can only be reached when the bottom screw is opened and the MACE is lifted away from the base-plate. This ensures that unauthorized modifications to the reader settings can be detected using the tamper switch.

USB Driver installation

Make sure your computer is connected to the internet. The driver should install automatically via Windows update when the MACE reader is connected to your PC via the USB cable. Follow the driver installation wizard. If you do not see the Windows update pop-up, you can manually install the driver. To manually install, you need to go to FTDI's website at www.ftdichip.com/Drivers/VCP.htm and download the VCP (Virtual Com Port) drivers for your operating system. Drivers for MacOS and Linux are available as well.

4 CONFIGURATION

The MACE reader can be configured using the MaceConfigTool software. Download the software from our partner portal: <https://portal.nedapidentification.com>. The software can interface with the reader using the USB or RS485 interface.

A TECHNICAL SPECIFICATIONS

Technical information	Mace reader MM (QR)
Operating frequency	Bluetooth Low Energy 2.402 – 2.480 GHz NFC & smartcards: 13.56 MHz Proximity cards: 120 kHz
Dimensions	150 x 50 x 40 mm [5.9 x 2 x 1.6 inch]
Weight	0.5 kg [1.1 lbs]
Housing	Aluminum (Zamak5) chassis with polycarbonate cover
Color	RAL9006 cover and RAL7016 chassis
Protection	IP65 [approx.NEMA4x]
Detection range	Bluetooth Low Energy: configurable up to 0,25cm (proximity), 2m (short), 5m (medium) or 15m (long). NFC, smartcards and proximity cards: up to 5cm.
Operating temperature	-30...+60°C [-22...+140°F]
Power	12 ... 24 VDC (from power-limited UL294 or UL603 Listed power source)
Current consumption	0.4A@12VDC, 0.2A@24VDC
Input	2 TTL digital inputs for LED control (RED/GREEN) 1 TTL digital input for beeper control
Tamper indication	Yes, magnetic tamper switch
Cable	Fixed cable length of 5 meters [16.4 ft.] included (pigtail)
Cable length	Wiegand 150 m [500 ft.] 22AWG RS485 1200 m [3950 ft.] when installed properly
Interfaces	RS485 and USB service interface, additional interfacing options exist. Please consult your representative.
Output	Wiegand, Magstripe (clock & data)
EMC	European Directive for EMC 89/336/EEC,EN301489-1
Safety	EN 60950
UL	UL294 6 th ed. Note: QR-code reader has a temperature restriction of max. 49 degrees Celcius ACCESS CONTROL LEVELS: Destructive attack Level I; Endurance Level IV; Line Security Level I; Power Standby Level I "Wiring methods shall be in accordance with the National Electrical Code, ANSI/NFPA70"

B DISCLAIMER

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C DOCUMENT REVISION

Version	Date	Comment
1.3	2017-11-10	Corrected current consumption
1.2	2017-11-6	Corrected small typo errors
1.1	2016-11-24	Updated for UL certification
1.0	2016-07-12	First preliminary release