

TECHNICAL DESCRIPTION

MX3645



MX IP65 EMERGENCY AND EXIT LIGHT

DOCUMENT INFORMATION

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1. INTRODUCTION

This document describes addressable Emex Emergency light and Exit signs (MXIP65 Exit / Emergency light).

Table 1, Products covered in this document.

Product number	Model name	PCB number	PCB revision	SW revision
830010	MX IP65 Exit/Emergency light	210820	0	V1.1

2. ABBREVIATIONS

LED	Light emitting diode

3. GENERAL DESCRIPTION

MX IP65 Exit/Emergency light units are fully compatible with Panasonic addressable fire alarm system, while fulfilling all the emergency light standards, EN 60598-2-22, EN 1838, EN 62034, EN ISO 7010.

MX units are IP65 rated and luminaire is designed specifically to withstand harsh conditions such as parking halls and outdoor use. Function of exit sign is that exit signs are maintained, operates all the time, both when mains fails and when it is present. Emergency lights are non-maintained, operates only, when the mains power fails.

3.1 INDICATOR LIGHT

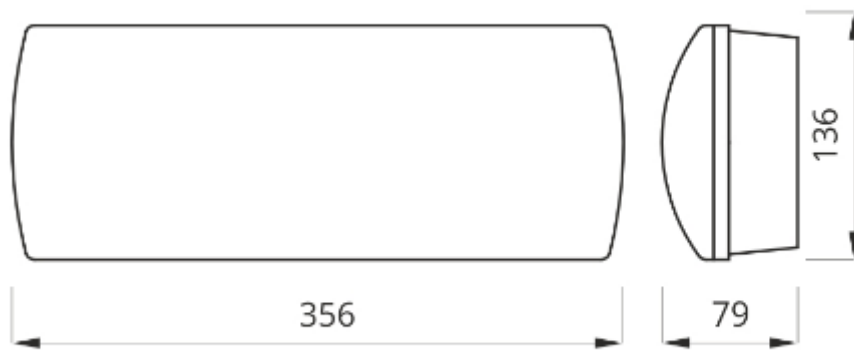
The state of the MX unit is indicated with indicator light as described in table 2.

Table 2, State of the unit indicated by the indicator light

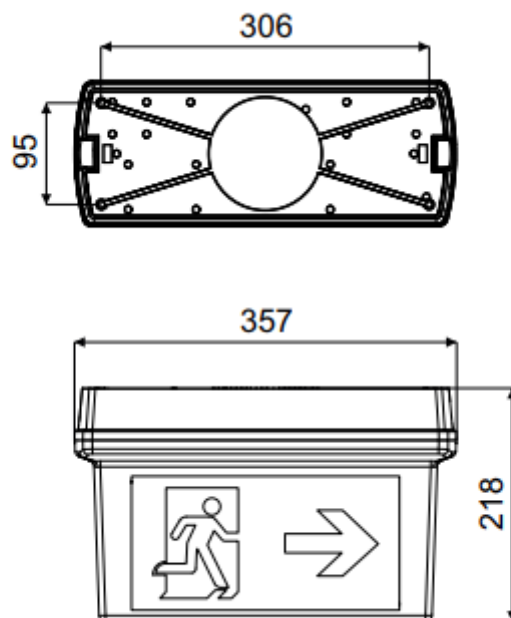
Indicator light	State of the unit
Solid green	Operating normally
Blinking green	Performing commissioning test
Solid red	Faulty LED luminaire
Blinking red	Faulty battery or failed duration test

3.2 DIMENSIONS OF MX UNITS

DIMENSIONS (mm):



Picture 1, Dimensions of MX IP65 Exit/Emergency light



Picture 2, Dimensions of MX unit with double cover

4. SET THE COM LOOP ADDRESS

Each COM loop unit must have a unique COM loop address in range 1-253. Set the address to each MX unit with the Address Setting Tool (4414). Use the connection cable with crocodile clips or directly connect the tool's terminal SA and SB terminals to the SA and SB terminals of MX unit.

4.1 SET THE MODE

Set the mode with the Address Setting Tool (4414) according to the table 3 below.

Table 3, Compatibility table for setting the mode to MX units

System model	Advanced mode	NORMAL mode	2330 mode	2312 mode
EBL512 G3	Not used	Yes	Not used	Not used

5. INSTALLATION

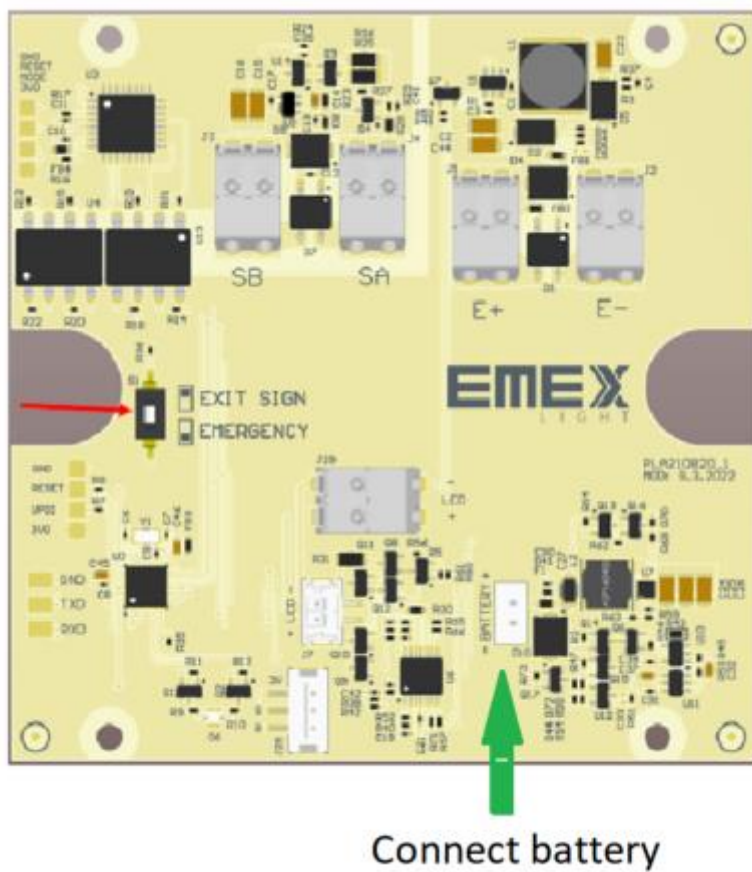
5.1 EXIT SIGN MODE

Picture 3, red arrow shows dip switch for exit sign mode.

5.2 EMERGENCY LIGHT MODE (factory setting)

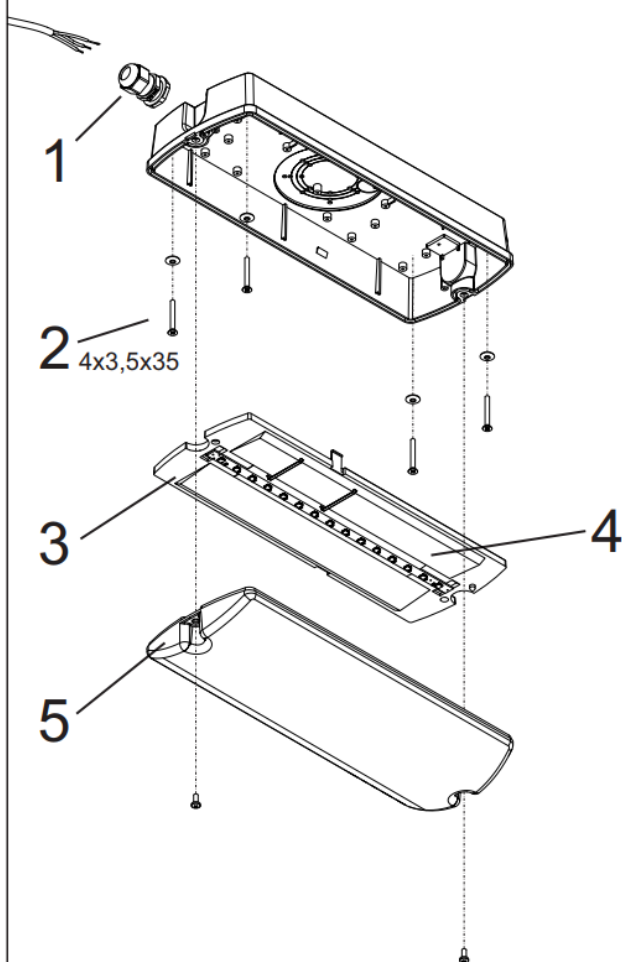
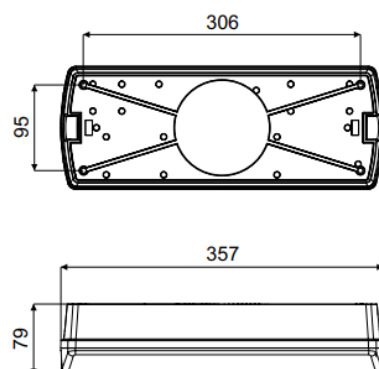
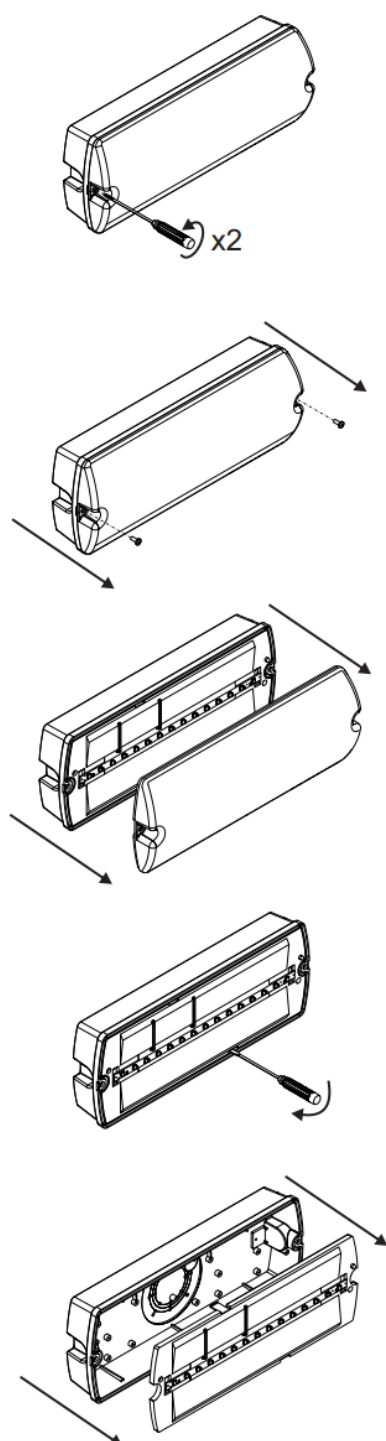
Picture 3, red arrow shows dip switch for emergency light mode.

5.3 CONNECT BATTERY, green arrow, picture 3.

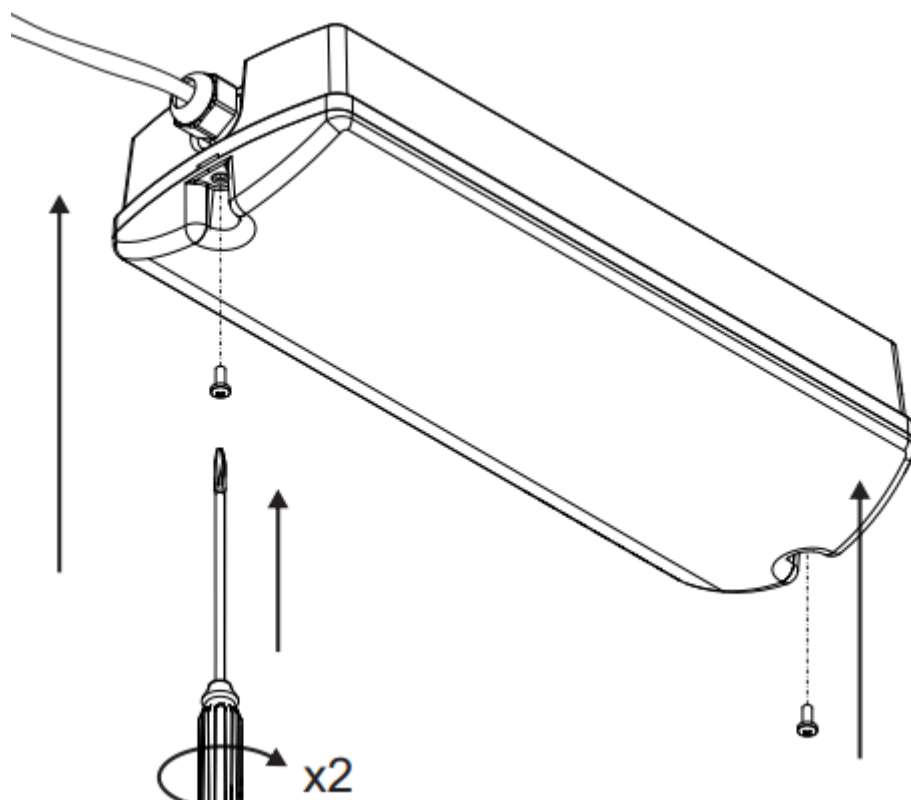


Picture 3, red arrow showing dip switch to choose exit sign or emergency light mode, green arrow show connecting battery.

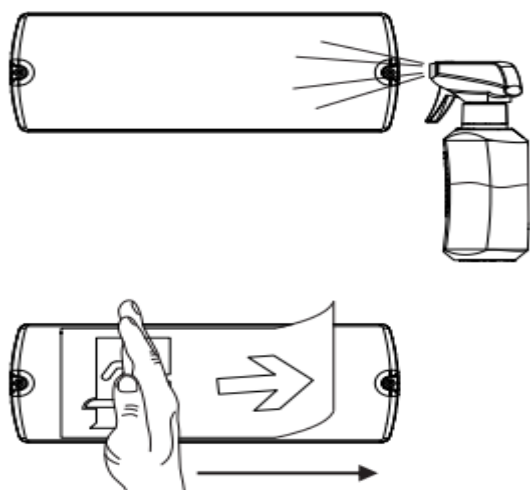
5.4 MOUNTING



5.5 MOUNTING OPAL COVER

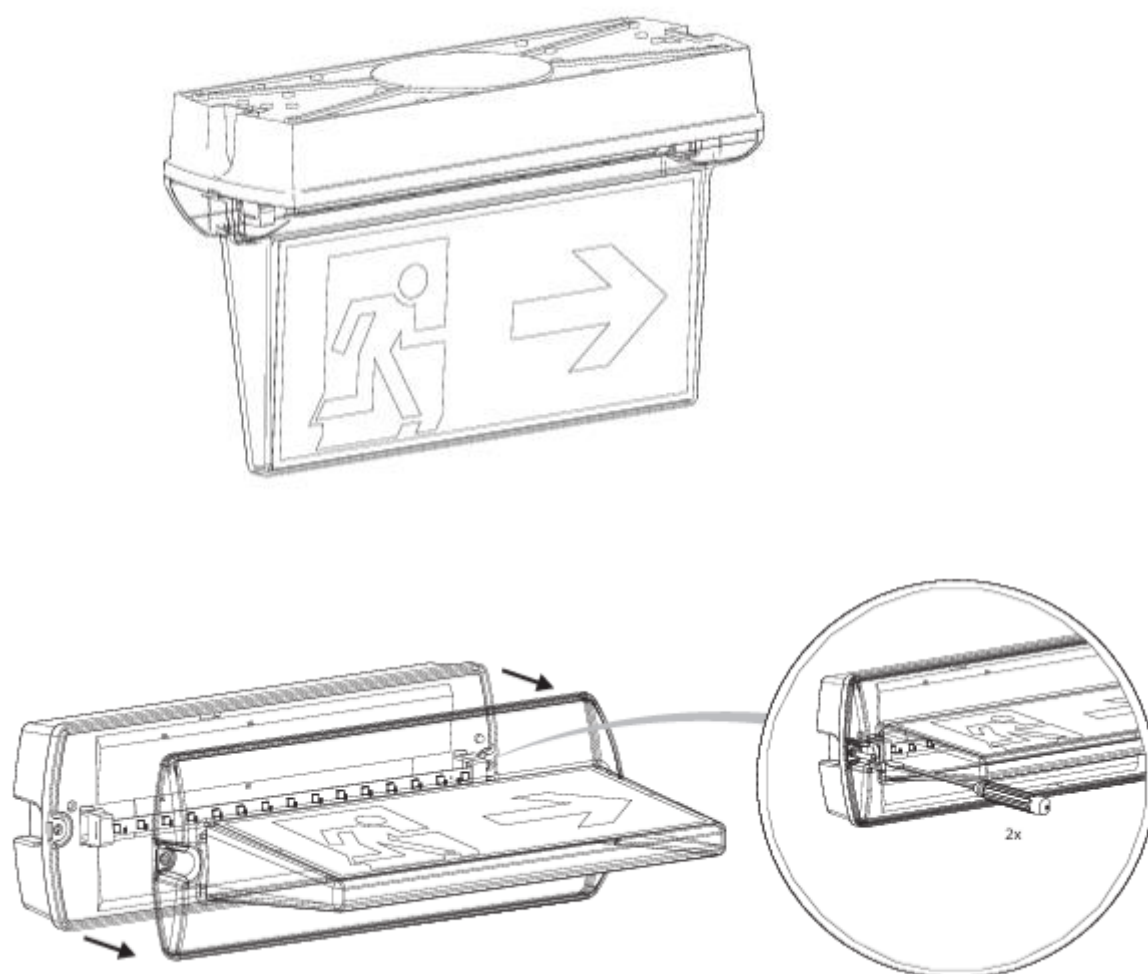


5.6 MOUNTING PICTOGRAM



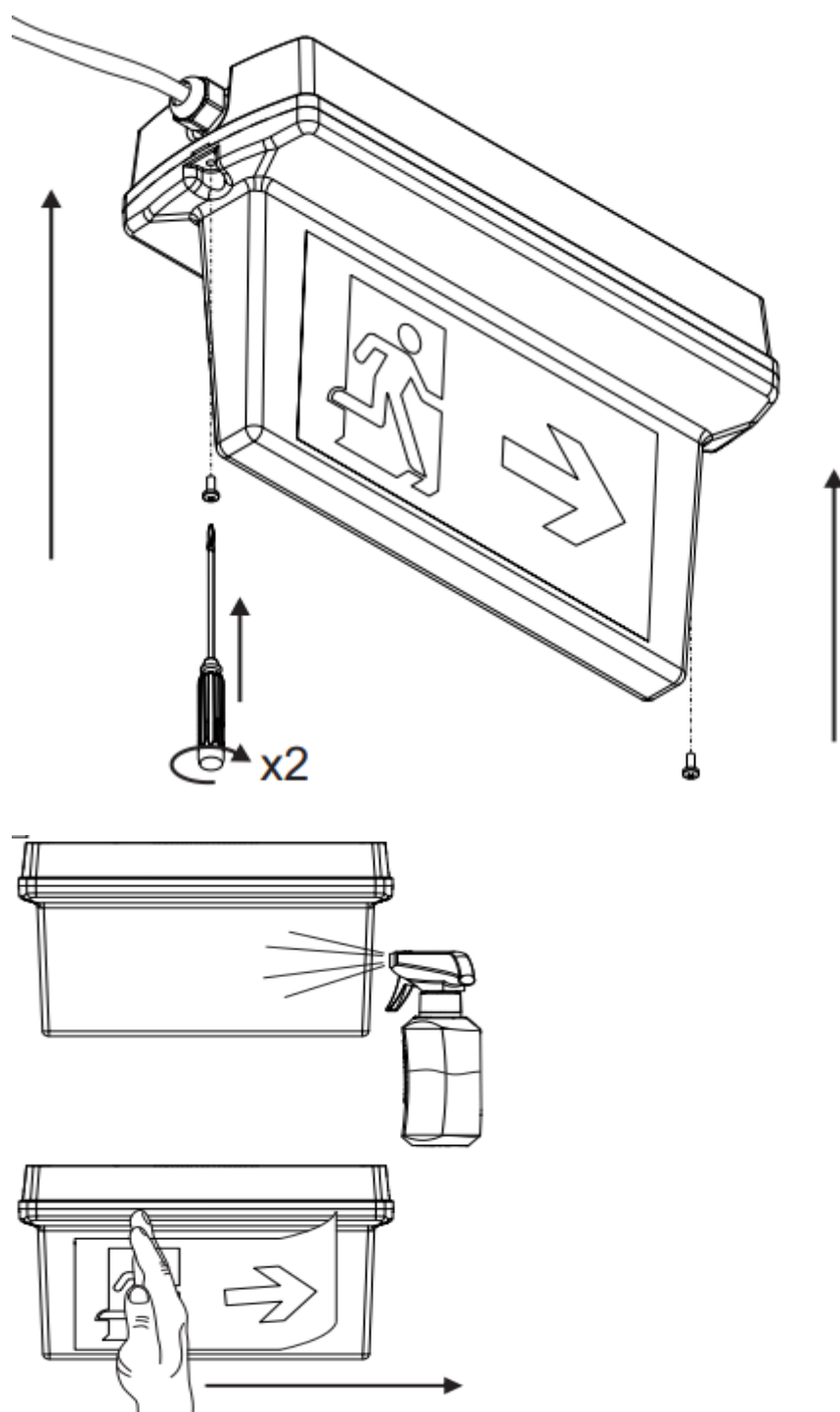
Picture 4 + 5, mounting of cover + pictogram

5.7 MOUNTING OF DOUBLE SIDED COVER



Picture 6, Mounting of double sided cover (exit sign)

5.8 MOUNTING PICTOGRAM



Picture 7 and 8, Mounting of double sided cover (exit sign) + pictogram

6. WIRING

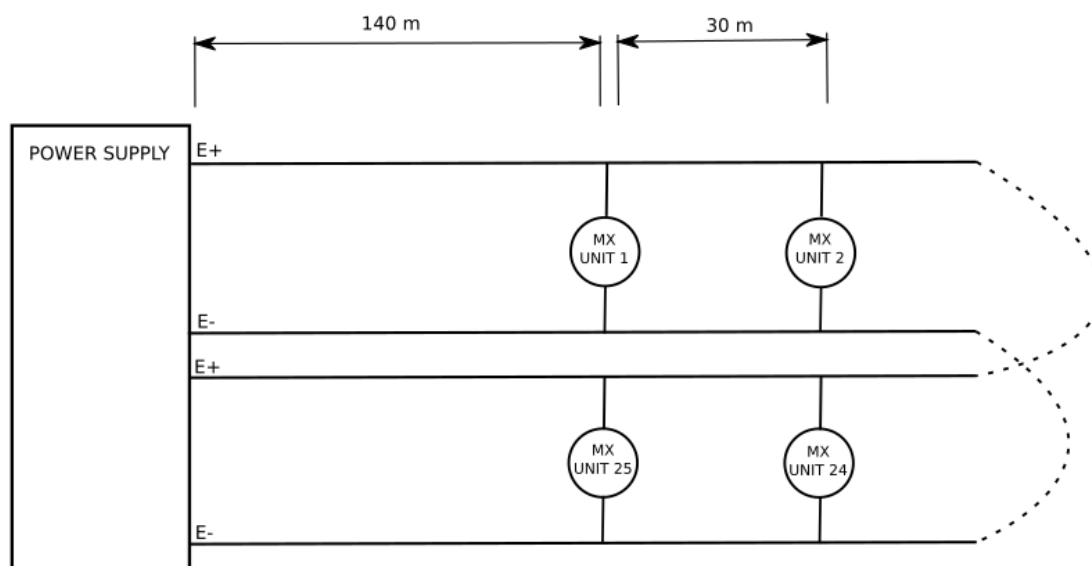
Table 4 shows tested examples of maximum loop cable length. Loops are terminated to power supply module from both ends as in picture 6.

Table 4, Example of tested maximum loop cable lengths

Copper wire diameter	Total power consumption of loop units	Minimum loop supply voltage	Cable length from system to loop units	Cable length between units	Total cable length
0.8 mm ¹⁾	23 W (23 pcs. MX IP65)	32 V	340 m ²⁾ (140m+200m)	30 m	1 km

1) Cable used: Berica Cavi S.P.A. J-HH BMK LSZH 2x2x0,80

2) Unit places 24 and 25 were left empty, hence outgoing loop length 140 m and returning loop length 200m.



Picture 9, Test loop

Table 5 shows calculated examples of maximum loop cable length. All calculated examples are rough estimations and real case maximum cable length can vary depending on cable length from system to units. In table 5 calculations it is assumed that distance from system to units is same as the distance between units.

Table 5, Example of calculated maximum loop cable lengths

Copper wire diameter	Total power consumption of loop units	Minimum loop supply voltage	Distance between units and system to first unit	Maximum loop cable length
0.8 mm ¹⁾	50 W (50 pcs. MX IP65)	31 V	5 m	250 m
1.0 mm ²⁾	50 W (50 pcs. MX IP65)	31 V	8 m	400 m
0.8 mm ¹⁾	40 W (40 pcs. MX IP65)	31 V	8 m	320 m
1.0 mm ²⁾	40 W (40 pcs. MX IP65)	31 V	11.5 m	460 m
0.8 mm ¹⁾	30 W (30 pcs. MX IP65)	31 V	16 m	480 m
1.0 mm ²⁾	30 W (30 pcs. MX IP65)	31 V	24 m	720 m

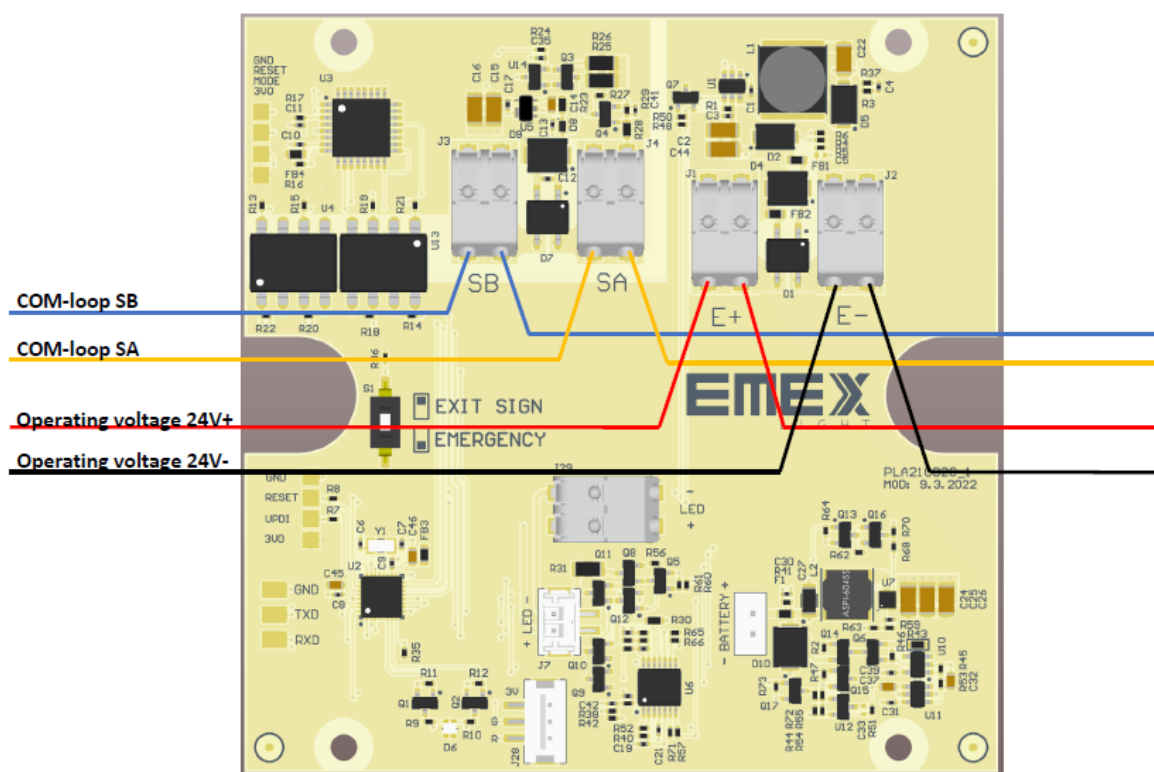
1) Wire resistance approx. 34.0 Ω /km

2) Wire resistance approx. 21.5 Ω /km

Recommended solid copper wire diameter for following Panasonic Analog bases is 0.6 – 1.2 mm. Recommended wire strip length is 10 – 12 mm.

6.1 CIRCUIT BOARD

Connect COM loop wires (in yellow and blue in picture 7) to SA and SB connectors according to picture 7. Connect operating voltage loop wires (in red and black in picture 7) to connectors E+ and E-.



Picture 10, Wiring

7. TECHNICAL DATA

Note that all current consumptions are valid by nominal voltage and at temperature of 25 °C

Table 6, Technical data

Voltage:	
Allowed	12-32 V DC
Nominal	24 V DC
Current:	
Quiescent	4 mA
Active:	
MX IP65	42 mA
Power consumption:	
MX IP65 Exit	1.0 W
MX IP65 Emergency	0.6 W
Operating time in emergency mode:	
MX IP65 Exit	3 h
MX IP65 Emergency	3 h
Address range	1-253
Address setting	With address setting tool
Internal battery	NiMH, 2.4V – 2400mAH
Material	PC (polycarbonate)
Ambient temperature:	
Operating	-20 to +45 °C
Storage	0 to +45 °C
Ambient humidity	Maximum 95 % RH (no condensation)
Ingress protection rating	IP65
Dimensions (LxWxH):	
MX IP65 Exit/Emergency	79x136x356 mm
Weight:	
MX IP65 Exit/Emergency	930 g
Colour	White

8. APPROVALS

Applicable directive / Approval	Applicable standards	Notified body
EMC	EN61000-6-3	Self-declaration