

TECHNICAL DESCRIPTION

MX76937



EMEX MX POWER BOX

DOCUMENT INFORMATION

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Table of Contents

DOCUMENT INFORMATION	1
1. INTRODUCTION	3
2. ABBREVIATIONS.....	3
3. GENERAL DESCRIPTION	4
3.1 FUSES	4
3.2 OUTPUT VOLTAGE	5
4. INSTALLATION	6
5. WIRING	7
5.1 WIRING TO PANASONIC SYSTEM.....	8
5.2 WIRING AS LOOP EXTENSION	10
6. TECHNICAL DATA.....	11
7. APPROVALS.....	12

1. INTRODUCTION

This document describes Emex MX Power box module for Emex MX exit and emergency light units and Panasonic addressable fire alarm systems.

Table 1, Products covered in this document.

Product number	Model name	PCB number	PCB revision
810000	MX Power box	200928	5.0

2. ABBREVIATIONS

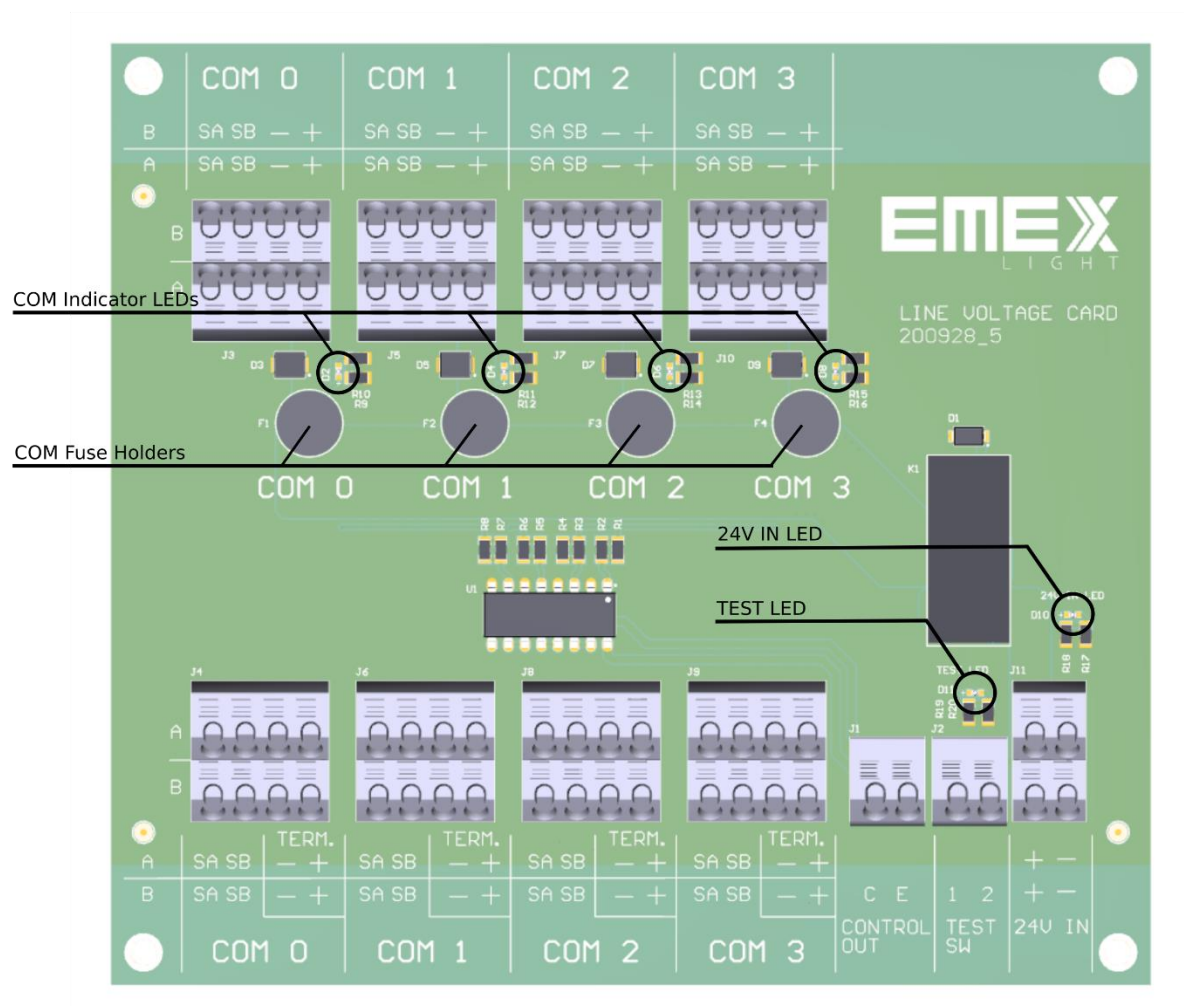
NO	normally open

3. GENERAL DESCRIPTION

Emex MX Power box is compatible with Panasonic addressable fire alarm systems. Power box converts mains power for up to four COM-loops. The Power box has input for COM-loop cut-off and output for COM-loop error.

3.1 FUSES

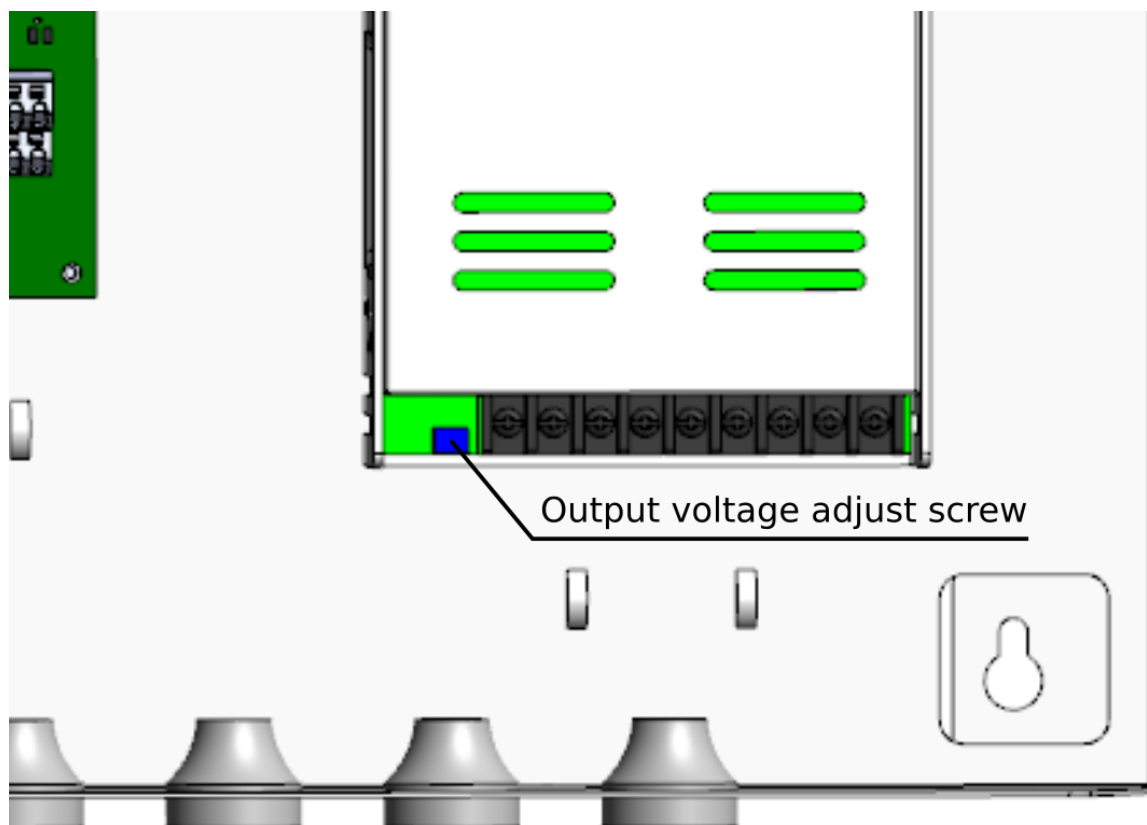
The module has separate fuse holders for each COM-loop. TR5 3.15A -fuses are supported. Each COM-loop has green led for indicating faulty fuse. 24V IN has led for indicating connected power and TEST SW has led for indicating activated test relay.



Picture 1, Fuse holder and indicator led locations

3.2 OUTPUT VOLTAGE

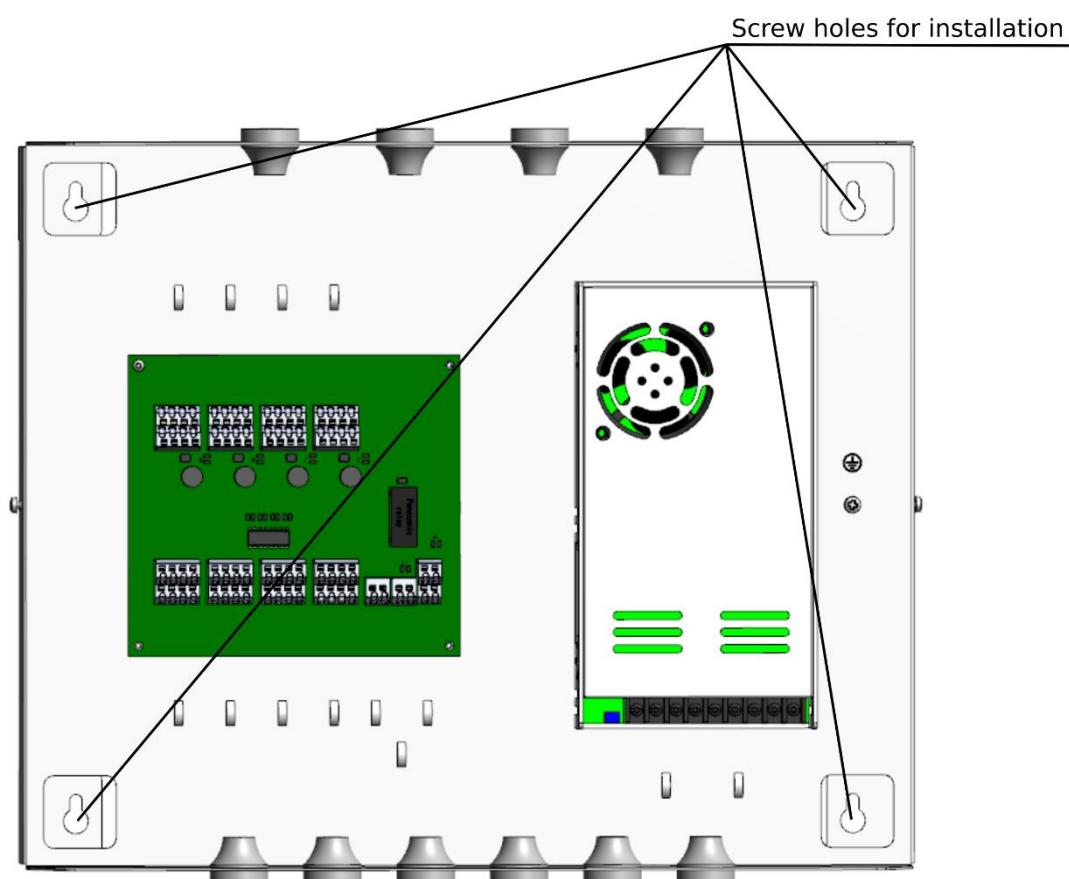
MX Power box output voltage can be adjusted using the screw show in picture 2. In longer COM-loops it is recommended to set the output voltage to maximum voltage of about 31.5V.



Picture 2, Output voltage adjustment screw location

4. INSTALLATION

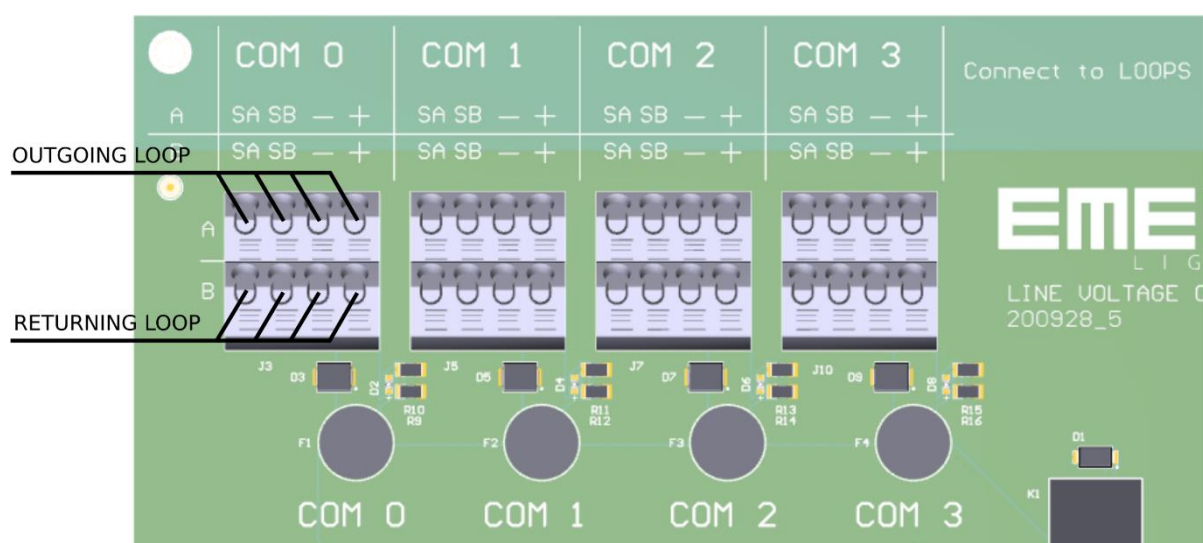
Emex MX Power box can be installed to wall using screw holes shown in picture 3.



Picture 3, Screw holes for installation

5. WIRING

The module has terminals for four COM-loops on upper part of board (marked as: “Connect to LOOPS”). Each terminal has inputs and outputs for COM-loop supply voltage (marked plus and minus) and communication line (marked SA and SB). Terminals lower row (A) is for outgoing loop and upper row (B) for returning loop.



Picture 4, COM-loops outgoing (A) and returning (B) terminals.

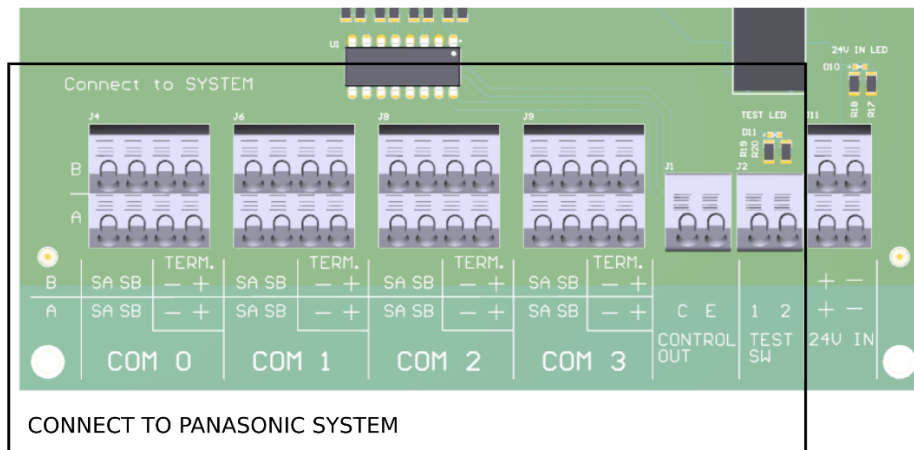
5.1 WIRING TO PANASONIC SYSTEM

Connect boards bottom terminals (marked as: “Connect to SYSTEM”, picture 5) to Panasonic system (excluding 24V IN and all marked as TERM. + or -) according to table 2. Connect Power box COM 0-3 A-row terminals to Panasonic system COM 0-3 A-terminals and Power box COM 0-3 B-row terminals to Panasonic system Com 0-3 B-terminals: connect Power box SA-port to Panasonic system L-port, and SB-port to system C-port. Leave terminals marked Term. + and – unconnected, those are used to terminate ending loop when MX Power box is used as loop extender.

CONTROL OUT is COM-loop error output: connect C- and E-ports to Panasonic system input. TEST-terminal is for COM-loop cut-off: connect TEST-ports to Panasonic system relay with NO contact.

Table 2, Connecting Panasonic system to Emex Power box.

Panasonic system terminals		Emex Power box terminals	
COM 0-3, A (outgoing)	L	SA	COM 0-3, A-row
	C	SB	
	not connected	Term. +	
	not connected	Term. -	
COM 0-3, B (returning)	L	SA	COM 0-3, B-row
	C	SB	
	not connected	Term. +	
	not connected	Term. -	
I (input)	<- input	E	CONTROL OUT
	24V+	C	
R (relay)	NO	1	TEST SW
	Common	2	



Picture 5, Connecting Power box module to Panasonic system.

5.2 WIRING AS LOOP EXTENSION

Emex Power box module can be used as a loop extender for operating voltage. Emex Power box offers terminals for communication line, which acts as passthrough.

Connect Power box to ending loop cables according to table 3. Connect Power box COM 0-3 A-row terminals to cables COM 0-3 A, and COM 0-3 B-row terminals to cables COM 0-3 B. Connect SA terminals to SA cables and SB terminals to SB cables. Connect E+ and E- ending loop cables to Emex Power box Term. + and – terminals terminating the previous operating voltage loop.

Each Emex Power box module CONTROL OUT and TEST SW signals need to be connected to Panasonic system according to table 3.

Table 3, Wiring Emex MX Power box when used as extender.

Ending loop cables		Emex Power box terminals	
COM 0-3, A	SA	SA	COM 0-3, A
	SB	SB	
	+ (E+)	Term. +	
	- (E-)	Term. -	
COM 0-3, B	SA	SA	COM 0-3, B
	SB	SB	
	+ (E+)	Term. +	
	- (E-)	Term. -	

Panasonic system terminals		Emex Power box terminals	
I (input)	<- input	E	CONTROL OUT
	24V+	C	
R (relay)	NO	1	TEST SW
	Common	2	

6. TECHNICAL DATA

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

Table 4, Technical data

Input voltage	88-264 V AC (Universal input 110/230VAC)
Max output current	11.9 A
Max output power	320 W
Output voltage range	26-31.5 V DC
Internal battery	No
Material	Steel
Ambient temperature:	
Operating	-30 to +60 °C
Storage	-40 to +85 °C
Ambient humidity	Maximum 95 % RH (no condensation)
Ingress protection rating	IP41
Dimensions (LxWxH):	83x434x350 mm
Weight	4,6kg
Colour	Light Grey

7. APPROVALS

Applicable directive / Approval	Applicable standards	Notified body