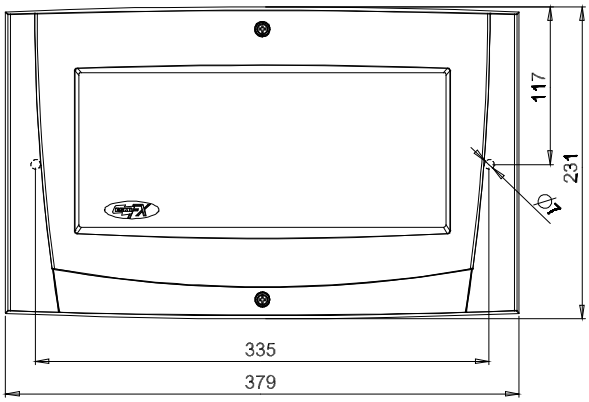
MCOX CONTROL UNIT

MCOX Control Unit

The MCOX logic unit controls functions in the FX 3NET fire detection system. The MCOX communicates with the FX panel via the INFO serial communication line. The logical functions of the MCOX are configured with the MCOX configuration tool. The MCOX unit can control addressable outputs, control panel outputs and OC100R and OC100L outputs.

Mechanical installation



Technical data

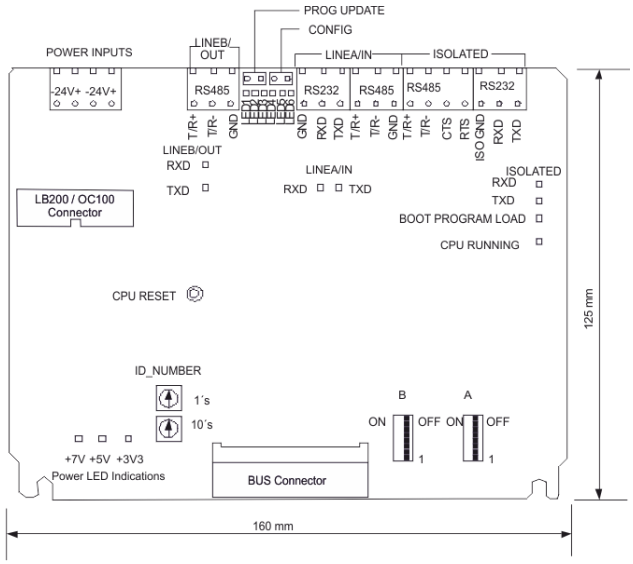
Dimensions (W x H x D)	379 x 231 x 54 mm
Weight	2,1 kg
Colour	Blue (NCS S 4020-R80B)
Operating Temperature	+5°C … +40°C
Humidity	max. RH 95%
Operating Voltage	19 ...30 VDC
Standby current	50 mA
Serial communication ports	In: RS485 or RS232 Out: RS485
IP Rating	IP30

Schneider Electric Fire & Security Oy reserves the right to modifications.

Product Codes

Product	Code	Description
MCOX	FFS00703834	Panel version, wall mounting
MCOX-OB	FFS00703835	PCB version, card slot mounting
OC-100L	FFS00703843	Open collector output for 100 LEDs
OC-100R	FFS00703844	Open collector output for 100 relays
COL-10	FFS00703846	10 LED cable
CCLO	FFS00703845	Connection cable for 10 LED outputs, 3m
RB20	FFS00703847	Relay board of 20 relays

Electrical connections



Note! Both 24V power inputs must be connected.

Settings and LED indications

A dip switch

A1	OFF	NA
	ON	NA
A2	OFF	NA
	ON	NA
A3	OFF	FX-panel connection
	ON	ESA/MESA panel connection (message set F or older)
A4	OFF	Not in use
	ON	
A5	OFF	Not in use
	ON	
A6	OFF	Not in use
	ON	
A7	OFF	Not in use
	ON	
A8	OFF	Normal sate
	ON	Acknowledge to erase configuration memory

B dip switch

B1	OFF	“EXT” isolated line faults monitored
	ON	“EXT” isolated line faults not monitored
B2	OFF	“EXT” isolated line not in use
	ON	“EXT” isolated line in use
B3	OFF	OUT “B” port not in use
	ON	OUT “B” port in use
B4	OFF	“EXT” isolated port baud rate. See table below.
	ON	“EXT” isolated port baud rate. See table below.
B5	OFF	“EXT” isolated port baud rate. See table below.
	ON	“EXT” isolated port baud rate. See table below.
B6	OFF	IN “A” port baud rate 1200
	ON	IN “A” port baud rate 9600
B7	OFF	OUT “B” port baud rate 1200
	ON	OUT “B” port baud rate 9600
B8	OFF	To be “OFF”! Only for service purposes.
	ON	

“EXT” isolated port baud rate

B4	B5	“EXT” port baud rate
OFF	OFF	1200
ON	OFF	2400
OFF	ON	4800
ON	ON	9600

LED indications in normal use

LED 1	Continuous	Fault in configuration file
	Blinking (1s)	Configuration state
	Blinking quickly (100 ms)	Waiting for the acknowledge of the erasure of the configuration memory
LED 2	Continuous	MCOX logical error
	Blinking (1s)	MCO logic ok
	Blinking slowly (4s)	MCO installed but not configured
LED 3	Continuous	Power supply input 1 or 2 fault
	Blinking	NA
LED 4	Continuous	IN “A” line fault
	Blinking	IN “A” HW fault
LED 5	Continuous	OUT “B” line fault
	Blinking	OUT “B” HW fault
LED 6	Continuous	“EXT” isolated line fault
	Blinking	“EXT” isolated HW fault

Note! In system fault all LED indications are continuous.

LED indications in start up condition (10 seconds)

LED 1	Continuous	Display HW installed
	OFF	**Display HW not installed**
LED 2	**Continuous**	**Isolated port installed**
	OFF	Isolated port not installed
LED 3	Continuous	NA
	OFF	NA
LED 4	Continuous	LED board connector installed
	OFF	LED board connector not installed
LED 5	Continuous	NA
	OFF	NA
LED 6	**Continuous**	**MCO HW installed**
	OFF	MCO HW not installed

Jumpers for service purposes

Jumper	ON	OFF
Prog update	Program update	Normal use
Config	Configuration state	Normal use

Configuration

The configuration is done with MCOX configuration tool via incoming RS232 serial port. During the configuration of the MCOX unit the communication line to the FX panel (RS485) must be disconnected. INFO protocol must be configured / enabled on the used port on fire panel (RS485 or RS232).

Configuration memory erasure

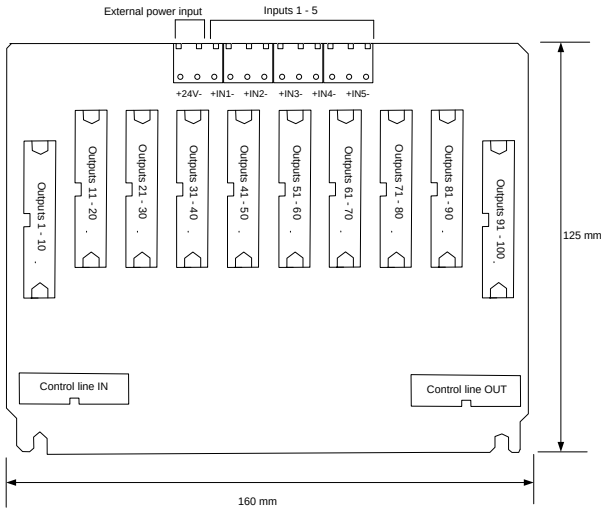
The configuration memory can be erased back to the factory defaults by the following:

- disconnect power from the unit (power inputs PI1 and PI2)
- set “config” jumper ON
- turn panel ID number switches to E and F (E = 10’s, F=1’s)
- connect power back
- follow the LED number 1:
  - when the LED is blinking quickly turn dip switch A8 ON
  - LED1 OFF: erasure in progress
  - LED ON continuous: erasure is ready
- disconnect power, set ID switches back to “0” and remove the “config” jumper
- connect power back
- unit is starting without configuration data

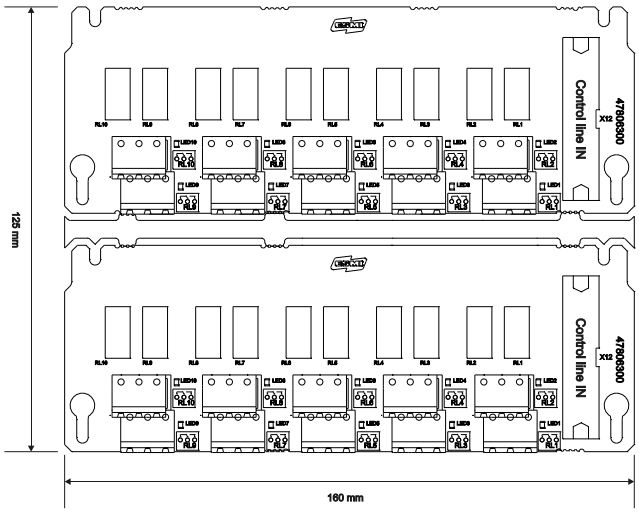
Software update

The unit is set to software update state by setting “prog update” jumper ON and restarting the panel (by pressing the CPU reset button). The software update is done with PC loader software via incoming RS232 serial port. During the software update of the MCOX unit communication line to the FX panel (RS485) must be disconnected.

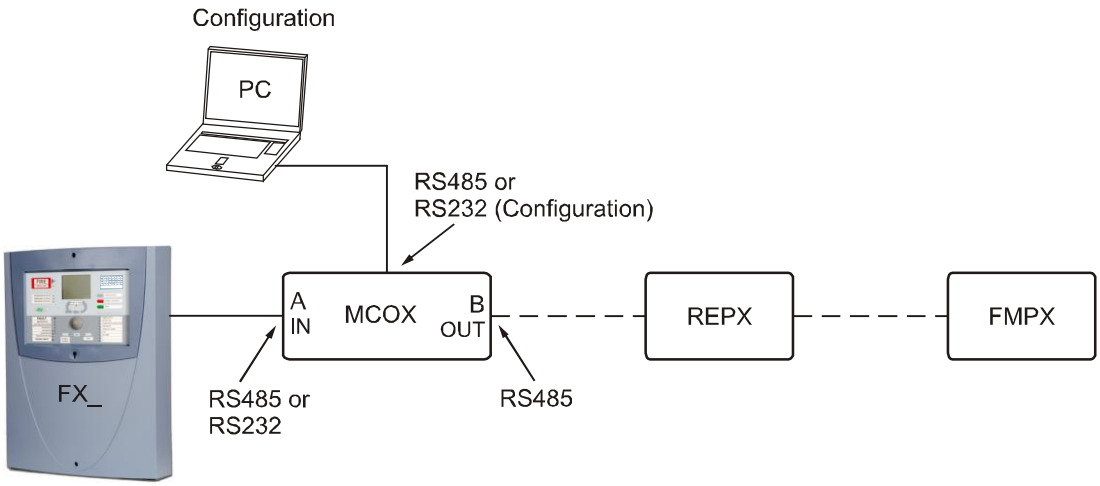
Electrical connections of OC-100L and OC-100R



Electrical connections of RB-20



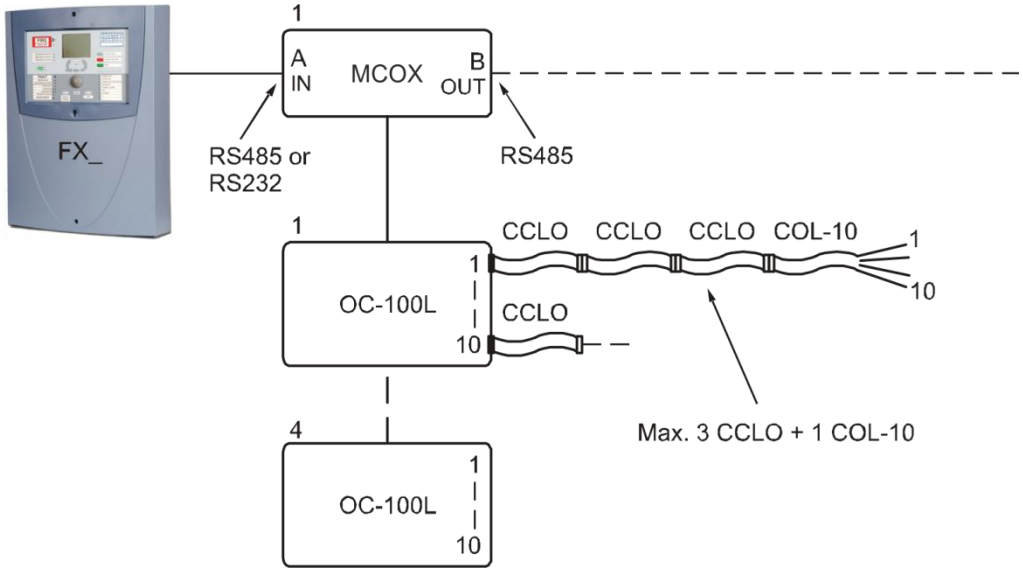
System principle



Note!	Only one MCOX unit can be connected to the FX 3NET fire detection system. The maximum number of MCOX, MCOX-OB, FMP2, DAP2, REPX, REPX-OB, ZLPX, ZLPX-IC units connected to one FX_ panel is 16. The RS232 setting is used for the configuration and software update. The RS232 and RS485 on IN port may not be connected at the same time. The INFO-line in the MCOX (MCOX-OB) unit must be disconnected during the MCOX (MCOX-OB) configuration.

Note!	The maximum RS485 cable length between 2 devices is 1000 m. The maximum RS232 cable length is 10 m. The dimensioning of power supply cables must be calculated separately. An extra power supply unit must be used as needed.

System example: open collector LED outputs



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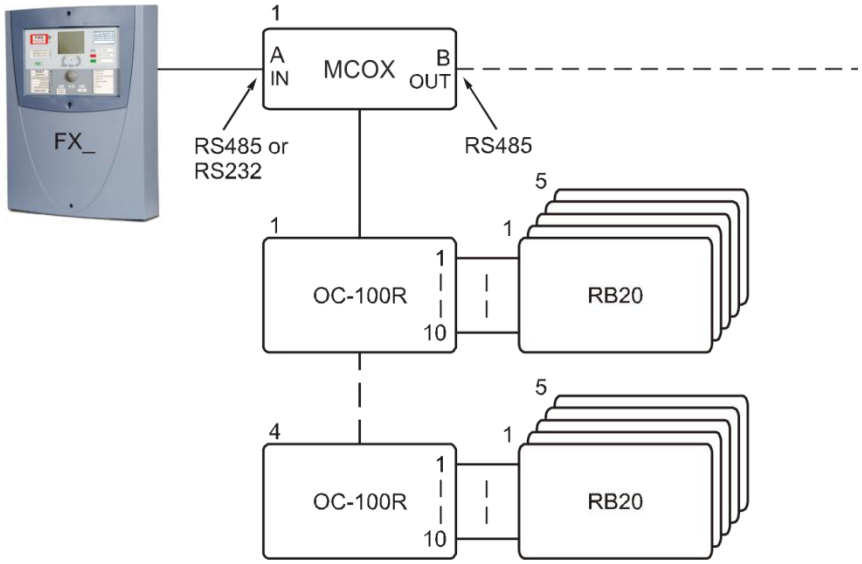
Note!	The maximum RS485 cable length between 2 devices is 1000 m. The maximum RS232 cable length is 10 m. The dimensioning of power supply cables must be calculated separately. An extra power supply unit must be used as needed.

Note!	If the load taken from IC board exceeds 1A then an external power supply input (OC-100L and OC-100R) must be used. OC-100L 6.2mA / active output, OC-100R 7.5mA / active output.

System example: relay outputs



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Note!	The maximum RS485 cable length between 2 devices is 1000 m. The maximum RS232 cable length is 10 m. The dimensioning of power supply cables must be calculated separately. An extra power supply unit must be used as needed.

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