AP200 SERIES I/O-MODULES

Addressable AP200-series I/O-modules for FX NET fire detection systems

The AP200 series of Input/Output-modules (I/O-modules) offers several features for a variety of monitoring and control functions in a FX NET fire detection system.

Compact construction enables more units to be mounted in installation boxes.

The module has a wide range of input/output combinations. Built in short circuit isolators save installation costs as separate isolator units are not needed.

Tri-colour LEDs for status indication, separate for each input/output indicates the status at a glance

EM201E

Single Input Module EM210E and Dual Input Module EM220E

The EM210E and EM220E input modules provide one or two contact monitoring circuits for supervision of devices external to the fire detection system. Applications include monitoring of automatic extinguishing systems, smoke ventilation shutters, fire doors. Action on activation can be selected with the WinFXNet configuration tool. The mod-ules have built-in short circuit isolators.

Single Output Module EM201E

The EM201E output module provides a single output circuit for controlling various fire safety related devices with the FX NET fire detection system. Applications include controlling alarm devices, extinguishing systems, fire doors and other fire restricting devices in buildings. Cause-effect can be selected with the WinFXNet configuration tool. The modules have built-in short circuit isolators.
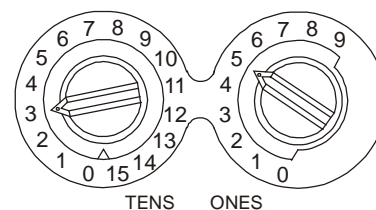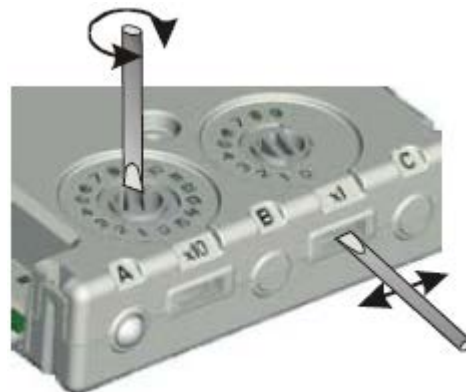
Dual Input – Single Output Module EM221E

The EM221E dual input – single output module provides two contact monitoring circuits and one control circuit for supervision of fire safety related devices with the FXNET system. The combination of the two inputs and one output makes the installation very cost-effective.

Applications include monitoring/control of extinguishers, smoke ventilation, public announcement and alarm devices. Action on input activation and cause-effect on output control are selected with the WinFXNet configuration tool. The modules have built-in short circuit isolators.
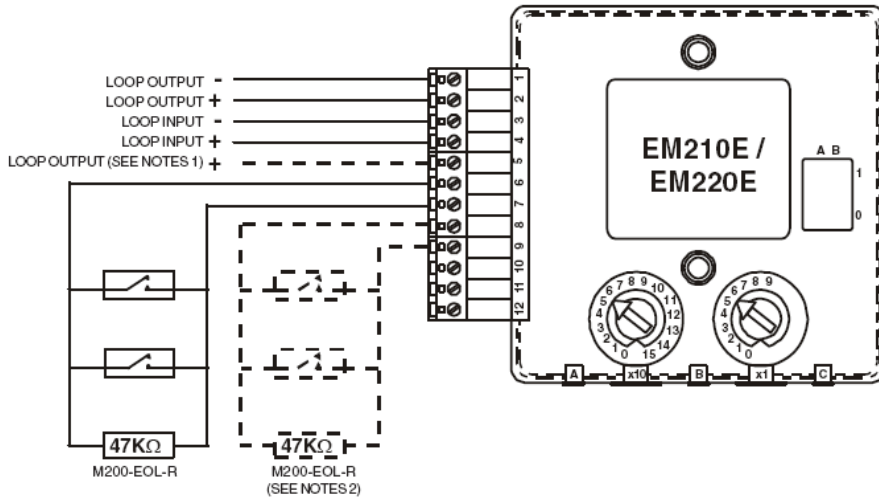
Address setting

All modules are addressable. The address setting is done with two rotary switches, accessible either on the wide side or the front edge, depending on means of mounting. The dual input and dual input – single output modules are automatically assigned to two and three consecutive ad-dresses.
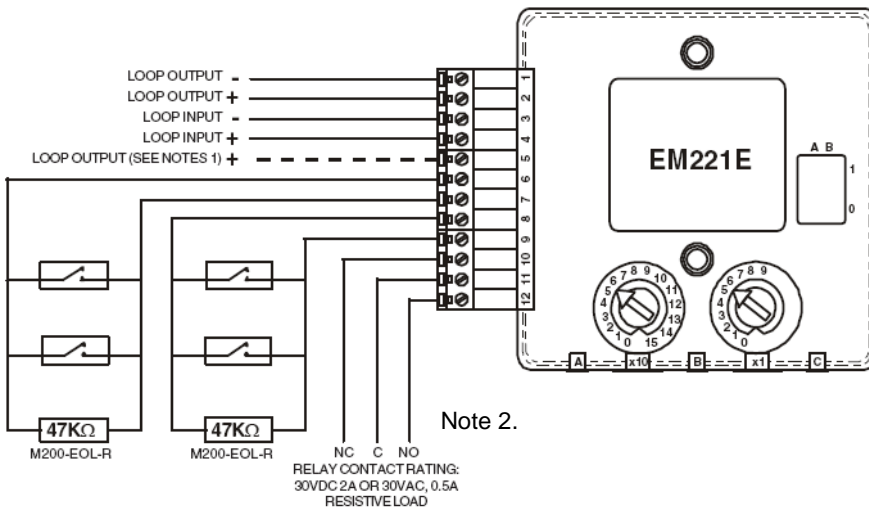

Rotary switches.

EM210E Single Input and EM220E Dual Input Module Wiring

LOOP OUTPUT −
LOOP OUTPUT +
LOOP INPUT −
LOOP INPUT +
LOOP OUTPUT (SEE NOTES 1) +

EM210E /
EM220E

A B
1
0

47KΩ
M200-EOL-R

47KΩ
M200-EOL-R
(SEE NOTES 2)

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not 2. Terminal 5 is internally connected to terminal 4.
2. The dashed line circuit connected to terminals 8 and 9 should only be used with the EM220E. There are no connections to these terminals on the EM210E.

EM221E Dual Input and Single Output Module Wiring

LOOP OUTPUT −
LOOP OUTPUT +
LOOP INPUT −
LOOP INPUT +
LOOP OUTPUT (SEE NOTES 1) +

EM221E

A B
1
0

47KΩ
M200-EOL-R
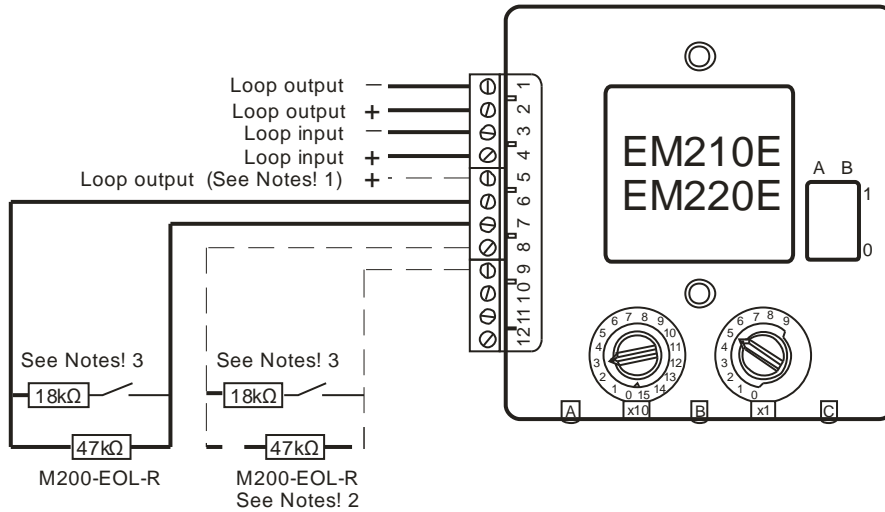
47KΩ
M200-EOL-R

Note 2.

NC   C   NO
RELAY CONTACT RATING:
30VDC 2A OR 30VAC, 0.5A
RESISTIVE LOAD

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not 2. Terminal 5 is internally connected to terminal 4.
2. Output cannot be monitored.

EM210E Single Input and EM220E Dual Input Module with short circuit monitoring

Loop output —
Loop output +
Loop input —
Loop input +
Loop output (See Notes! 1) +

EM210E
EM220E

A B
1
0

See Notes! 3
18kΩ
47kΩ
M200-EOL-R

See Notes! 3
18kΩ
47kΩ
M200-EOL-R
See Notes! 2

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not 2. Terminal 5 is internally connected to terminal 4.
2. The dashed line circuit connected to terminals 8 and 9 should only be used with the EM220E. There are no connections to these terminals on the EM210E.
3. If the input is short circuit monitored, 18kΩ resistor is connected in series with the input switch.

EM221E Dual Input and Single Output Module with short circuit monitoring

Loop output —
Loop output +
Loop input —
Loop input +
Loop output (See Notes! 1) +

EM221E

A B
1
0

See Notes! 3
18kΩ
47kΩ
M200-EOL-R

See Notes! 3
18kΩ
47kΩ
M200-EOL-R

NC C NO
Relay contact rating:
30 VDC, 2 A or
30 VAC, 0,5 A
resistive load
See Notes! 2

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not 2. Terminal 5 is internally connected to terminal 4.
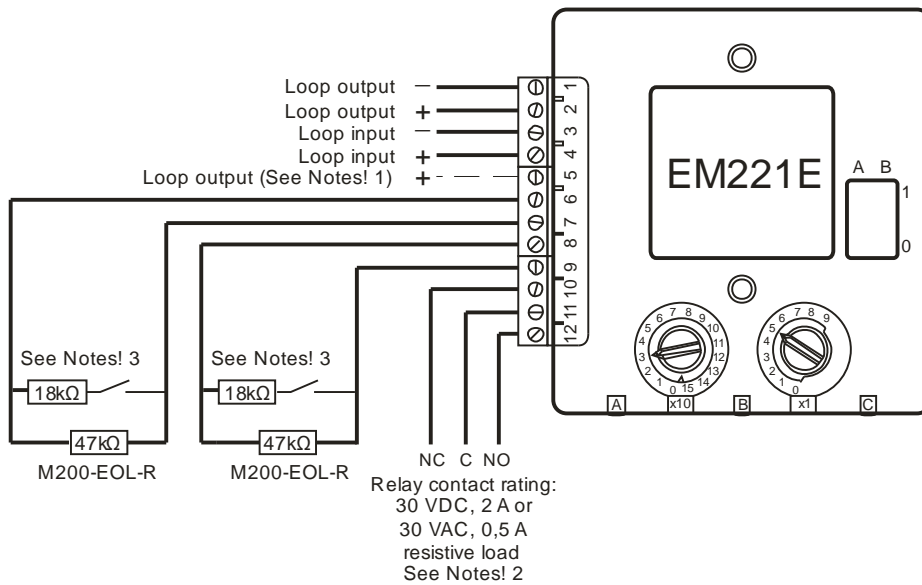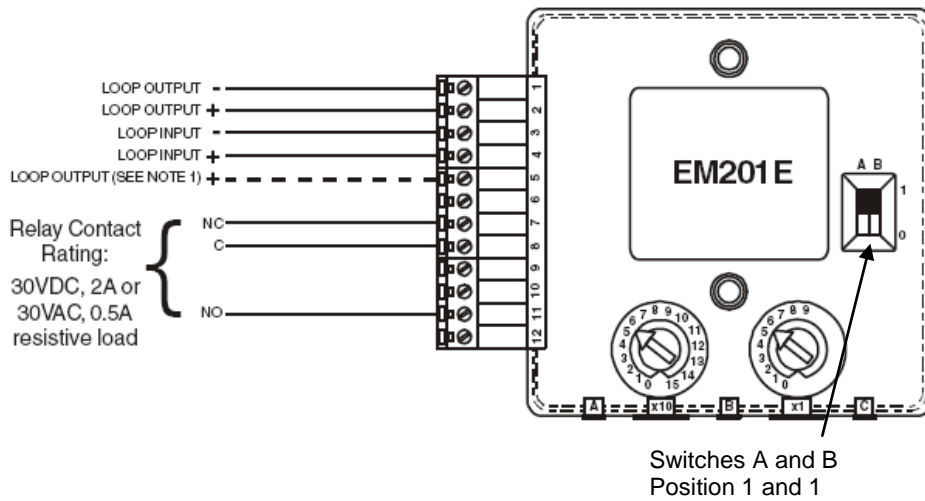**2.** Output cannot be monitored.
3. If the input is short circuit monitored, 18kΩ resistor is connected in series with the input switch.

Configuration of the short circuit monitored input

| Loop 1 | | SLC | Reset Columns | Select Columns | Range Fill | ✓ OK | ✗ Cancel | | | | | | | | |

Address	D-Zone	Ctrl A	Ctrl B	Type	Input funct.	ScMon	Fire	Prew	D-Fire	D-Prew	Mode	InDel.	InFilt	DayM	ZDis	Ctrl Groups
001	0001			Not in use												
002	0001			Not in use												
003	0001			Not in use												
004	0001			AP200 Single input	Fire Alarm Input	Yes					Normal	0	0	0	0	
005	0001			Not in use												
006	0001			Not in use												
007	0001			Not in use												

EM201E Single Output Module Wiring, relay output

LOOP OUTPUT −
LOOP OUTPUT +
LOOP INPUT −
LOOP INPUT +
LOOP OUTPUT (SEE NOTE 1) +

Relay Contact Rating:
30VDC, 2A or 30VAC, 0.5A resistive load

NC
C
NO

EM201E

Switches A and B
Position 1 and 1

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not **2.** Terminal 5 is internally connected to terminal 4.

EM201E Single Output Module Wiring, monitored output
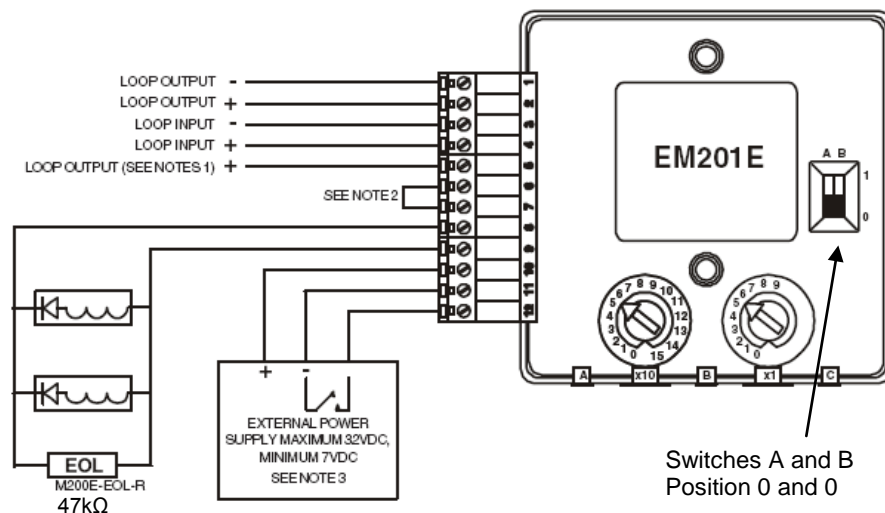
LOOP OUTPUT −
LOOP OUTPUT +
LOOP INPUT −
LOOP INPUT +
LOOP OUTPUT (SEE NOTES 1) +
SEE NOTE 2

EOL
M200E-EOL-R
47kΩ

EXTERNAL POWER SUPPLY MAXIMUM 32VDC, MINIMUM 7VDC
SEE NOTE 3

EM201E

Switches A and B
Position 0 and 0

Notes!
1. If short circuit isolation is not required, loop output+ should be wired to terminal 5 and not 2. Terminal 5 is internally connected to terminal 4.
2. To enable output circuit supervision, the link supplied must be fitted across terminals 6 and 7, and the load must be polarised.
3. In supervised mode, the module monitors the power supply voltage across terminals 10 and 11 to ensure it does not drop below 7V, and also monitors for a switched negative fault signal from the power supply to terminal 12 (optional). If a fault is seen the yellow LED will blink, and a fault may be indicated at the panel.

Mechanical fitting

The 200-series of modules can be fitted in two different ways:
-        in a surface mounting box M200-SMB
-        with a DIN rail mounting clip M200-DIN

The surface mounting box has a transparent cover that enables verification of address setting and visibility of LEDs, without cover removal.
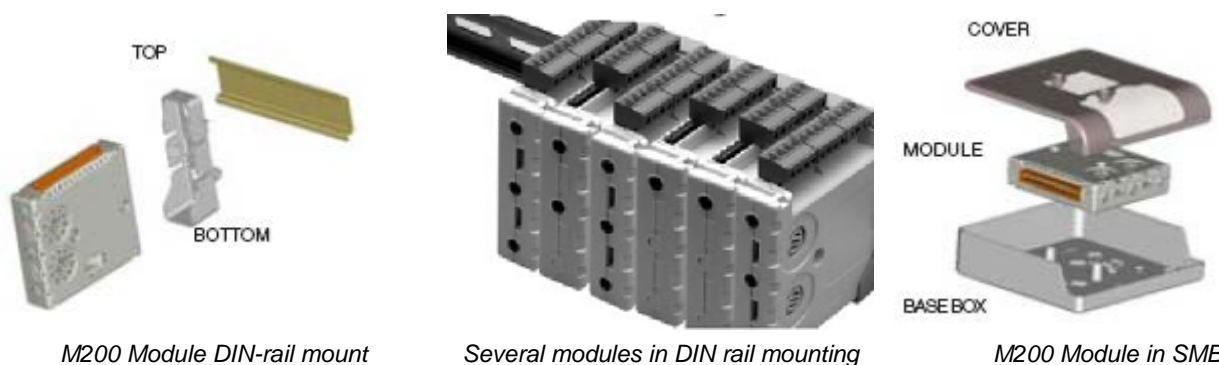
M200 Module DIN-rail mount   *Several modules in DIN rail mounting*   *M200 Module in SMB*

Electrical connections

The modules have plug-in terminals for easy connection/disconnection. Please see table overleaf for terminal numbering. Installation instructions for schematics of connections above are also found with the product.

The DIN rail clip clips to one side of the module, ena-bling several modules to be mounted right next to each other on a DIN rail. The address switches are accessible through the slots in the front edge, next to the indicators.

Terminals

Terminal	EM210E / EM220E	EM201E with fault monitored output	EM201E with non-monitored output	EM221E
1	Loop (-) out	Loop (-) out	Loop (-) out	Loop (-) out
2	Loop (+) out, note [1]	Loop (+) out, note [1]	Loop (+) out, note [1]	Loop (+) out, note [1]
3	Loop (-) in	Loop (-) in	Loop (-) in	Loop (-) in
4	Loop (+) in	Loop (+) in	Loop (+) in	Loop (+) in
5	Loop (+) out, note [1]	Loop (+) out, note [1]	Loop (+) out, note [1]	Loop (+) out, note [1]
6	Monitoring circuit 1	Linked to term. 7	Not used	Monitoring circuit 1
7	Monitoring circuit 1	Linked to term. 6	Relay contact NC	Monitoring circuit 1
8	Mon. circ. 2 (EM220E)	Control output (-)	Relay contact C	Monitoring circuit 2
9	Mon. circ. 2 (EM220E)	Control output (+)	Not used	Monitoring circuit 2
10	Not used	External power (+)	Not used	Relay contact NC
11	Not used	External power (-)	Relay contact NO	Relay contact C
12	Not used	Ext. power fault (-)	Not used	Relay contact NO

Note! [1]   If short circuit isolation is not needed, the 'Loop (+) out' is connected to terminal 5, otherwise to terminal 2

Technical data

Modules	EM210E	EM220E	EM201E	EM221E
Dimensions (H x L x W)	24 x 94 x 94 mm			
Weight	100 g	110 g	62 g	110 g
Operating temperature	- 20°C .. +60°C			
Max. relative humidity	5% .. 95% RH			
Operating voltage range	15 VDC .. 30 VDC			
Max. standby current	500 µA	600 µA	500 µA	660 µA
Max. allowed load current	NA	NA	2A/30VDC resistive	
Max. terminal wire size	2,5 mm^2			
Product number	06717010	06717020	06717001	06717021

NA = Not Applicable

Technical data

Accessories	M200-SMB	M200-DIN
Dimensions (H x L x W)	40x134x139 mm	NA
IP Rating	IP20	NA
Product number	06717061	06717062

NA = Not Applicable