M700 Series Modules

Addressable Input, Output and Isolation modules

Section: Intelligent/Addressable Devices

FEATURES

- **Analogue addressable communications**
- **Built-in type identification automatically identifies these devices to the control panel (not M700X)**
- **Stable communication technique with high noise immunity**
- **Rotary DECADE 01 to 99 address switches (not M700X)**
- **Common mounting options including Surface Mount, Panel Mount and DIN Rail Mount.**
- **Tri-colour LED's**
- **Powered directly by 2-wire loop. No additional power required**
- **Plug-in terminal connections for ease of field wiring**
- **Approved to CEA GEI 1-082 AND CEA GEI 1-084**

GENERAL

The M700 series modules are designed for use with any NOTIFIER protocol fire alarm control panel and include selectable loop isolation in every device.

The M710 module monitors a single input device circuit of normally open dry contact alarm activation devices.

The M701 control module provides a monitored single output circuit for use with polarised loads (sounder circuit) which requires a suitable power source (7Vdc - 30Vdc) for the connected load. Alternatively the same device may be placed in to an unsupervised mode which can then be used to control any switched load up to 2A @ 30Vdc.

In addition the M701-240 and the M701-240-DIN provide two (1 x N.O. 1 x N.C.) 250Vac (nominal 230Vac), 5Amp contact outputs. The M701-240 is provided complete with a surface mounting back box and the M701-240-DIN is supplied in a DIN rail mounting package.

These modules use one of 99 available module addresses on a loop and respond to regular polls from the control panel reporting its type and the status (open/normal/short) of its supervised device circuit.

The M720 dual monitor module provides two supervised input device circuits of normally open dry contact alarm activation devices.



Module In Panel Mount Bracket

In addition the M721 dual input, single relay output module, as well as providing two supervised inputs also provides a single change over relay output rated at 2A @30Vdc.

The M720 module uses two addresses and the M721 uses three addresses of 99 available module addresses on a loop and responds to regular polls from the control panel reporting its type and the status (open/normal/short) of their supervised device circuits.

Two rotary switches enable direct dial entry of DECADE address (01-99).

A tri-colour LED on the module flashes green for normal and amber for fault indicating that the module is in communication with the control panel. The tri-colour LED for inputs latches steady red on alarm (subject to current limitations).

Whilst all of the above modules include selectable loop isolation, the M700X isolator module provides purely loop isolation where required.

This document is not intended to be used for installation purposes. Every care has been taken in the preparation of this document but no liability can be accepted for the use of the information therein. Design features may be changed or amended without prior notice. For more information, contact **NOTIFIER.** Charles Avenue, Burgess Hill, West Sussex, RH15 9UF. United Kingdom Phone: +44 (0) 1444 230 300 Fax: +44 (0) 1444 230 888

ISO9001
Design, Manufacture and Supply to Quality Management Systems Certified to ISO9001:1994

Quality Systems Certificate No. 154 Assessed to ISO9001

INSTALLATION

The M700 series modules can be mounted either surface, panel mounted in other equipment housings or DIN rail mounted in other equipment housings.

Surface mounting is achieved by using the M200E-SMB surface mount box which accepts a single module. This box has a frosted plastic lid with viewing windows for the product identification label, LED's and address switches.

The M200E-PMB panel mount bracket offers the ability to mount a single module in to a suitable box by using two M4 pan head screws.

Alternatively the M200E-DIN may be used. This mounting option allows a single module to be mounted directly to a section of standard DIN rail.

Maximum input circuit length is approximately 750 metres or 2500 feet (20 Ohms maximum).

A 47K End-of-Line Resistor (provided) must be fitted to the Monitored circuits to provide supervision.

Mounting hardware and installation instructions are provided with each module.



DIN Rail Mounting Option



M700 Module In M200E-DIN

SPECIFICATIONS

- **Dimensions**
  - ✓ 92 Inc. Terminal Connectors (w) x 90 (h) x 23 (d) unboxed (not 240Vac units)
  - ✓ Weight:

    M700X - 62g

    M710 / M720 - 90g

    M701 / M721 - 102g

    M701-240 - 200g

    M701-240-DIN - 195g

    M200E-SMB: 139 (w) x 134 (h) x 40 (d).
- **Current Consumption**
  - ✓ M710, M701 - 310 µA @ 24 VDC (without communication); 510 µA @ 24 VDC (one communication every 5 sec. with LED blink enabled).
  - ✓ M720 - 340 µA @ 24 VDC (without communication); 600 µA @ 24 VDC (one communication every 5 sec. with LED blink enabled).
  - ✓ M721 - 340 µA @ 24 VDC (without communication); 660 µA @ 24 VDC (one communication every 5 sec. with LED blink enabled).
  - ✓ M701-240, M701-240-DIN - 275 µA @ 24 VDC (without communication); 445 µA @ 24 VDC (one communication every 5 sec. with LED blink enabled).
  - ✓ Maximum Alarm Current: 5 mA @ 24 VDC (per LED with LED enabled).
  - ✓ M700X - 200 µA @ 24 VDC
- **Operating Voltage**
  - ✓ 15 to 30 VDC peak.
- **Environmental Limits**
  - ✓ -20°C to 60°C operating temperature.
  - ✓ 0% to 95%, non-condensing relative humidity.

ORDERING INFORMATION

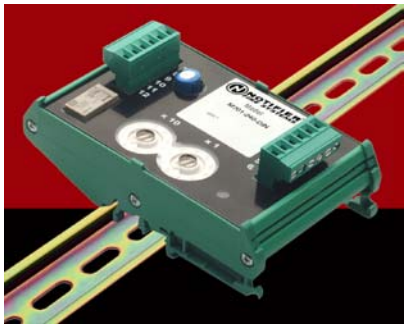
Part No.	Description
M700X	Single isolation module.
M701	Single output module
M710	Single input unit
M720	Dual input unit
M721	Dual input, single output module
M701-240	Single 230Vac output unit inc. surface mount box
M701-240-DIN	Single 230Vac output unit inc. DIN rail mounting enclosure

Mounting Accessories:

M200E-SMB	Surface Mount Box
M200E-PMB	Panel Mount Bracket
M200E-DIN	DIN rail mounting clip



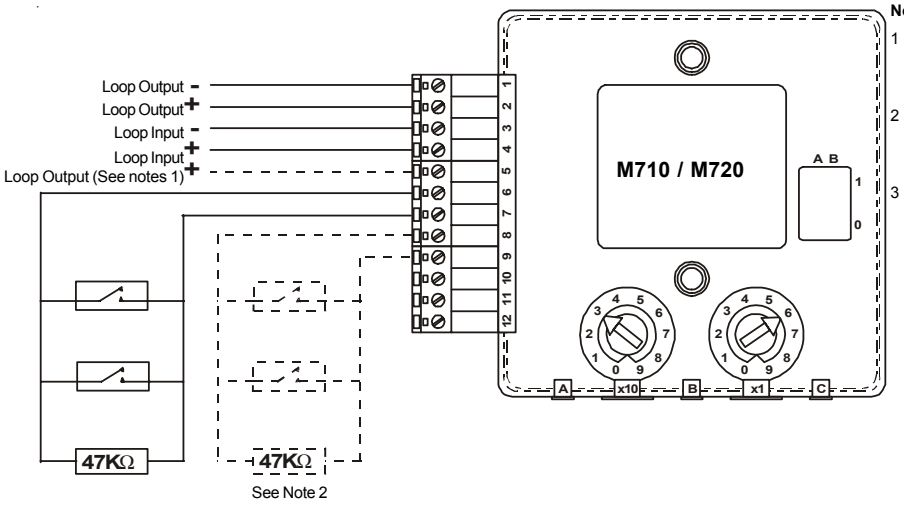
M701-240



M701-240-DIN

Wiring Diagrams

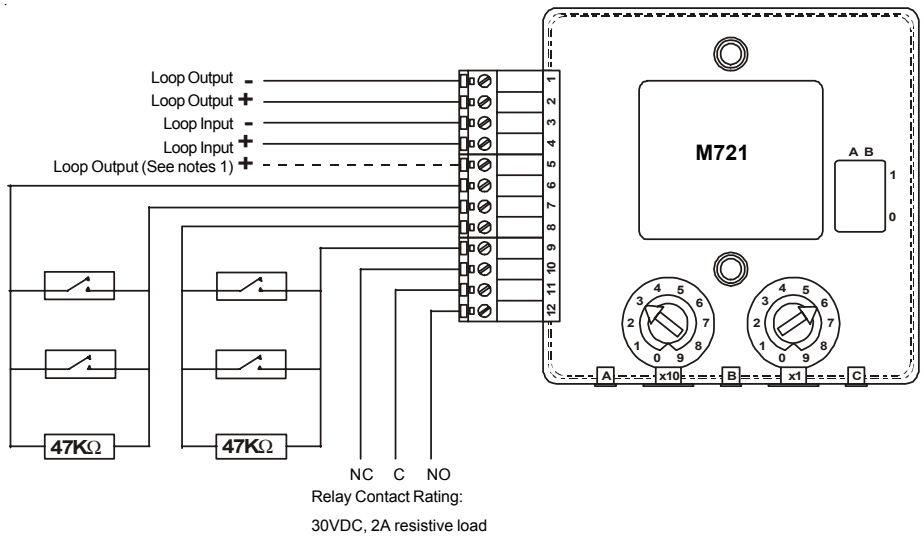
M710 / M720 Connection Detail



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 M720. There are no connections to these terminals on the M710.
3. Provided the control panel is compatible, short circuit monitoring of the input circuit may be possible. An 18K Ohm resistor should be wired in series with each device switch being monitored.

M721 Connection Detail



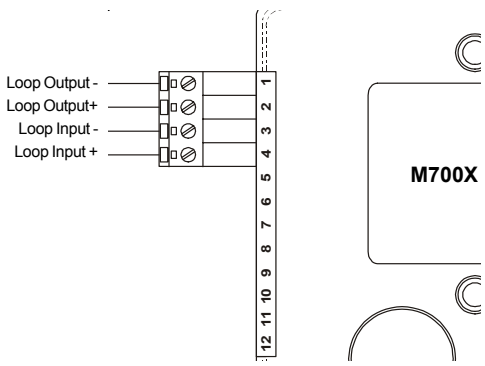
Relay Contact Rating:

30VDC, 2A 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. Provided the control panel is compatible, short circuit fault monitoring of the input circuit may be possible. An 18K Ohm resistor should be wired in series with each device switch being monitored.

M700X Connection Detail



Wiring Diagrams

M701 Supervised Connection Detail

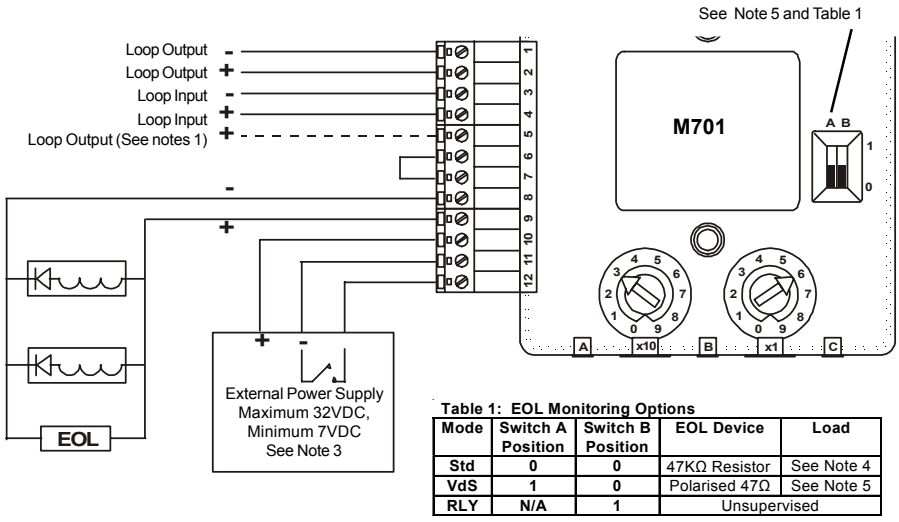


Table 1: EOL Monitoring Options

Mode	Switch A Position	Switch B Position	EOL Device	Load
Std	0	0	47KΩ Resistor	See Note 4
VdS	1	0	Polarised 47Ω	See Note 5
RLY	N/A	1	Unsupervised	

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.

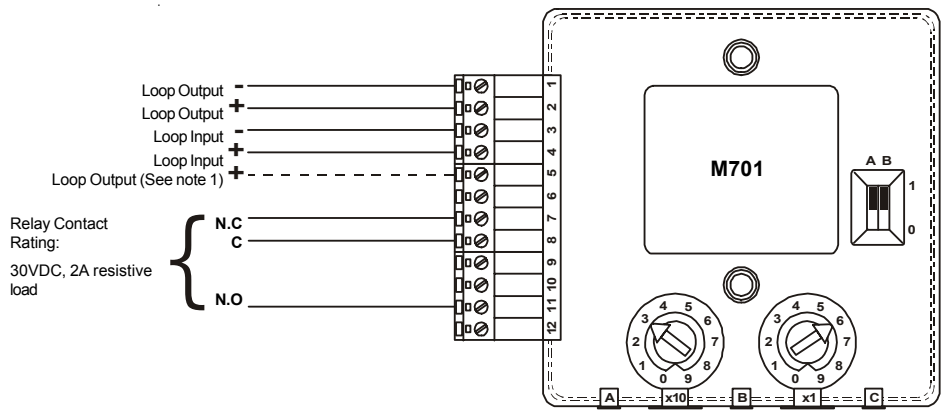
2 To enable output circuit supervision, the link supplied must be fitted across terminals 6 and 7, and the load must be polarised.

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. The use of this fault warning is dependant upon panel software, please consult Notifier Technical support.

4 Up to 1.5A load can be driven subject to the supply capability, total cable resistance and minimum voltage required by the load.

5 An alternative end of line monitoring option is available for VdS 2489 requirements - see table 1. Maximum cable series resistance is 10R so max. load current is limited by permissible voltage drop along the cable, min. PSU voltage and min. load voltage requirement.
eg: Min PSU voltage = 21V, min load voltage = 18V, max. series resistance = 10R, therefore max. current = 300mA [(21-18)/10 Amps.]

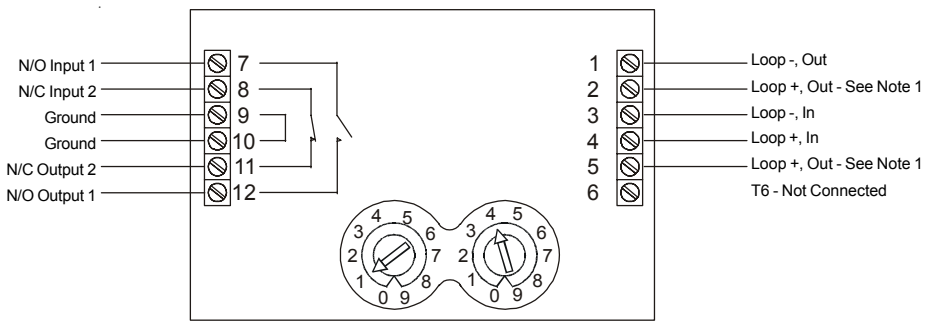
M701 Un-Supervised Connection Detail



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.

M701-240 / M701-240-DIN Connection Detail



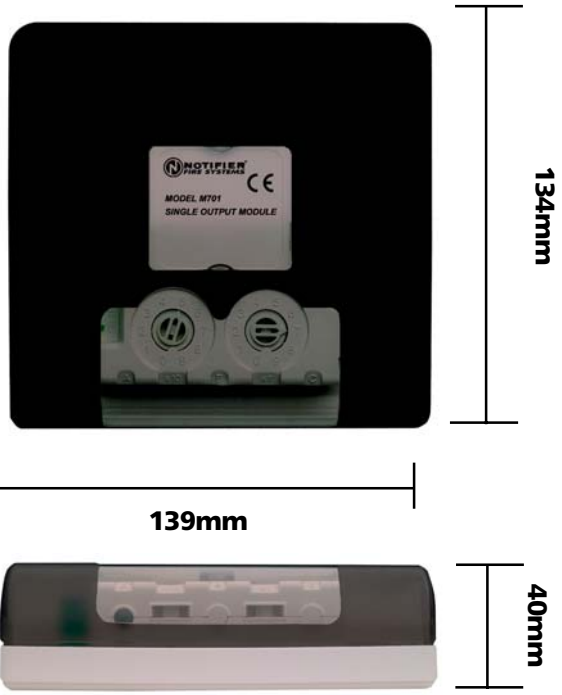
Notes:

1. If short circuit isolation is not required, then the loop output should be wired to terminal 5 rather than terminal 2. Terminal 5 is internally connected directly to terminal 4.

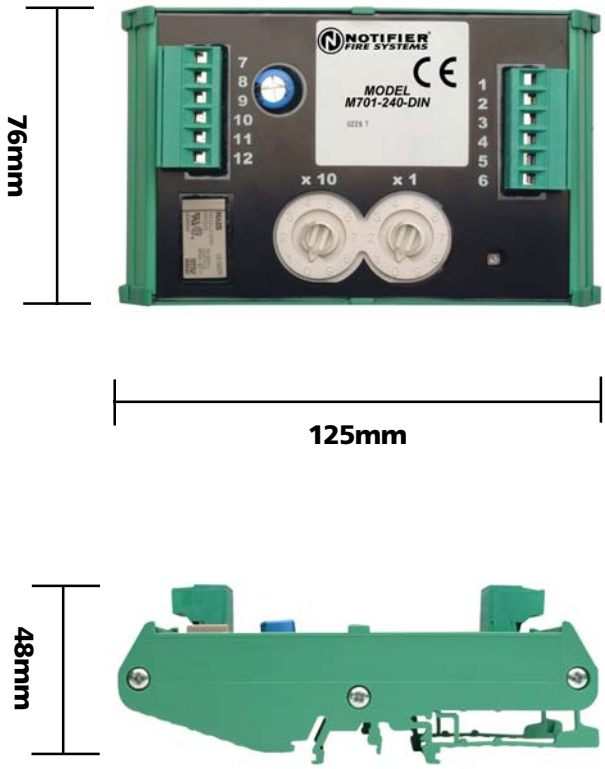
2. In order to meet the requirements of European Safety Standards, ensure that all cables carrying voltages in excess of 48V (Live and Neutral) are suitably fused.

Mechanical

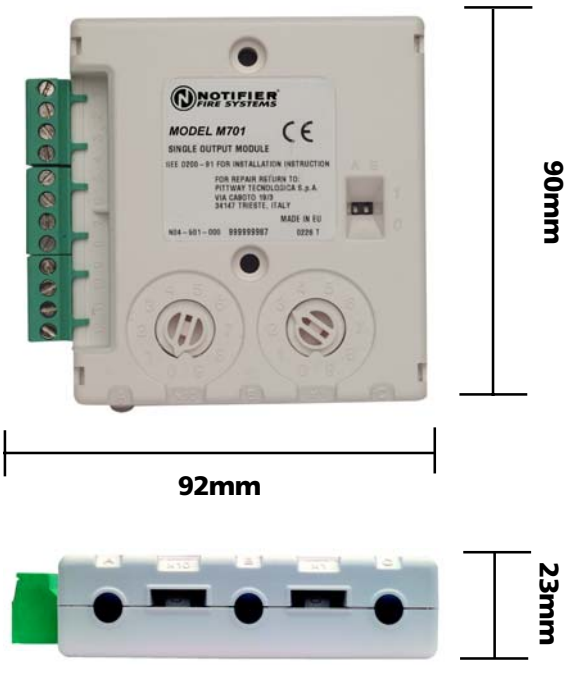
M200E-SMB / M701-240



M701-240-DIN



M701 / M721 / M710 / M720 / M700X



M200E-PMB



M200E-DIN

