# LIM800 Line Isolator Module – Installation Instruction

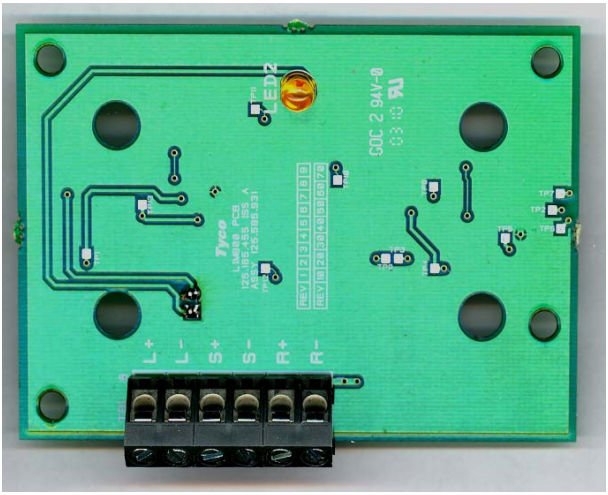


*Fig. 1: LIM800 Line Isolator Module*

## Technical specifications

| Parameter | Value |
|---|---|
| System Compatibility | Use only with MX Fire Alarm Controllers |
| Environment | Indoor Application only |
| Operating Temperature | -25 °C to +70 °C |
| Storage Temperature | -40 °C to +80 °C |
| Operating Humidity | Up to 95% non-condensing |

*Table 1: Technical Specifications*

| Parameter | Value |
|---|---|
| Dimensions (HWD) | 87 x 148 x 14 mm |
| Mounting Requirements | One MK backbox surface mount or an ANC-8 ancillary housing |
| Wire Size | Min 1.5 $mm^2$<br>Max 2.5 $mm^2$ |
| Maximum Wiring Resistance Monitored Circuit: | 10 ohm |

*Table 1: Technical Specifications (cont.)*

### Electromagnetic Compatibility

The LIM800 complies with the following:

- Product family standard EN50130-4 in respect of:
  - Conducted Disturbances
  - Radiated Immunity
  - Electrostatic Discharge
  - Fast Transients
  - Slow High Energy
- EN 61000-6-3 for emissions

## Introduction

The LIM800 Line Isolator Module is designed to be used on the MX addressable controller loop circuits. It monitors the line condition and when detecting a short circuit will isolate the affected section whilst allowing the rest of the addressing circuit to function normally. The purpose of the LIM800 Line Isolator Module is to ensure that, on a looped addressable system, no short circuit fault can disable more detection devices than would be lost on a conventional non-addressable fire circuit and to meet the requirements of BS 5839 : Part 1.

## Mounting

### Installation of modules into an ANC-8 ancillary housing

The housing can accommodate up to eight ancillary PCBs. A stacking kit is available if a second layer of PCBs is required.

### How to install MX800 modules into an ANC-8 ancillary housing

1 Assemble the required ancillary PCBs onto the chassis plate as required, fixing as shown in Fig. 2.
2 Assemble the chassis plate into the housing and secure using fixing screw, see Fig. 2.
3 Connect the chassis plate earth lead to the housing, see Fig. 2.

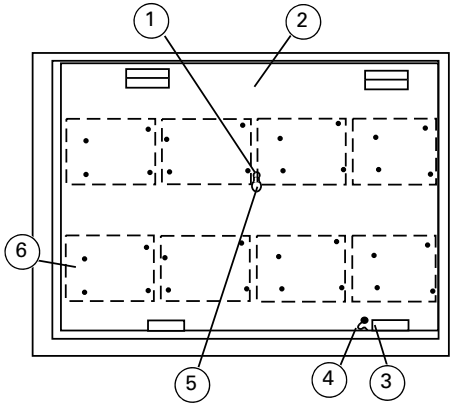


*Fig. 2: ANC-8 - Chassis Plate*
*1– Chassis plate fixing screw*
*2– Chassis plate*
*3– Cover earth*
*4– Chassis plate earth*
*5– Transit screw*
*6– Typical positions of 800 modules (4 per row)*

**CAUTION**

Ensure only nylon stand-offs and washers are used

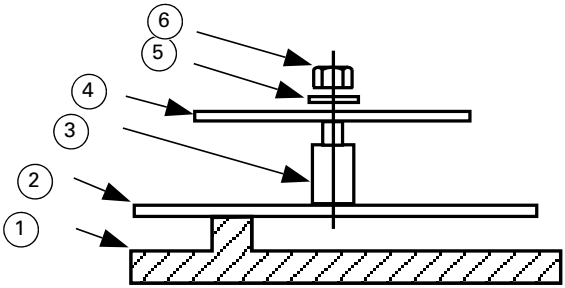


*Fig. 3: ANC-8- PCB Fixing Detail*
*1– Housing*
*2– Plate*
*3– Nylon spacer*
*4– Ancillary PCB*
*5– Plain washer*
*6– Nylock nut*

## Installation to M520 Double Gang cover

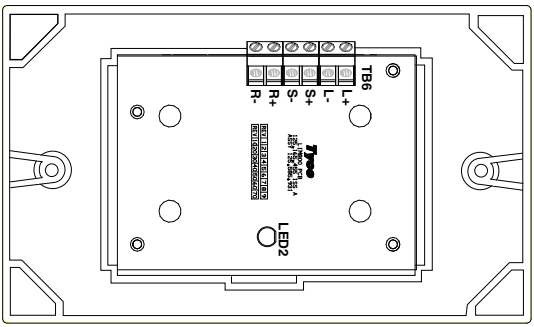


*Fig. 4: LIM800 Fitted to Cover*

### How to install the LIM800 to a M520 Double Gang cover

1 Assemble the LIM800 to the M520 Double Gang cover, using the four screws and washers provided,
2 Fit cover onto MK backbox.
3 If an IP22 rating is required additional sealing must be applied. Apply Loctite S1595 silicone sealant around the LED, as shown in Fig. 5. Note how the sealant fills the small gap between the LED and its hole in the cover.

Avoid smearing sealant over the LED surface. Using a fine nozzle is recommended.

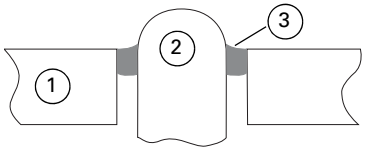


*Fig. 5: Sealed LED*
*1– Cover*
*2– LED*
*3– Sealant*

## Cabling

Cables are to be selected in accordance with Publication 17A-02-D and the requirements of the current issue of BS5839. One pair of terminals is used to provide a spur circuit (S+/S-). Two pairs of connection terminals (R+/R- and L+/L-) are provided on the terminal block. These terminals are used for connecting the module on to the addressable circuit. A maximum of one $1.5mm^2$ or one $2.5mm^2$ cable may be connected at any one terminal.

## Wiring notes

The following notes apply:

- There are no user-required settings (such as switches or headers) on the LIM800.
- All wiring must conform to the current edition of IEE Wiring Regulations and BS5839 part 1.
- All conductors to be free of earths.
- Fit the PCB to the M520 cover/ANC-8 ancillary housing.
- Connect loop wiring . For LIM800 typical wiring configurations (see Fig. 6).
- Verify the correct polarity of wiring before connecting the LIM800 to the addressable loop circuit.

### Verifying loop wiring

**WARNING**

**Do not megger loop wiring with line isolator modules connected.**

The Line Isolator Module is not designed to work with line voltages above the specified maximum 40V dc. This means that continuity testing of the loop wiring with Line Isolator Bases connected must be done using a voltage between 20-40 V dc. The resistance measurement range on conventional voltmeters use low voltage only, therefore, the following method can be employed to confirm loop integrity.

A power supply capable of providing 30 - 40 V dc with a 300 to 600 mA current limit is connected to one end of the loop (in correct polarity). A voltmeter is connected to the other end of the loop or any base along the loop to verify the wiring up to that point.

If there is no voltage out at any measured point, this may be due to:

- Loop Open Circuit - wiring incomplete to part of the loop.
- Incorrect Polarity - LIM800 Line Isolator Modules will appear as a short circuit if they are wired with incorrect polarity.
- Loop Short Circuit - If this occurs between two LIM800 Line Isolator Modules, it will isolate that section of the line, which will then appear as an open circuit.
- If this occurs between the supply and the first LIM800 Line Isolator Modules, the supply output will go low due to the internal current limit.

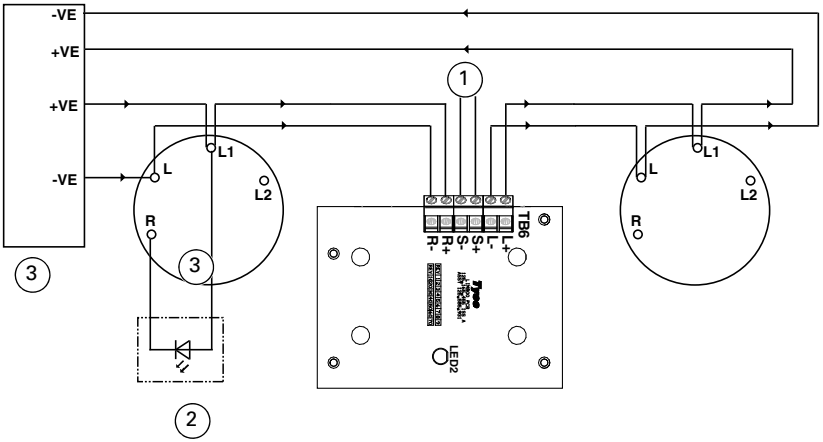


*Fig. 6: LIM800 Line Isolator Module - Simplified Wiring Diagram*
*1– For spur circuit*
*2– 801 RIL Remote indicator*
*3– MX Controller*

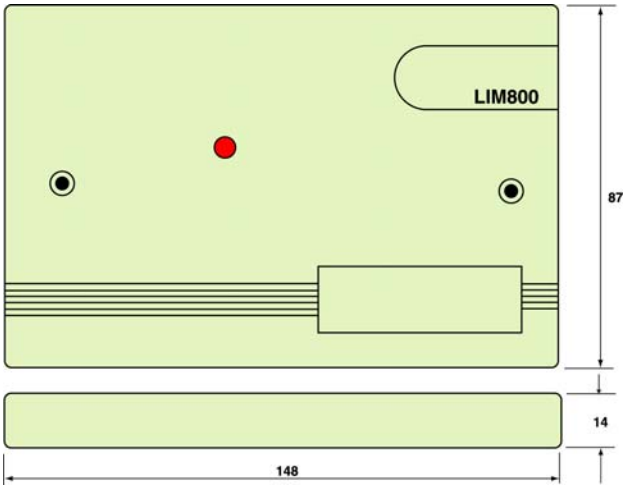


*Fig. 7: LIM800 Line Isolator Module Facia Plate*

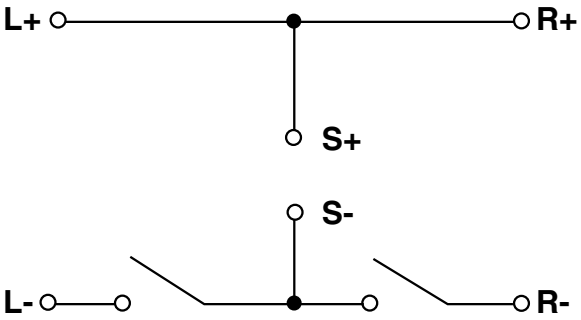


*Fig. 8: LIM800 Operation*

Switches are normally closed.

If a short circuit is detected on the spur, both switches open.

If a short circuit is detected on the left hand side, the left hand side switch opens.

If a short circuit is detected on the right hand side, the right hand side switch opens.

## Associated equipment

The module fits onto a standard dual-gang MK box, or an ANC8 ancillary housing.

## Ordering information

| Name | Stock code number |
|---|---|
| LIM800 Line Isolator Module | 545.800.004 |
| LIM800 Line Isolator Module c/w cover: | 545.800.033 |
| M520 Double-Gang Cover | 517.035.007 |
| ANC8 Ancillary Housing assy. | 557.180.096. A/T/Y |

*Table 2: Ordering information*

# CPR Information

CE
0832

Tyco Fire & Security GmbH
Victor von Bruns-Strasse 21
8212 Neuhausen am Rheinfall
Switzerland
15
DoP-2015-4100

**EN54-17:2005**
Short-circuit isolator device for use in fire detection and alarm systems in buildings
LIM800

**Essential Characteristics**
**EN54-17:2005**
Performance under fire conditions: Pass
Operational reliability: Pass
Durability of operational reliability; temperature resistance: Pass
Durability of operational reliability; vibration resistance: Pass
Durability of operational reliability; humidity resistance: Pass
Durability of operational reliability; corrosion resistance: Pass
Durability of operational reliability; electrical stability: Pass

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www.zettlerfire.com
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Subject to change without notice.