

9377-FB3-Px

MTL Compact Fieldbus Barrier Module



DECLARATION OF CONFORMITY

A printed version of the Declaration of Conformity has been provided separately within the original shipment of goods. However, you can find a copy of the latest version at-

<http://www.mtl-inst.com/certificates>

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GENERAL SAFETY INFORMATION

Instructions for installation and operating personnel

The operating instructions provided here contain Safety essential safety instructions for installation personnel and those engaged in the operation, maintenance and servicing of the equipment.



WARNING!

Failure to comply with these instructions can endanger the lives or health of personnel and risk damage to the plant and the environment.



WARNING!

The responsibility for planning, installation, commissioning, operation and maintenance, particularly with respect to applications in explosion-hazard areas, lies with the plant operator.

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Before commencing installation or commissioning:

- Read and understand the contents of this manual
- Ensure installation and operating personnel have received adequate training for this task
- Ensure that any operating instructions are fully understood by the personnel responsible.
- Observe national and local installation and mounting regulations (e.g. IEC 60079-14).



WARNING!

These assemblies may not be used in explosion-hazard area applications if they have been used previously in general electrical installations.

During operation:

- Make the relevant instructions available at all times to the operating personnel.
- Observe safety instructions.
- Observe national safety and accident prevention regulations.
- Operate the equipment within its published specification.
- Servicing, maintenance work or repairs not described in this manual must not be performed without prior agreement with the manufacturer.
- Any damage to this equipment may render its explosion protection null and void.
- No changes to any of the components that might impair their explosion protection are permitted.

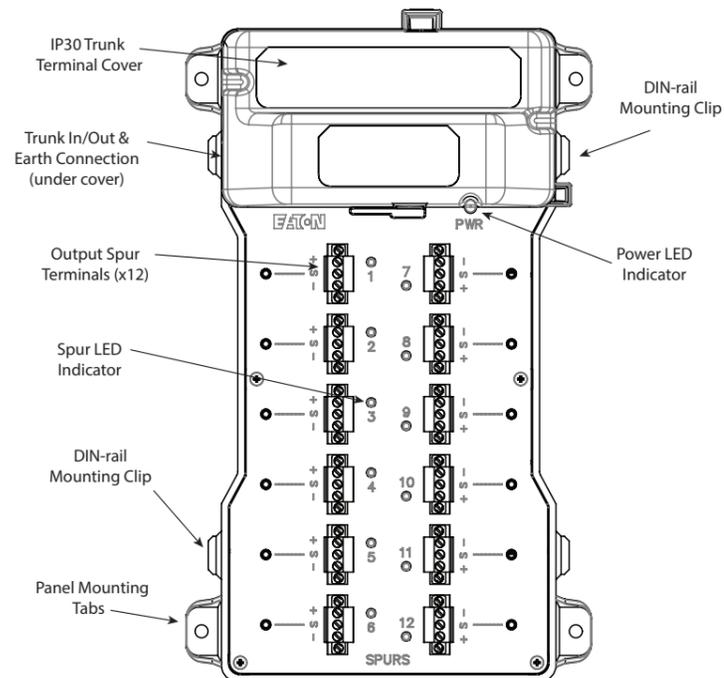
If any information provided here is not clear:

Contact Eaton's MTL product line or one of its representatives.

NOTE

Improper installation and operation of the module can result in the invalidation of the guarantee.

9377-FB3-Px MTL Fieldbus Barrier 12-spur module



1 OVERVIEW

This manual explains the installation and maintenance procedures for the 9377-FB3-Px MTL Fieldbus Barrier module and must be read in association with the product datasheets that contain the electrical data.

The 9377-FB3-Px Fieldbus Barrier module is a field-mountable wiring hub providing twelve, intrinsically safe, 'simplex', spur connections from a single non-intrinsically safe trunk, for connection to Foundation™ fieldbus H1 fieldbus instruments.

Key features of the barrier include short circuit protection on all of the spurs and the ability to 'live-work' any spur without disrupting the operation of the others or the need to remove power to the trunk.

For additional protection surge-suppression devices may, optionally, be fitted on the incoming fieldbus trunk and the output spurs.

The Fieldbus Barrier module itself is suitably certified for installation in a Zone 1, Zone 2, Zone 21 or Zone 22 hazardous area provided it is mounted in an enclosure which complies with the IEC/EN60079 requirements for Gas or Dust hazardous areas.

The module is available by ordering the following model number.

9377-FB3-Px - Compact Fieldbus Barrier system, 12-spur module.

Where PX is either PS (for pluggable screw terminal connectors) or PC (for pluggable spring clamp connectors).

2 DESCRIPTION

2.1 General details

The 9377-FB3-Px Fieldbus Barrier module is a further enhancement of the established 937x product range, and provides a compact and economic solution for Foundation fieldbus networks in hazardous area applications. The field-mounted barrier receives power and FOUNDATION™ Fieldbus H1 communications via a non-intrinsically safe trunk and converts this to a number of galvanically isolated, intrinsically safe, spur connections.

The trunk terminals are implemented as increased safety (Ex e) and the spur terminals as intrinsically safe (Ex ia) for connection to IS fieldbus instruments in IIC, Zone 0 hazardous areas. The spur connections are compatible with both FISCO and Entity-certified field instruments.

For Zone 1 hazardous area mounting the fieldbus barrier must be mounted in a suitable, increased safety, Ex e enclosure that will segregate spur and trunk cabling in accordance with hazardous area certification. Within such an enclosure, the module provides a separate compartment, which contains increased safety (Ex e) trunk wiring terminals where the incoming trunk wiring terminates. This compartment has a protective cover to deter interference, and carries a warning to the user not to work on trunk wiring without first isolating the power. A fieldbus termination is available on the module to ensure correct termination of the trunk wiring and prevent unwanted reflections and signal disturbances.

A single barrier module provides 12 spur connections. Each spur is short circuit protected, so that other devices continue to operate in the presence of field wiring faults.

Surge protection can also be added on individual outgoing spurs by the use of individual Spur Surge protection modules (part no. FS32). Surge protection of the fieldbus trunk connection can be provided using protector type TP32-I-NDI; consult Eaton- MTL for pre-engineered enclosure systems containing appropriate electrical and mechanical hardware.

The 9377-FB3-Px fieldbus barrier module is bus-powered and requires no additional power supply in the field. When used with a fieldbus host control system, power for the trunk MUST be provided only by a supply conforming to IEC 61158-2, e.g. MTL F800 or MTL 918x-x2 range of redundant power supplies certified for connection into Zone 1 or Zone 2 as required.

The module has four mounting lugs with holes, one at each corner, enabling it to be mounted to a suitable mounting plane inside an enclosure using either bolts or fixed studs. Alternatively, it has built-in mounting clips to permit it to be mounted onto 'top-hat' DIN rail, 35mm x 7.5mm, complying with EN50022 or similar local standards.

2.2 Permitted configurations

A maximum of two 12-spur, Fieldbus Barrier modules is permitted per Fieldbus trunk.

The permitted options are illustrated in Figure 2.1- (a), (b) and (c).

- A single barrier module in a field enclosure- with termination
- Two barrier modules in a single field enclosure- with termination only on second barrier
- Two barrier modules in separate field enclosures- with termination only on second barrier

See section 4 – Electrical Installation- for information on providing the appropriate termination conditions for the trunk wiring.

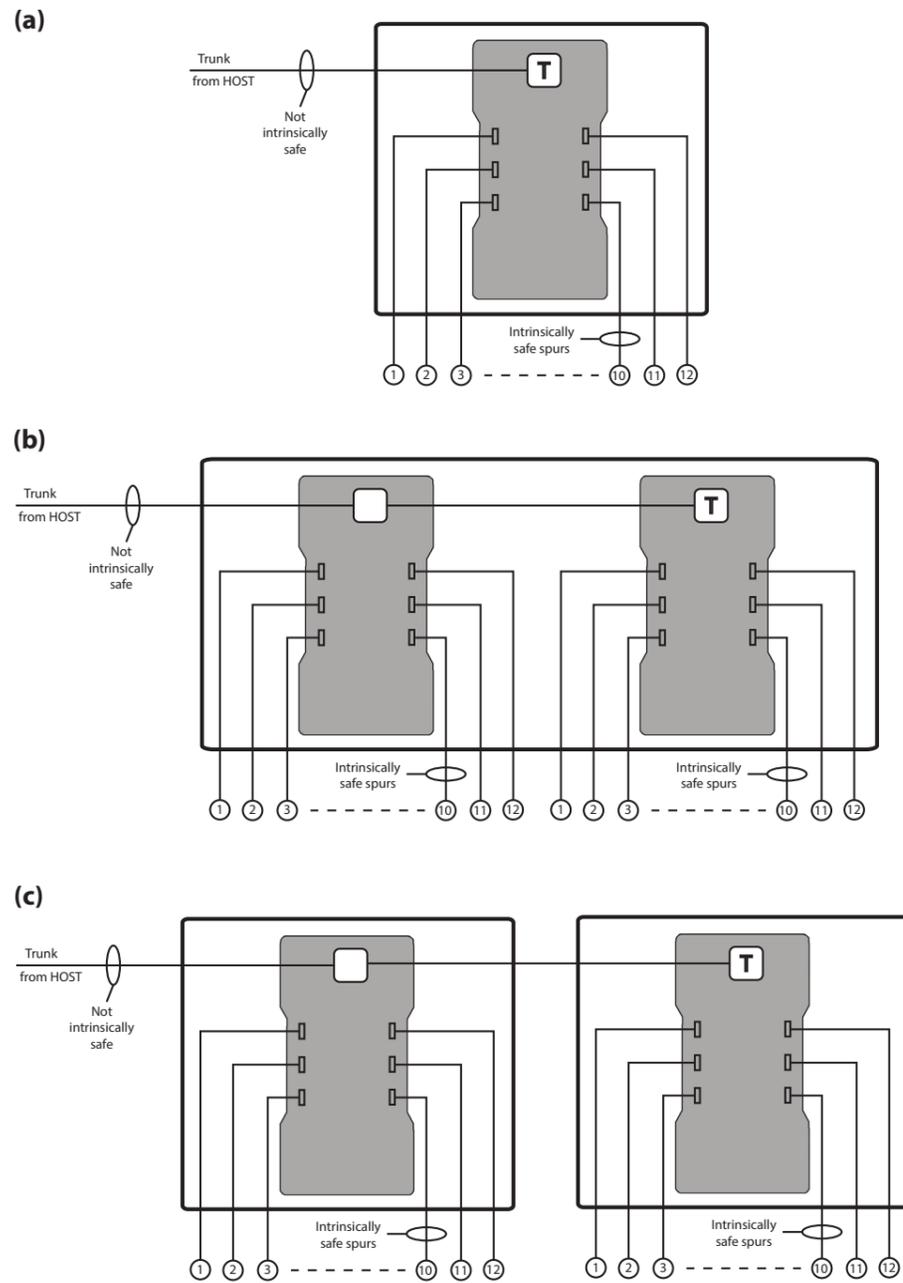


Figure 2.1 – Permitted implementations for 9377-FB3-Px Fieldbus Barrier modules

3 MECHANICAL INSTALLATION

3.1 Mounting considerations

	WARNING! Equipment must be mounted and connected in accordance with the Conditions for Safe Use on the certificate. See section 7.2.
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See Figure 3.1 for the dimensions and fixing locations.

When choosing an enclosure or mounting position for a Fieldbus Barrier module the following points should be taken into account.

- a) For field-mounting in open air locations an enclosure with an ingress protection rating of IP66 (to EN60529) is most appropriate. The mounting location should be chosen to comply with the rating of such an enclosure and care should be taken to ensure that this rating is not compromised.
- b) An assembly has limited ingress protection and must be provided with protection appropriate to the environment in which it is located. The following table provides guidance on minimum environmental protection for specific locations.

Location	Minimum environmental protection
Safe area	IP20
Zone 1 or Zone 2	Ex e or Ex d certified enclosure; ≥IP54 - increase level for more severe conditions

NOTE
For installation in Zone 1, 2, 21 or 22 the combination of a 9377-FB3-Px open frame assembly and its protective Ex e or Ex d enclosure will require certification as a complete assembly by a third-party certifying authority.

- c) The module is designed for mounting on a vertical surface, with its longest axis also vertical. The permitted ambient temperature range in this orientation (–20°C to +65°C) must not be exceeded. Avoid the effects of radiant or convected heat by locating its chosen enclosure away from direct sunlight or local sources of heat.
- d) Space around the barrier(s) – a maximum of two – with consideration for wiring access, cable bend radius and field maintenance
- e) Adequate security should be provided against unauthorised interference to the enclosure used.
- f) The enclosure chosen must be fitted with a breather and cable glands that are Ex e certified, and which also have ingress protection (IP) ratings that maintain the overall rating of the enclosure.
- g) Any unused enclosure entry holes must be fitted with suitably certified blanking plugs.
- h) Consideration shall be given to ensure adequate separation of trunk and spur wiring both outside and inside any chosen enclosure in accordance with IEC/EN60079-14 and local standards.

3.2 Physical mounting

Refer to the dimensioned product drawing shown in Figure 3.1.

3.2.1 Recommended fitting using mounting lugs

Four panel mounting lugs are provided at the corners of the barrier. These have holes to accommodate 6mm studs or bolts at the positions shown in the diagram. The weight of an assembly is 2.2kg and must be considered when choosing a suitable mounting location. Prepare the mountings as described above to enable the module to be mounted vertically.

Either

- Mount the module onto studs and use an M5 plain washer, lock washer and nut at each corner, or
- Prepare four M5 bolts with lock washers, followed by plain washers and mount the module to prepared threaded holes in the backplate.

Torque the fixings to a recommended 2.5 Nm.

3.2.2 Recommended method for fitting on DIN rail

Prepare a suitable length of 35mm x 7.5mm DIN rail (to EN50022) to accommodate the dimensions of the barrier module (see Figure 3.1) plus additional length to accommodate DIN rail stops at the top and bottom. Mount the rail vertically and attach in a fashion defined by local guidelines. The rail should be positioned to align with the vertical axis of the module as shown in Figure 3.1.

With the DIN rail mounted, locate one side of the mounting clips, which are located on the underside of the module carrier, and then press the opposite side firmly towards the rail until a positive click is felt to confirm it has locked to the rail. Pull firmly on module carrier to check for correct seating.

With the module in place, fit DIN rail stops above and below - as shown in Figure 3.1 - and tighten the fixing screws to their manufacturer's recommended torque settings. This will ensure that the module carrier does not slip up or down on the rail if vibration is experienced during operation.

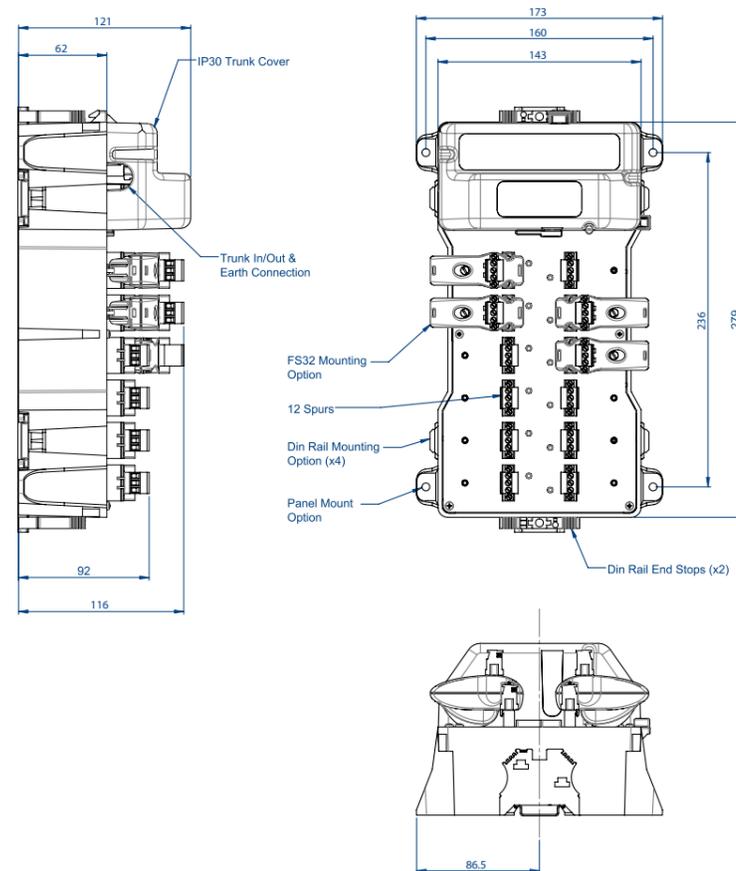


Figure 3.1 – Fieldbus Barrier module dimensions

3.2.3 Removal from DIN rail

Refer to instructions in Figure 3.2 for removal of module from a DIN rail mount.

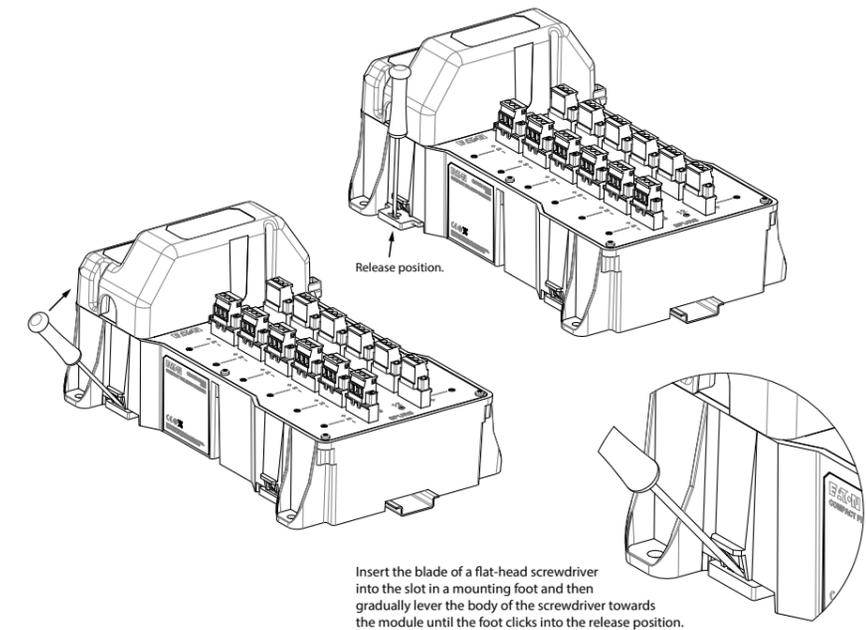


Figure 3.2 – Removing a module from DIN rail

3.2.4 After mounting the module

It is important to ensure that adequate separation is provided between the trunk and the spur wiring in order to meet any conditions for certification of the installation.

The barrier module wiring should be installed in accordance with IEC/EN60079-14 and local installation standards but Eaton- MTL recommends that cable trunking be used inside the enclosure to assist in providing separation. Cable management may also be required for the spur cables, as deemed appropriate by local and site standards.

As the trunk cable entry point on the module is at the upper left side of the module it is suggested that the trunk cable entry to the enclosure is located on the (lower) left hand side.

4 ELECTRICAL INSTALLATION

	WARNING!
Before starting any electrical installation work, ensure that the incoming trunk connection is isolated from any source of power.	

	CAUTION!
The temperature inside the enclosure could rise to 60°C. Ensure that all cables and cable glands fitted are rated to withstand these temperatures.	

4.1 Overview

- The barrier module receives power from the incoming trunk cable and requires no further source of power.
- The equipment shall be powered only from supplies conforming to IEC 61158-2.
- Type 'A' fieldbus cable is recommended for fieldbus trunk and spur connections.
- The terminal blocks for the trunk fieldbus cables have either screw terminal connectors or cage clamp connectors according to the fieldbus barrier model specified, but both are suitable for cables from 0.5mm²/20 AWG up to 2.5mm²/14 AWG.
- Input voltage range (trunk)- 16- 32Vdc
- Maximum rated current (trunk into trunk out)- 2A

4.2 Grounding

It is important that two distinct ground concepts be recognised before beginning to connect-up the barrier module:

- Local protective earth-ground- mandatory
- Cable shield grounding

These two concepts and their implementation are explained below.

4.2.1 Protective local ground

This ground connection is required:

- To ensure that any exposed metalwork in or on the mounting enclosure does not present a hazard to personnel
- It also provides a low impedance earth grounding circuit for surge protection items that may be used in the enclosure.

A low impedance cable connection should be provided internally- from the Ground terminal on the barrier under the trunk wiring cover- to the body of the enclosure, which is usually provided in the form of a metal stud with threading on the inside and outside of the enclosure to attach cables. An external low impedance connection can then be made from the enclosure's earth-grounding stud to the local plant ground.

A ring terminal is recommended in order to make a good quality, plant safety, earth connection (4mm² cross-sectional area or better) to the bolt.

NOTE
It is important to prevent this connection from loosening and also to protect it from corrosion against the stainless steel grounding stud.

Where the trunk and spur cables are protected by steel wire armour, this should be treated as part of the "protective" ground. Normal practice is to bond the armour to the plant structure at both ends of each cable. Where armour-protected cables enter the enclosure for the Fieldbus Barrier, the armour must be connected to the enclosure body using suitable cable glands.

4.2.2 Cable shield grounding

The cable shield is normally electrically isolated from the protective earth ground, although the two may be deliberately interconnected in some grounding arrangements, as described below.

The module can be configured by the user to either of two grounding methods by means of a link in the trunk wiring area of the module – see Figure 4.1 to locate the grounding terminals.

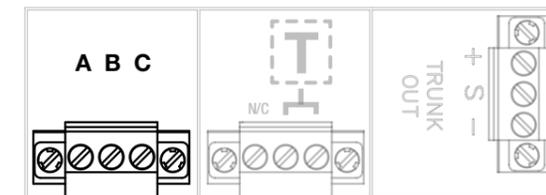


Figure 4.1 – Cable shield grounding option terminals

The user should adopt the grounding method that conforms to their system's normal grounding technique. Whichever method is used, it is important to connect the screen/shield to a ground at only one end of the cable.

The following two options are available to the user.

Option 1

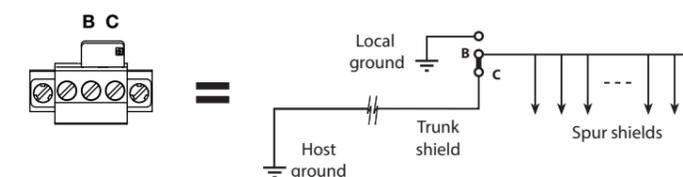


Figure 4.2 – Effect of Option 1 wiring

In many installations, the preferred and default method of grounding is to ground the fieldbus cable shields at one point only, normally at the fieldbus power supply. In this case, the trunk and spur cable shields are connected to each other at the Fieldbus Barrier module and are not connected to ground in the field. For this arrangement, fit the link between terminals B and C, as shown above.

Option 2

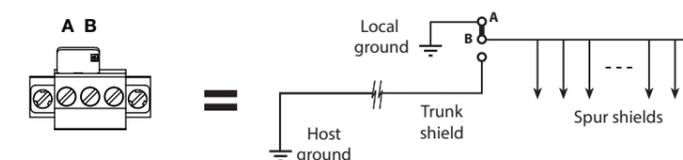


Figure 4.3 – Effect of Option 2 wiring

With this arrangement, the fieldbus trunk shield is separated from the spur cable shields. It should be adopted if plant or local regulations require that the spur cable shields be grounded at the Fieldbus Barrier. For this arrangement, fit the link between terminals A and B, as shown above.

4.3 Trunk wiring connections

An enclosure may be provided with two access holes for trunk glands; one for the incoming trunk and possibly another for onward linking to a second enclosure.



WARNING!
No part of the trunk wiring may be worked while the enclosure is powered, unless the environment is known to be non-hazardous.



Figure 4.4 – Trunk wiring area with cover fitted.

4.3.1 Trunk Terminal wiring

The barrier trunk wiring area is fitted with a protective cover – see Figure 4.4. This cover, together with its warning instructions, is intended to deter a user from working on the trunk connections without first isolating the trunk power.

Feed the trunk cable(s) through the appropriate enclosure glands in the enclosure wall and ensure that any cable armour has a low impedance connection to the enclosure's protective local ground.

IMPORTANT
Cable ferrules must be fitted to any stranded cable or screen wiring that is being used.

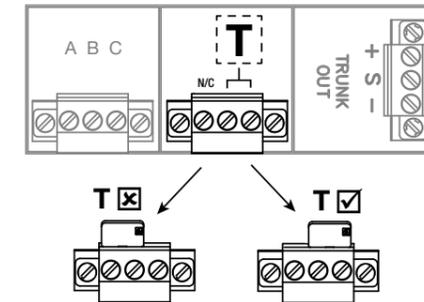
Connect the trunk cable(s) in the following way.

1. First remove the securing screws then press on the side of the transparent protective cover in the area between the arrows shown in Figure 4.4 to release the retaining clip, then remove the cover and move it to the side to obtain access.
2. Prepare the trunk cable(s) in accordance with the gland manufacturer's instructions and secure the cable in the gland. Ensure that there is sufficient length of cable inside the enclosure to allow for bends etc. and without causing any strain.
3. Connect the prepared ends of the incoming fieldbus trunk cable into the appropriate '+', '-' and 'S' terminals of the 'TRUNK IN' connector- observing colour coding in accordance with site wiring regulation. Where S terminal is used to terminate cable shields.
4. If a 'TRUNK OUT' connection is required to a second barrier – inside or outside the enclosure being worked upon- prepare and wire a second

connection in a similar manner.

4.4 Trunk Termination

The Fieldbus Barrier has a built-in terminator facility that is used when the module is the last, or only, barrier on the trunk. The terminator is 'activated' by



positioning the link on the right, as shown in Figure 4.5.

4.5 Trunk Surge Protection

Trunk surge protection can be fitted to the trunk wiring to avoid damage to the equipment from voltage and current surges that could occur on the trunk wiring. Currently, the recommended method of protection involves the use of a TP-32 surge protection module, available from Eaton- MTL, but a similar alternative may be chosen.

A suitable bracket should be employed to mount the TP-32 module adjacent to the trunk terminal wiring compartment.

The TP-32 module should then be connected into the 'TRUNK OUT' terminals as follows.

TP-32 wires	TRUNK OUT connector
Red	+
Black	-

DO NOT connect the yellow and green stripe wire on the TP-32 to the 'S' terminal of the TRUNK OUT connector. The yellow and green stripe wire on the TP-32 should be connected to the local protective ground, which is often provided as a threaded metal stud on the enclosure body.

4.6 Spur wiring connections



Refer to Figures 4.6 for additional details.

Figure 4.6 – Spur wiring options

The spur cables can be connected directly onto the fieldbus barrier carrier (see Figure 4.6) or through an FS32 Spur Surge module (also see Figure 4.6).

4.6.1 Connecting the spur cables

Prepare the spur cables in accordance with the gland manufacturer's instructions and secure the cables in the glands.

IMPORTANT

Cable ferrules must be fitted to any stranded cable or screen wiring that is being used.

Connect the prepared ends of the fieldbus spur cables into the '+', 'S' and '-' terminals on the carrier (or surge module, if fitted), making sure that the same polarity is observed for all spurs.

4.6.2 Fitting FS32 Spur Surge modules

Spur Surge modules are pluggable units (see Figure 4.6) that integrate easily with the standard pluggable connector and which direct excessive spur surge currents to the protective local ground.

To fit an FS32:

- Unscrew the two captive screws securing the standard pluggable connector (supplied on the carrier) and remove it from its socket.
- Insert the FS32 module into the now vacant socket on the carrier; tighten the two side securing screws and the central "protective ground" screw, to a recommended torque of 0.5- 0.6 Nm.
- Fit the connector (removed at Step 1 above) into the socket on the FS32 and tighten its two securing screws also to a recommended torque of 0.5- 0.6 Nm.

Removal of a Spur Surge module is the reverse of the fitting process.

4.7 Final checks

Before fitting/closing the lid on the barrier enclosure, check that:

- all wire terminal connection screws are sufficiently tightened.
- all enclosure cable glands and any blanking plugs are tightened to provide a good seal.
- there are no loose cable ends that could cause an open or short circuit.
- the protective trunk wiring cover is in place and secure.
- no tools (e.g. screwdrivers) or loose items have been left in the enclosure.
- there is no damage to any enclosure cover seal, otherwise it must be replaced with one that has the same manufacturer's part number.
- if, and only if, a barrier is the last one on the fieldbus segment, ensure that its termination link is installed correctly.
- the required grounding link is securely connected both inside and outside the enclosure body.

Fit the enclosure lid and tighten all of its securing screws to their recommended torque.

5 MAINTENANCE

When an enclosure containing a Fieldbus Barrier module is installed in a hazardous area it is important for personnel to understand what activities are permissible when fieldbus power is present and what are not.

	WARNING! Read and understand what work is permitted on the barrier module. Failure to comply with these instructions can endanger the lives or health of personnel and risk damage to the plant and the environment
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5.1 General

The only items that can be disconnected, or removed, while the trunk is still powered are:

- Spur wiring or
- FS32 Spur Surge Protection modules.

All other wiring to the barrier requires the trunk power to be isolated, or a gas clearance certificate to be obtained before any work is carried out.

5.2 Spur connections

All of the spur connections are intrinsically safe and therefore may be live-worked in a hazardous area without 'gas clearance', while complying with normal 'permit to work' procedures.

If spur wiring is removed from a connecting plug, ensure that the same polarity is observed when it is reconnected.

5.2.1 Removing a Spur Surge module

Use the following procedure and reference to Section 4.6 may help.

- Loosen the two screws securing the pluggable, spur-wiring connector to the Spur Surge module and unplug it.
- Loosen all three of the Spur Surge module's fixing screws and unplug it from the carrier.
- Plug the spur connecting plug into its mating socket on the barrier and tighten the fixing screws to a recommended torque value of 0.5- 0.6 Nm.

Make any necessary adjustments to the spur cable to avoid any tension.

5.2.2 Adding a Spur Surge module

Use the following procedure and reference to Section 4.6 may help.

- Loosen the two screws securing the pluggable, spur-wiring connector to the barrier and unplug it.
- Plug the Spur Surge module into the vacant socket on the barrier and tighten the two fixing screws and its grounding screw, all to a recommended torque of 0.5- 0.6 Nm.
- Plug the spur connecting plug into its mating socket on the Spur Surge module and tighten the fixing screws to a recommended torque of 0.5- 0.6 Nm.

Make any necessary adjustments to the spur cable to avoid any tension.

5.3 Trunk connections

	WARNING! Do not remove or replace while circuit is live if a flammable or combustible atmosphere is present
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Work on the trunk wiring, protected by the additional barrier module cover, requires the trunk power to the enclosure to be isolated, or a gas clearance certificate obtained.

Once the conditions are known to be safe, the protective plastic cover over the Trunk wiring may be removed.

Refer to Section 4.3.1 for additional information about trunk wiring connections.

When any changes or checks have been carried out, ensure there are no loose implements left before replacing protective cover for the trunk wiring. Replace the transparent protective cover over the trunk wiring and ensure that there is positive engagement of the retaining clip.

5.4 Regular Maintenance checks

Check the general condition of the installation occasionally to ensure that no deterioration has occurred. At least every two years (and more frequently for harsh, dusty or dirty environments) check:

- Clean only with a moist cloth and detergent.
- the condition of all wire connections/terminations/screens
- that all of the fixing and cover screws and blanking plugs are secure and the enclosure breather/drain is clear
- that there are no signs of damage or corrosion
- that the level of accumulated dust on the barrier enclosure does not exceed 5mm

In addition, take advantage of plant maintenance shutdown periods or whenever the area is known to be non-hazardous, to check wiring quality by ensuring that the dc voltage on the fieldbus trunk, when measured at the enclosure, is >16V. This can be performed using a multimeter (not in presence of Fieldbus communication) or an FBT-6 fieldbus tester.

6 TROUBLESHOOTING

Each Fieldbus Barrier module is fitted with LED indicators to assist the user with fault identification.

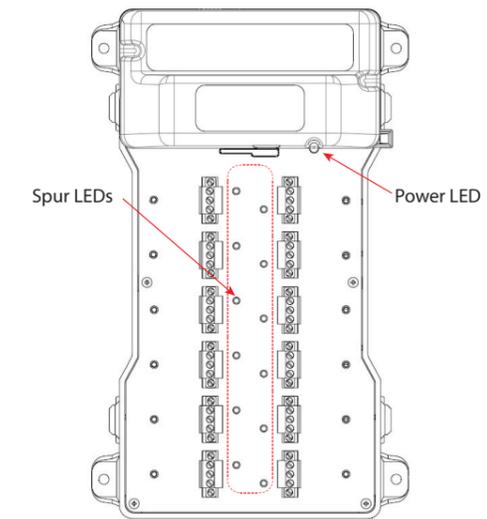


Figure 5.1 –Barrier LED locations

Consult the following tables to understand the meaning of the LED states.

Power LED (Green)

ON	OFF
Trunk power applied	Insufficient or no trunk power

NOTE
The Power LED will not light until the voltage at the barrier has risen to a value of at least 15.7V, but could remain lit even after the voltage has dropped to around 13.0V. DO NOT assume the Power LED indicates a voltage of 16V or more.

If the green Power LED is not lit, check:

- the polarity and integrity of the trunk cable connections to the enclosure.
- that the d.c. supply powering the incoming trunk is operating correctly.

Spur LEDs

Colour	State	Description
Green	Steady	Channel powering spur, spur OK
Green	Flashing	Channel powering spur, spur open
Red	Steady	Internal fault
Orange	Steady	Short to shield
Orange	Flashing*	Short circuit, current limit

* Flashing occurs at a rate of approximately 2 pulses per second.

	CAUTION!
<p>9377-FB3 Fieldbus Barrier modules are designed to operate reliably in industrial environments and comply with international standards for immunity to electromagnetic radiation. However, damage may occur if the apparatus is exposed to extreme levels of radiated electrical noise, for example from "walkie-talkie" radios, or electric arc-welding. If local welding activity is unavoidable, power should first be removed from the module.</p>	

7 ATEX INFORMATION

The Essential Health and Safety Requirements (Annex II) of the EU Directive 2014/34/EU [the ATEX Directive- safety of apparatus] requires that the installation manual of all equipment used in hazardous areas shall contain certain information. This annex is included to ensure that this requirement is met. It complements the information presented in this document and does not conflict with that information. It is only relevant to those locations where the ATEX directives are applicable.

7.1 General

- a) In common with all other electrical apparatus installed in hazardous areas, this apparatus must only be installed, operated and maintained by competent personnel. Such personnel shall have undergone training, which included instruction on the various types of protection and installation practices, the relevant rules and regulations, and on the general principles of area classification. Appropriate refresher training shall be given on a regular basis. [See clause 4.2 of EN 60079-17].
- b) The apparatus has been designed and manufactured so as to provide protection against all the relevant additional hazards referred to in Annex II of the Directive, such as those in clause 1.2.7.
- c) This apparatus has been designed to meet the requirements of electrical apparatus in accordance with EN 60079-0, EN 60079-7, EN 60079-11 and EN 60079-18.

7.2 Installation

- a) The installation should comply with the appropriate European, national and local regulations, which may include reference to the IEC code of practice IEC 60079-14. In addition particular industries or end users may have specific requirements relating to the safety of their installations and these requirements should also be met. For the majority of installations the Directive 1999/92/EC [the ATEX Directive – safety of installations] is also applicable.
- b) The equipment is certified: Baseefa19ATEX0024U and is designed for installation in Zone 1, Zone 2, Zone 21 or Zone 22 hazardous areas if mounted in a suitable enclosure.
- c) The apparatus must not be subjected to mechanical and thermal stresses in excess of those permitted in the certification documentation, this manual and the product specification.
- d) All cables and their glands must be chosen to withstand the temperatures at which the apparatus is designed to operate. See product specification for details.
- e) The apparatus must not be installed in a position where it may be attacked by aggressive substances.

Read also Schedule of Limitations (below) for any additional or more specific information.

7.3 Schedule of Limitations

1. The component shall only be powered from supplies conforming to IEC 61158.
2. When one or more FS32 Spur Surge Modules are fitted, the spur outputs will not withstand a 500V a.c. isolation test to earth. This must be taken into account during installation.
3. The component must be mounted in an appropriately certified enclosure when used in hazardous areas. When used in safe areas, the enclosure must provide ingress protection of at least IP20.
4. The Component is intended to meet the requirements for temperature class T4 when used within its certified temperature range.

7.4 Inspection and maintenance

- a) Inspection and maintenance should be carried out in accordance with European, national and local regulations which may refer to the IEC standard IEC 60079-17. In addition specific industries or end users may have specific requirements which should also be met.
- c) Maintenance of internal components while powered is limited to those actions permitted in Section 5 of this manual.

7.5 Repair

This product or any of its ancillary fittings cannot be repaired by the user and must be replaced with an equivalent certified product.

7.6 Marking

Each barrier is marked in compliance with the Directive and CE marked with the Notified Body Identification Number. This information applies to products manufactured during or after the year 2018.

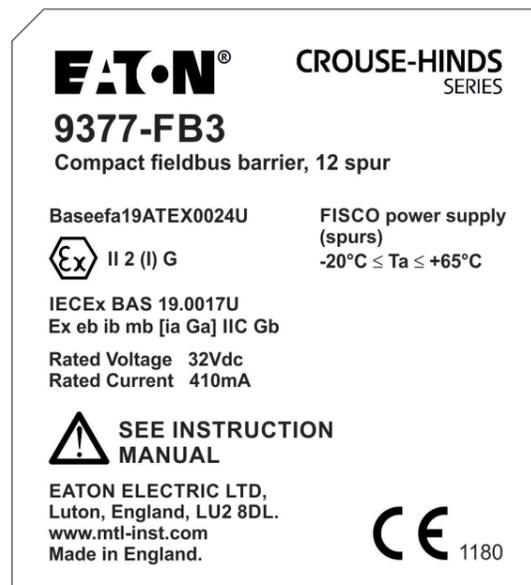
For full certification information visit Eaton- MTL products website at :

www.mtl-inst.com/resources/datasheets

Search on the product family name and type number to view datasheets and certificates.

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Compact Fieldbus Barrier module marking



AUSTRALIA

MTL Instruments Pty Ltd,
10 Kent Road, Mascot, New South Wales, 2020, Australia
Tel: +61 1300 308 374 Fax: +61 1300 308 463
E-mail: mtl-salesanz@eaton.com

BeNeLux

MTL Instruments BV
Ambacht 6, 5301 KW Zaltbommel
The Netherlands
Tel: +31 (0)418 570290 Fax: +31 (0)418 541044
E-mail: mtl.benelux@eaton.com

CHINA

Cooper Electric (Shanghai) Co. Ltd
955 Shengli Road, Heqing Industrial Park
Pudong New Area, Shanghai 201201
Tel: +86 21 2899 3817 Fax: +86 21 2899 3992
E-mail: mtl-cn@eaton.com

FRANCE

MTL Instruments sarl,
7 rue des Rosieristes, 69410 Champagne au Mont d'Or
France
Tel: +33 (0)4 37 46 16 53 Fax: +33 (0)4 37 46 17 20
E-mail: mtlfrance@eaton.com

GERMANY

MTL Instruments GmbH,
Heinrich-Hertz-Str. 12, 50170 Kerpen, Germany
Tel: +49 (0)22 73 98 12-0 Fax: +49 (0)22 73 98 12-2 00
E-mail: csckerpen@eaton.com

INDIA

MTL India,
No.36, Nehru Street, Off Old Mahabalipuram Road
Sholinganallur, Chennai- 600 119, India
Tel: +91 (0) 44 24501660 /24501857 Fax: +91 (0) 44 24501463
E-mail: mtlindiasales@eaton.com

ITALY

MTL Italia srl,
Via San Bovio, 3, 20090 Segrate, Milano, Italy
Tel: +39 02 959501 Fax: +39 02 95950759
E-mail: chmninfo@eaton.com

JAPAN

Cooper Crouse-Hinds Japan KK,
MT Building 3F, 2-7-5 Shiba Daimon, Minato-ku,
Tokyo, Japan 105-0012
Tel: +81 (0)3 6430 3128 Fax: +81 (0)3 6430 3129
E-mail: mtl-jp@eaton.com

NORWAY

Norex AS
Fekjan 7c, Postboks 147
N-1378 Nesbru, Norway
Tel: +47 66 77 43 80 Fax: +47 66 84 55 33
E-mail: info@norex.no

RUSSIA

Cooper Industries Russia LLC
Elektrozavodskaya Str 33
Building 4
Moscow 107076, Russia
Tel: +7 (495) 981 3770 Fax: +7 (495) 981 3771
E-mail: mtlrussia@eaton.com

SINGAPORE

Cooper Crouse-Hinds Pte Ltd
100G Pasir Panjang Road, Interlocal Centre
#07-08 Singapore 118523
Tel: +65 6645 9888 Fax: +65 6645 9811
E-mail: sales.mtlsing@eaton.com

SOUTH KOREA

Cooper Crouse-Hinds Korea
7F, Parkland Building 237-11 Nonhyun-dong Gangnam-gu,
Seoul 135-546, South Korea.
Tel: +82 6380 4805 Fax: +82 6380 4839
E-mail: mtl-korea@eaton.com

UNITED ARAB EMIRATES

Cooper Industries/Eaton Corporation
Office 205/206, 2nd Floor SJ Towers, off. Old Airport Road,
Abu Dhabi, United Arab Emirates
Tel: +971 2 44 66 840 Fax: +971 2 44 66 841
E-mail: mtlgulf@eaton.com

UNITED KINGDOM

Eaton Electric Ltd,
Great Marlings, Butterfield, Luton
Beds LU2 8DL
Tel: +44 (0)1582 723633 Fax: +44 (0)1582 422283
E-mail: mtlenquiry@eaton.com

AMERICAS

Cooper Crouse-Hinds MTL Inc.
3413 N. Sam Houston Parkway W.
Suite 200, Houston TX 77086, USA
Tel: +1 281-571-8065 Fax: +1 281-571-8069
E-mail: mtl-us-info@eaton.com