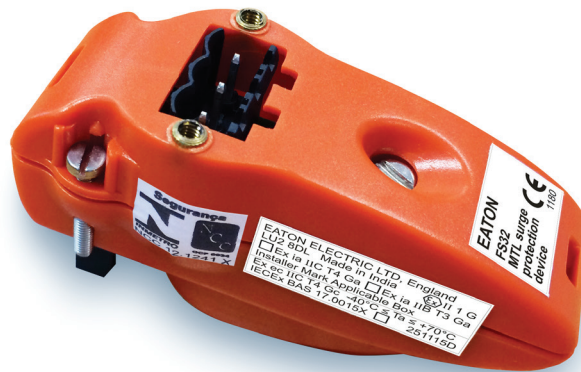


FS32

Fieldbus Surge Suppressor



1. INTRODUCTION

The FS32 protects Fieldbus components complying with IEC 61158-2 physical layer and associated sensitive electronics from the degradation and damage caused by surges and transients. Designed for ease of installation, the FS32 can be used at both ends of the trunk and on spurs where mounting type and configuration allows. More details of this are shown throughout this instruction sheet.

IMPORTANT: The FS32 is designed specifically for use with fieldbus apparatus manufactured by Eaton where the trunk and spur connections are organised as shown in Figure 1.

2. IMPORTANT SAFETY INFORMATION

WARNING

- The FS32 must be installed, operated and maintained by trained competent personnel. The FS32 unit must not be subjected to mechanical or thermal stresses in excess of those outlined in the ATEX specifications.
- The FS32 range must not be installed in an area where it may be attacked by aggressive substances.
- The protected equipment must be electrically isolated during the installation procedure, except where the FS32 is used in an intrinsically safe circuit.
- All installation and maintenance must be carried out in accordance with all appropriate international, national and local standard codes of practice and site regulations, which may include reference to the IEC code of practice IEC 60079-14, and in accordance with the instructions contained here.

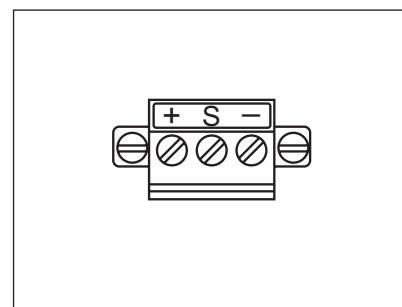


Figure 1 - Spur & Trunk connections

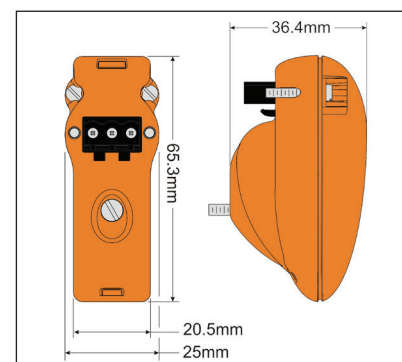


Figure 2 - FS32 dimensions

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3. INSTALLATION

When used with MTL 937x-FB range of Fieldbus Barriers

The FS32 may be used to protect the fieldbus spurs in 9370-FB range of Fieldbus Barriers supplied by Eaton's MTL product line. One FS32 is required for each protected spur.

Note: Insertion of an FS32 into the spur circuit does not require the spur circuit to be powered down or isolated in a hazardous area because the spur is intrinsically safe. However, communication with the connected field instrument will be lost during installation.

- 3.1 Remove the existing 3-position connector plug and insert the FS32 in its place - securing it with the two side screws and the central grounding screw - do not over-tighten. Insert the existing connector plug into the top of the FS32 and tighten the two connector fixing screws. If the wiring is not connected, insert the wires into the appropriate terminals '+', 'S' '-' and tighten their securing screws.
- 3.2 Reconnect circuit and test system to verify operational status.

When used with Megablocks

Spurs will be intrinsically safe if the Megablock is powered from an intrinsically safe source of supply such as MTL 912x-IS FISCO power supplies. See also 'Note' at the bottom of previous page.

- 3.3 Remove the existing 3-position connector plug and insert the FS32 in its place - securing it with the two side screws. Insert the existing connector plug into the top of the FS32 and tighten the two connector fixing screws. If the wiring is not connected, connect to the appropriate terminals '+', 'S', '-'.
- 3.4 Determine length required for the grounding bar (FS32-BAR) and using tools (e.g. pliers), break at the score marks. Tighten the FS32 ground screw into the grounding bar. Do not over-tighten.
- 3.5 Connect an Earth wire, (minimum 3mm²) with a ring terminal to the M4 threaded hole. Ensure this wire is connected to the chassis or the Earth reference of the protected equipment.
- 3.6 Reconnect the circuit and test the system to verify operational status.

4. MAINTENANCE

At intervals of not more than one year (more frequently for particularly harsh environments) visually check the installation and ensure that:

- i) the device and/or its enclosure is firmly attached to its mounting
- ii) there are no signs of external damage or corrosion
- iii) the interconnecting cables are not frayed or otherwise damaged
- iv) all connections are properly made with clear labelling.

If the unit has suffered damage, send it back to Eaton for evaluation, which should be carried out only by MTL product line. This product is not repairable.

5. APPROVALS

In hazardous locations check the marking on the device to ensure that it is appropriate for the application. Place a mark in the applicable box (see Figure 4) to indicate the type of protection being utilized. The type of protection cannot be changed after use – for marking use an indelible marker. The product range has been designed to meet the fault tolerant requirements of Electrical Apparatus for Category 'ia'. Entity parameters: See Certificate number Baseefa09ATEX0180X and/or IECEx BAS 09.0083X

ATEX / IECEx Special Conditions for Ex ec use:

1. The FS32 Fieldbus surge suppressor may not be capable of withstanding the 500V voltage withstand test for one minute without breakdown to earth. This must be taken into consideration in any installation.
2. When the FS32 Fieldbus surge suppressor is mounted within a Hazardous Area, the plastic enclosure is considered to present a potential electrostatic risk. Do not rub or clean with solvents.
3. The FS32 Fieldbus surge suppressor does not meet the requirements of IP20 at the top and bottom connectors. This must be taken into consideration in any installation and once installed the overall assembly must meet the requirement of IP20.



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ATEX / IECEx Special Conditions for Ex ec use:

Input Voltage = 32Vdc max

Output Voltage = Input Voltage

1. The equipment must be installed in an area of at least Pollution Degree 2, as defined in IEC 60664-1, and in an enclosure that provides a degree of protection of at least IP54 and meets the relevant requirements of IEC 60079-0 and IEC 60079-7.
2. The equipment may not be capable of withstanding the 500V dielectric strength test in accordance with clause 7.1 of IEC 60079-7. This must be taken into account during installation.
3. All connections to the equipment must not be inserted or removed unless either the area in which the equipment is installed is known to be non-hazardous, or the circuit to which it is connected has been de-energised.

Terminal Block Wiring

Conductor size (solid or flexible) 0.2mm² to 2.5mm² (12AWG to 24 AWG)

Min 0.25mm² if with ferrule

Min tightening torque 0.5 Nm

Max tightening torque 0.6 Nm

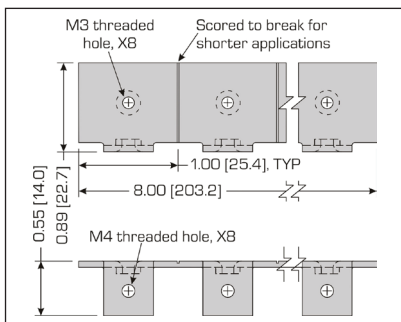


Figure 3 - Nickel-plated steel grounding bar

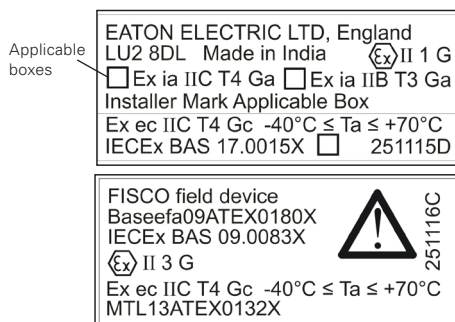
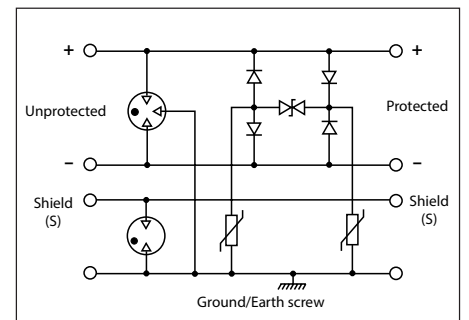


Figure 4 - ATEX certification details



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