

MARSTON BURSTING DISC INDICATORS

INSTALLATION AND MAINTENANCE INSTRUCTIONS

Before installation these instructions must be read fully and understood



These are electrical connection instructions for burst disc indicators, replacing the indicator loop.

IMPORTANT

Read before connecting the indicator loops to the electrical system.

The Marston burst disc indicator (BDI) is designed to provide an electrical signal when a bursting disc ruptures. This signal can be interfaced with alarm or process systems. The indicator has been certified by Baseefa (2001) Ltd in accordance with the ATEX directive 94/9/EC as being intrinsically safe for use in hazardous areas provided that a number of conditions have been satisfied.

1. The electrical supply to the loop must be limited to 100 mA max. This can be achieved by using a suitable switch barrier. These barriers must be certified by an EEC approved notified body to EEx ia IIC.

2. Supply potential with respect to earth under normal or abnormal conditions must not exceed 253 V rms or 250 V DC.
3. When using a shunt zener diode barrier, the bursting disc holder assembly must be bonded to the safety barrier earthed bus bar so that they are at the same potential. A suitable bonding conductor of not less than 4 mm² is advised. See clause 12.2.4 of BS EN 60079 - 14: 1977.
4. It should be noted that the design of the BDI is such that it may not be capable of withstanding the 500 V insulation test normally required by clause 5.7 of EN 50020.

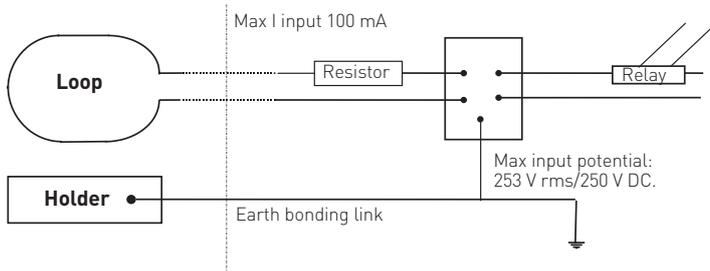
When the loop is connected as described it is certified by Baseefa (2001) Ltd to:

- EEx ia IIC T6. (-20°C ≤ Ta ≤ +75°C)
- Modules ATEX 94/9/EC:  II 1 GD 85°C
- Certificate Number is: Baseefa03ATEX0196X

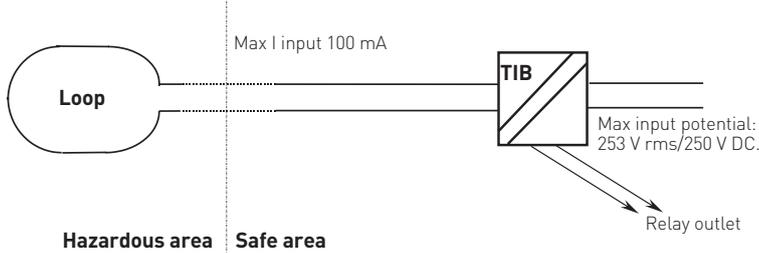
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1. Shunt Zener diode barrier



2. Transformer isolated barrier



Hazardous area can be zone 0, zone 1 or zone 2.
 Modules ATEX 94/9/EC: - **Ex** II 1 GD 85°C

TYPICAL INSTALLATIONS

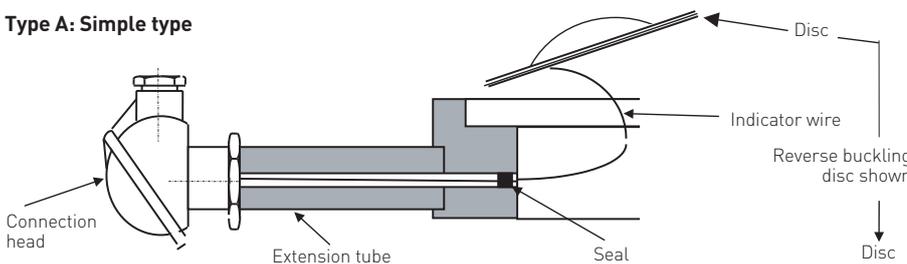
Where bursting discs are fitted with burst disc indicators (BDI), the following instructions should be read in addition to the normal installation instructions provided. Note that care must be taken not to damage the indicator loop or lead wires. These are delicate and broken easily.

1. Where an assembly has the system with a 'feed through pressure seal' (type B), when fitting the disc into the holder, carefully feed the indicator lead wires through the extension tube until they appear at the end.

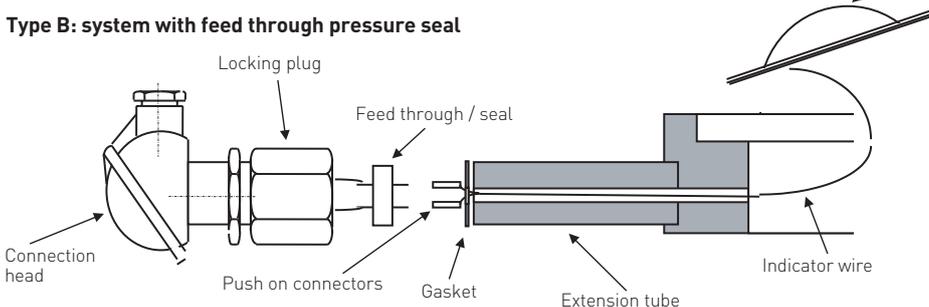
2. After the disc has been assembled fully, connect the indicator wires to the feed pins, ensuring that the gasket is in place. Fit the locking plug and connection head carefully. Use the lock nut to fix the orientation of the connection head. Open the head and connect the lead wires to the terminals.
3. For the simple type (Type A), using the connectors, join the indicator wires to the wires protruding into the vent side of the holder.

4. Before installation onto the plant, check the circuit for continuity. After installation onto the plant, connect the plant instrumentation wires to the connection head terminals. Recheck for continuity and that no circuit is made between the wires and the holder. Close and secure the head cover.

Type A: Simple type



Type B: system with feed through pressure seal



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INSTALLATION OF REMOTE INDICATORS

Marston remote mounted burst disc indicators are used to provide an electrical signal when a bursting disc ruptures. This signal can be interfaced with alarm or process control systems. The remote mounted indicator comprises an insulated conductive loop bonded to a pre-weakened polyamide or similar film. When the disc bursts, the loop is broken interrupting the electrical circuit to initiate the signal. Remote mounted indicators can be supplied for the full range of Marston bursting discs, either as original equipment or for retrofitting to existing assemblies in the field. The BDI is installed between the vent side of the holder and its mating pipe flange. No other gaskets or seals should be used unless directed otherwise by the manufacturer. A flying lead is used to connect the loop to the electrical system.

INTRINSIC SAFETY

The remote mounted BDI has been certified by Baseefa (2001) Ltd in accordance with ATEX directive 94/9/EC for use in hazardous areas and meets the requirements of the Code EEx ia IIC T6. To ensure that the system complies with the code requirements, the electrical supply must be limited to 100 mA max.

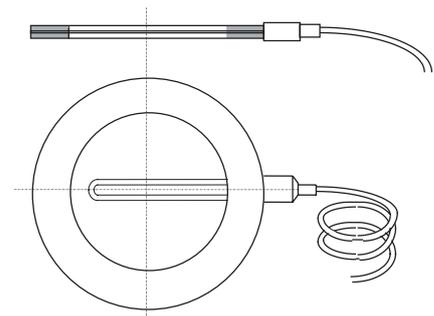
DISPOSAL

Items should be disposed of in accordance with local and national regulations.

TECHNICAL DATA

Nominal bore (mm)	Pressure range and temperature	
	Minimum burst pressure (bar)	Max. operating temperature (°C)
25	1.50	200
50	0.50	200
80	0.34	200
100	0.25	200

Remote indicator disc



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