

## INSTALLATION AND MAINTENANCE INSTRUCTIONS

# RI BURST INDICATOR



Doc. 8.8181.00.1  
Rev. November, 2019

**Fike**<sup>®</sup>

### SOLUTIONS

- / Fire Protection
- / Explosion Protection
- / Overpressure Protection
- / Pressure Activation

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REVISION HISTORY

ORIGINAL RELEASE DATE: .....July, 2019

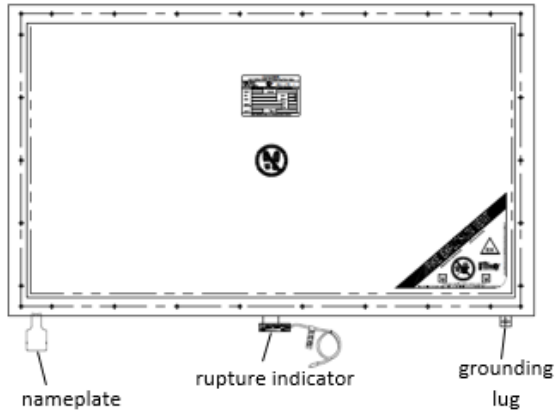
REVISION / DESCRIPTION OF CHANGE	REVISION DATE
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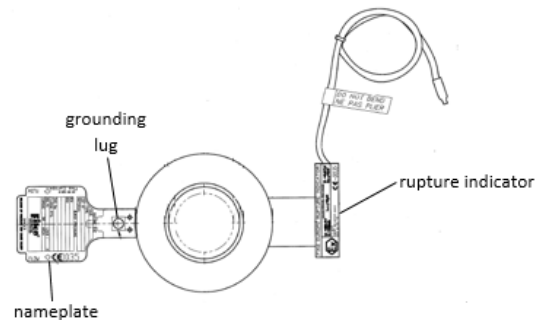
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## 1. GENERAL

The RI consists of an insulated electrical conductive strip, attached to the opening part of the explosion vent or to the rupture disc. The electrical conductive strip is made of copper with outstanding electrical characteristics and is attached to a highly corrosion resistant Kapton sealed envelope. The RI is fitted to vent/disc during manufacture and is supplied with 3m of cable. When the vent/disc opens, the RI goes open circuit and provides the alarm signal to initiate shutdown or process changes.



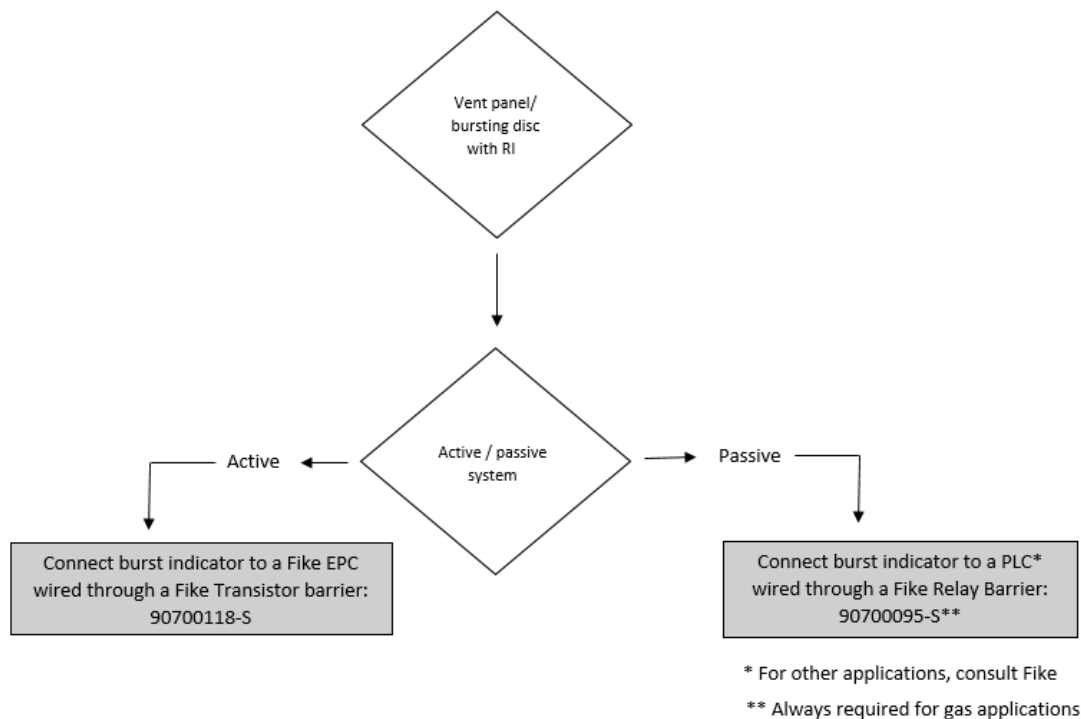
RI assembly overview (vent)



RI assembly overview (disc)

## 2. BURST INDICATOR AND BARRIER SELECTION

The RI is intended for general purposes to initiate an alarm signal OR to generate a trouble condition.

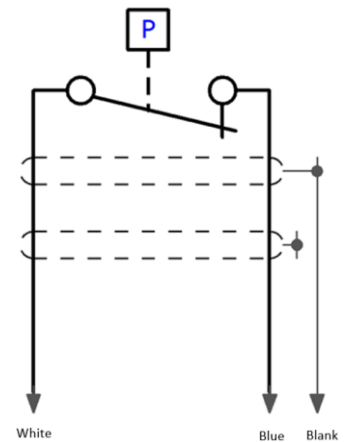


## 3. INSTALLATION

The electrical circuitry used in RI type indicators consists of an insulated electrically conductive strip, connected to a 3 metres long flying lead. Before connection with any electrical system, verify maximum voltage / current indicated on the nameplate cannot be exceeded.

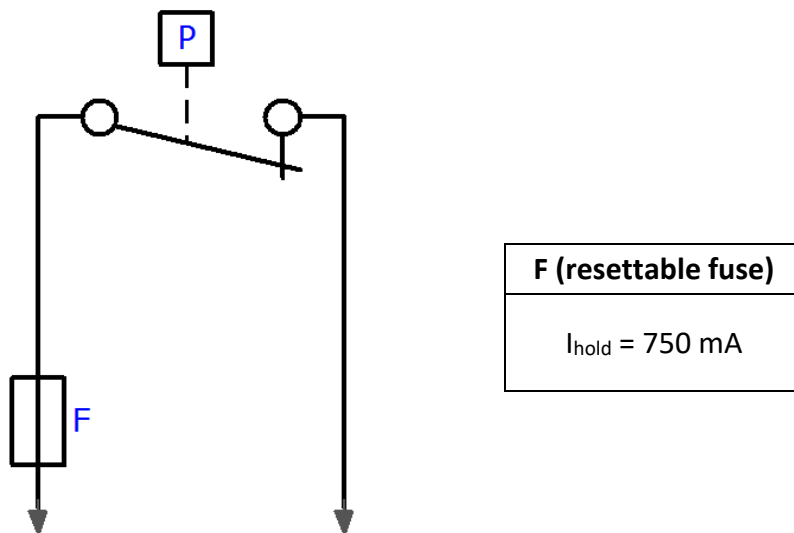
Caution: The circuitry is designed for intrinsically safe service and takes, outside an ATEX zone, no more than 24 Volts AC/DC and no more than 0.05 Amperes. Higher voltage / current will permanently damage the electrical system. Refer to paragraph 4 for maximum values inside an ATEX zone.

$U_i = 28.4 \text{ V}$   
 $I_i = 93 \text{ mA}$   
 $P_i = 0.615 \text{ W}$   
 $L_i = 5.6 \mu\text{H}$   
 $C_i = 1.8 \text{ nF}$



Warning: Do not bend electrical cable at any angle at a distance less than 20 centimetres from the mechanically braced part. Bending this area will damage the electrical system.

Warning: Excessive tightening may damage clamping surfaces of holder and can easily cut through thin, soft bursting discs and permanently damage the electrical circuitry.



## 4. TECHNICAL DATA

<b>Materials:</b>	Indicator: Copper (Cu) Substrate: Kapton (sealed envelope) Enclosure: Zamak 5
<b>Process Temperature:</b>	-30° C to +260° C
<b>Ambient Temperature:</b>	-20° C to +80° C
<b>Electrical connection:</b>	Cable type Belden 9463NH, length 3 mt Conductor: 2 x 20AWG / 2 x 0.5mm <sup>2</sup> tinned Cu Drain wire 20 AWG tinned Cu Braid : Tinned Cu, 55% coverage Shield : Aluminum-Polyester, 100% coverage Overall diameter 6.35 mm (Pg9) Jacket material : FRNC / Blue (RAL 5012) Flame resistance : IEC 60332-1-2 and IEC 60332-3-24

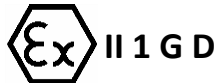
## 5. ATEX CERTIFICATION

The respect of essential safety requirements, defined in the 2014/34/EU directive from 14 February 2014, is obtained by the apparatus conformity to the standards:

EN 60079-0: 2012 + A11: 2013

EN 60079-11: 2012

**INERIS 19ATEX0027X**



Ex ia IIB T4 Ga

Ex ia IIIC T135°C Da

$-20^{\circ}\text{C} < T_{\text{amb}} < +80^{\circ}\text{C}$

**IECEX INE 12.0004X**

Ex ia IIB T4 Ga – Ex ia IIIC T135°C Da

### PARAMETERS RELATING TO SAFETY:

The intrinsic safe electrical parameters are:

- Voltage  $U_i = 28.4 \text{ V}$
- Current  $I_i = 93 \text{ mA}$
- Power  $P_i = 0.615 \text{ W}$
- Inductance  $L_i = 5.6 \mu\text{H}$
- Capacitance  $C_i = 1.8 \text{ nF}$

### SPECIFIC CONDITIONS OF USE AND WARNINGS

- The equipment is intended to be used in an ambient temperature range from  $-20^{\circ}\text{C}$  to  $80^{\circ}\text{C}$ .
- The installation of the burst indicator and the barrier has to comply to the EN 60079-14 standard.
- The equipment must be used with an intrinsically safe barrier.
- The equipotentiality of the grounding between the place of installation of the barrier and the indicator needs to be checked at the installation and periodically.
- To prevent potential electrostatic charging hazard all shieldings need to be connected properly. RI strip may accumulate an electrostatic charge on its housing, clean only using a damp cloth.



## 6. PREVENTIVE MAINTENANCE

Only authorized personnel may install the Fike equipment.

The burst indicator should be inspected at least every six months. One should check for visible signs of leakage, corrosion or damage to the unit. Under normal operating conditions burst indicators should be replaced yearly or at burst. However, in most cases, operating conditions will determine how often the unit must be replaced. The best service life can only be determined by experience and per application.

Any component that is to be returned to Fike must be approved for return prior to shipment. In order for the returned component to receive the correct attention (credit, repair, replacement) either under warranty or at the owner's expense, a Shipping Label for prearranged return authorization must be provided by Fike. A prearranged return authorization will expedite the business and corrective action measures taken upon receipt of the part(s).

When preparing the component for shipment, please put the Shipping Label that is provided by Fike on the package with the goods to be returned. Also include a specific statement of the perceived defect or component failure so Fike can examine the returned part(s). This statement should address symptoms and an operation history of the system in which the component was installed. If the part(s) have been in contact with any medium, provide a (Material) Safety Data Sheet – (M)SDS with the shipment.

In the event the suspect part is found within a larger top assembly component, the party providing the Shipping Label should be able to assist you as to whether the entire assembly must be returned or only the component in question.

Any part returned without authorization or correct labelling, will not be handled and will be scrapped without any notification.

To start the repair and return authorization procedure, contact the nearest Fike Sales Outlet. The nearest Fike Sales Outlet may be found on the Internet at [www.fike.com](http://www.fike.com).

## Notes:

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