

Over Pressure Indication for Rupture Disk or Relief Valve Applications

When a pressure surge causes a relief valve to open, it also opens the rupture disk under the valve. This leaves the valve vulnerable to chemical attack. The BA Burst Sensor reduces this threat by constantly monitoring the disk. When connected to an electrical alarm, the BA Burst Sensor alerts personnel to take immediate action to protect system components from further damage.

Operation

When a disk bursts, flow pushes one end of the BA Burst Sensor's conductor out of its retaining slot and opens the electrical circuit. The BA Burst Sensor can be reset by re-inserting the conductor into the retaining slot.

Models

- BA – Burst Sensor
- BA-L – Burst Sensor with integral Leak Detector
- LD – Separate Leak Detector to be used with a BA or RDI

Features

- Re-Settable
- Sizes 1" thru 36" (25 mm - 900 mm)
- Electrically conductive
- Installs on vent side of the disk holder or alone
- Requires minimal flange face-to-face clearance
- Adapts to virtually all makes/types of rupture disks, including Graphite types
- Fits easily into existing pipe systems
- Standard Connection: Red and White wired weatherproof Connector (Connection 1)
- Leak detection options includes the BA-L with an integral Leak Detector, and the LD (sold separately) for use with a standard BA. Both will indicate if the rupture disk or relief valve is leaking fugitive emissions downstream though the assembly
- Moisture and abrasion resistant connector features two-pin bullet terminal
- Compatible with Metal or Graphite Rupture Disks or for stand alone use (relief valve applications)

Note: *Blue Belden Wire: 1503A, 22 AWG stranded (7x30) TC conductors, PVC insulation, twisted pair, overall Beldfoil shield (100%coverage), 24 AWG stranded TC drain wire, PVC jacket.

BA Operating Limits	
Max. Temperature	700°F (371°C)
Max. Continuous Temp	548°F (287°C)
Max. Voltage	24 VDC
Max. Current	20 mA

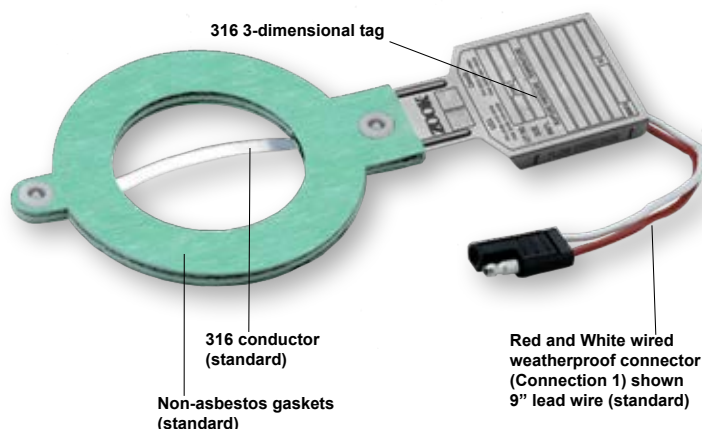
*BA equipped with PTFE gaskets and BA-L & LD are limited to 500°F (260°C)

BA Size	Nominal Indicator Thickness	Thickness with Optional LD
1" - 24" (25 mm - 600 mm)	3/16" (5 mm)	1/4" (6 mm)

Please consult your local ZOOK representative or contact us at sales@zookdisk.com.

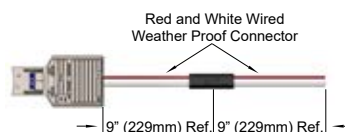
Ordering Information

When ordering BA Series, specify: flange size, flange series, relieving pressure or pressure relief device, connection type and coincident temperature.

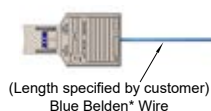


Connections

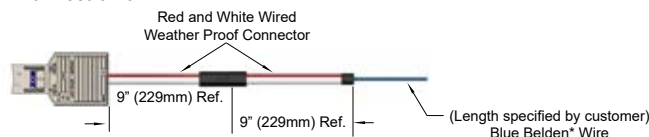
Connection 1



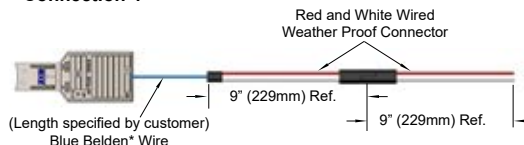
Connection 2



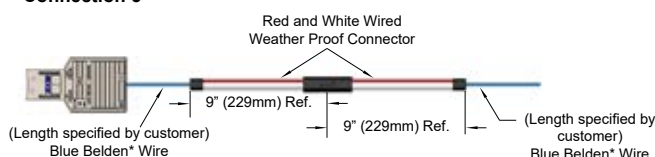
Connection 3



Connection 4



Connection 5



BA Series Specifications

Optional Leak Detector (LD) for BA Burst Sensor

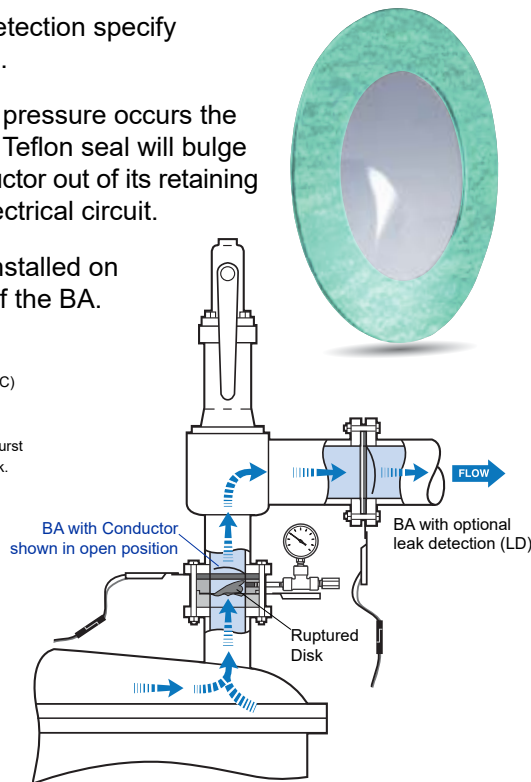
For optional leak detection specify either a BA-L or LD.

When a build-up in pressure occurs the Leak Detector PFA Teflon seal will bulge and push the conductor out of its retaining slot opening the electrical circuit.

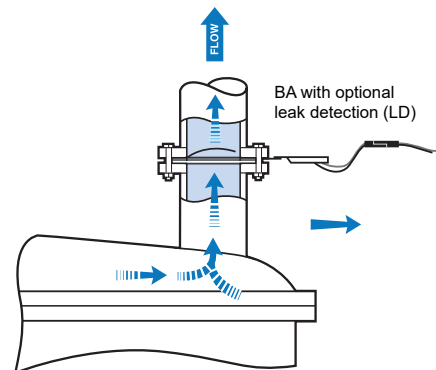
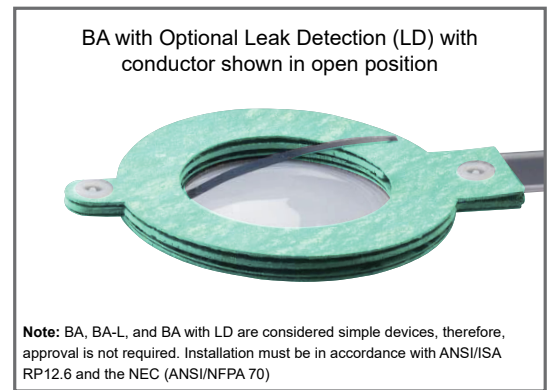
The LD is always installed on the pressure side of the BA.

Notes:

- Max. Temperature of 500°F (260°C)
Limitation of liner material.
- Build up of pressure below Leak Detector can increase effective burst pressure of upstream rupture disk.



Relief Valve with BA & LD Burst Sensor Applications



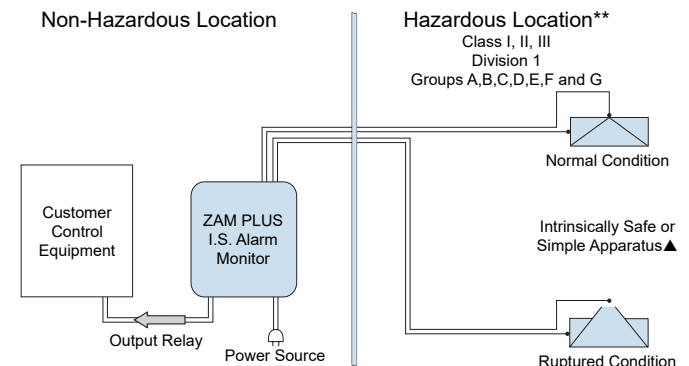
Storage Tank Application with BA & LD

Monitor

The BA Burst Sensor works with ZOOK ZAM Plus Alarm Monitor or any other monitoring system. Consult ZOOK for additional information. The monitor wired to the BA Burst Sensor will be activated providing immediate local or remote warning of a ruptured disk. The ZAM Plus monitor allows output to control pumps, valves, and other equipment which may be activated to control or shutdown a process.

CAUTION

The BA Burst Sensor is an electrical device suitable for use in hazardous locations (Class I, II, and III, Division 1, Group A thru G) provided that it is used with an approved intrinsically safe electrical alarm monitor. Not suitable for conductive fluids, contact ZOOK for alternative option.



Notes:

**Contact ZOOK for information about mounting the ZAM Plus Alarm Monitor in hazardous locations.

▲Hazardous location equipment must be NEC compliant or simple apparatus.



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SERVING AMERICA, CENTRAL & SOUTH AMERICA
16809 Park Circle Drive
Chagrin Falls, Ohio 44022
United States
Toll Free: +1 800 543 1043
Phone: +1 440 543 1010
E-mail: sales@zookdisk.com

SERVING EUROPE, MIDDLE EAST & AFRICA
Navigation House, Bridge St.
Killamarsh, Sheffield, S21 1AL
United Kingdom
Phone: +44 (0) 1909 560999
E-mail: sales.europe@zookdisk.com

SERVING CANADA
4400 South Service Road
Burlington, Ontario, L7L 5R8
Canada
Toll Free: +1 800 370 6057
Phone: +1 905 681 2885
E-mail: sales.canada@zookdisk.com

SERVING ASIA PACIFIC
Menara LGB TTDI
Unit 6-3A, Level 6, Menara LGB,
No. 1, Jalan Wan Kadir,
Taman Tun Dr. Ismail,
60000 Kuala Lumpur, Malaysia
Phone: +603 2706 0098
E-mail: sales.asia@zookdisk.com

Safety through knowledge and performance.

Integral Burst Indication for Flat Seated Metal Rupture Disks

Over-pressure indication for metal rupture disk installations. The BI Integral Burst Indicator is a simple and effective means of indicating when the process media ruptures a disk.

Operation

The BI is integrated into the vent side of the rupture disk assembly. Upon rupture of the disk, the BI alarm circuit is opened.

Features

- Resistant to the effects of back pressure from common discharge manifolds
- Compatible with most ZOOK flat-seat metal and sanitary rupture disks
- Classified as a simple apparatus and may be used in a hazardous environment. Must be used in conjunction with intrinsically safe certified electrical apparatus and installed & maintained to meet all other requirements of an intrinsically safe installation & local codes
- Reduces stock inventory by incorporating the burst indicator and disk into a single unit
- BI comes standard with connection 2 and 6' (1828 mm) of signal wire if not specified

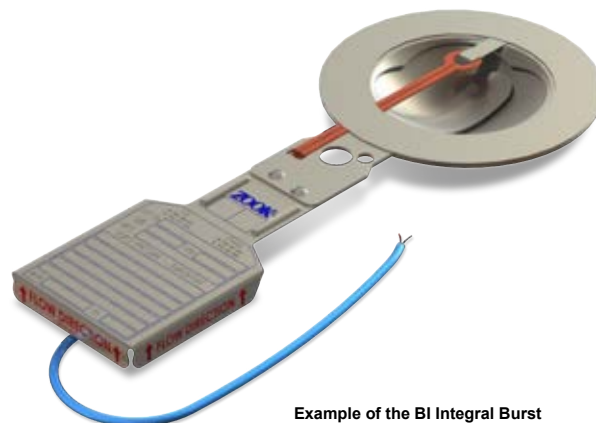
Note: *Blue Belden Wire: 1503A, 22 AWG stranded (7x30) TC conductors, PVC insulation, twisted pair, overall Beldfoil shield (100% coverage), 24 AWG stranded TC drain wire, PVC jacket.

Materials

Membrane – Kapton

Conductive material – Copper

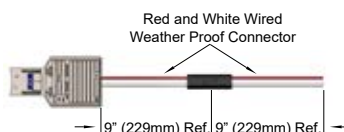
Leadwire – Blue Belden* wire



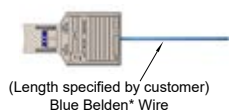
Example of the BI Integral Burst Indicator on a ZOOK Rupture Disk

Connections

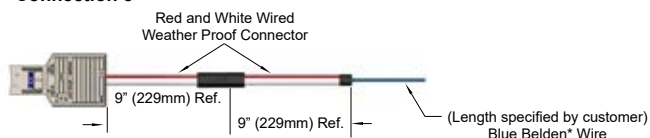
Connection 1



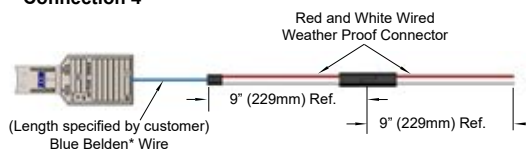
Connection 2



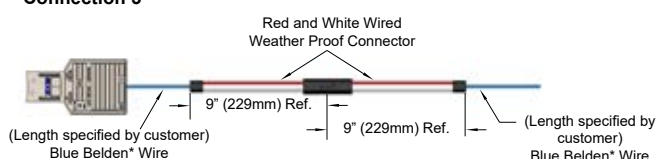
Connection 3



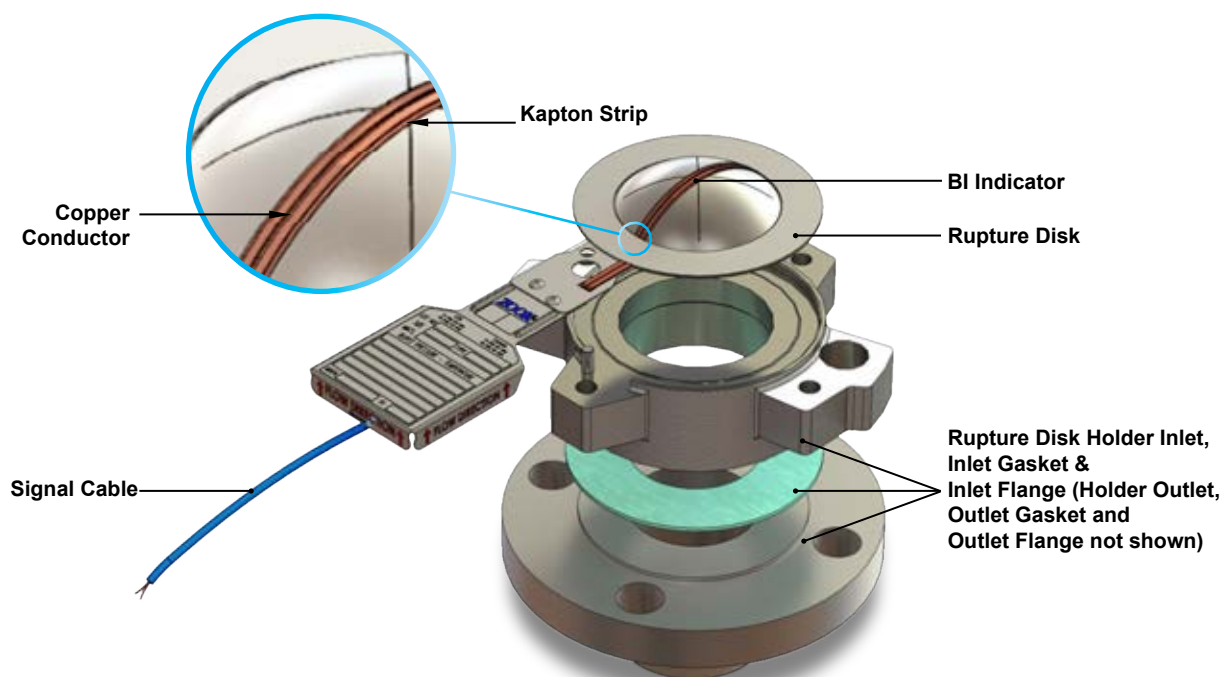
Connection 4



Connection 5



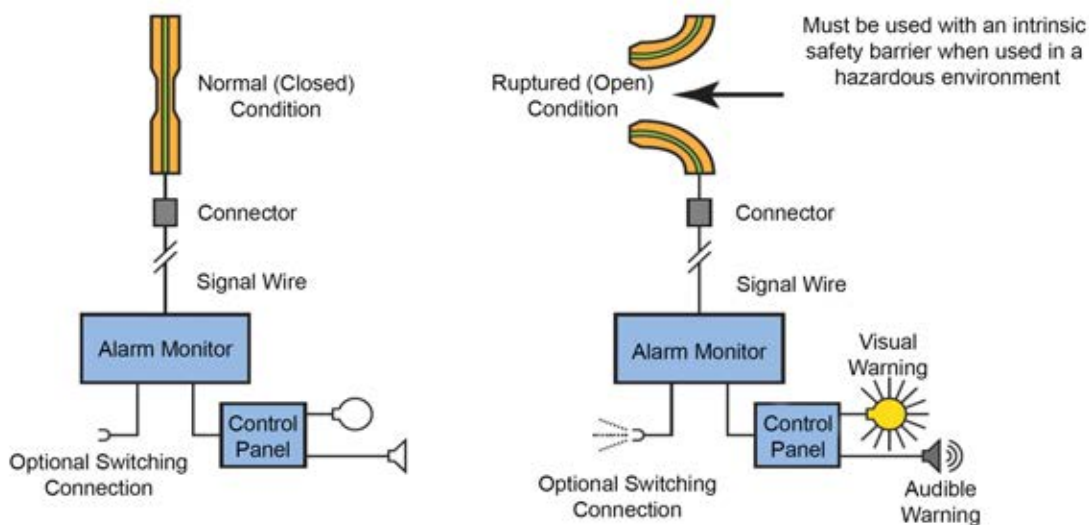
BI Series Specifications



Electrical Properties

Maximum Pre-Rupture Resistance	20 Ω	Maximum Voltage	24 V DC
Temperature Range	-40 to 400°F (-40 to 204°C)	Maximum Current	50 mA

Operating Schematic



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SERVING AMERICA, CENTRAL & SOUTH AMERICA
 16809 Park Circle Drive
 Chagrin Falls, Ohio 44022
 United States
 Toll Free: +1 800 543 1043
 Phone: +1 440 543 1010
 E-mail: sales@zookdisk.com

SERVING EUROPE, MIDDLE EAST & AFRICA
 Navigation House, Bridge St.
 Killamarsh, Sheffield, S21 1AL
 United Kingdom
 Phone: +44 (0) 1909 560999
 E-mail: sales.europe@zookdisk.com

SERVING CANADA
 4400 South Service Road
 Burlington, Ontario, L7L 5R8
 Canada
 Toll Free: +1 800 370 6057
 Phone: +1 905 681 2885
 E-mail: sales.canada@zookdisk.com

SERVING ASIA PACIFIC
 Menara LGB TTDI
 Unit 6-3A, Level 6, Menara LGB,
 No. 1, Jalan Wan Kadir,
 Taman Tun Dr. Ismail,
 60000 Kuala Lumpur, Malaysia
 Phone: +603 2706 0098
 E-mail: sales.asia@zookdisk.com

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