

Pipeline Pig Passage Detector/Indicator Applications

BACKGROUND

Explosion-proof limit switches are used in many places along or around oil and gas pipelines. These hazardous-area switches are used to trigger an electrical signal along a pipeline based on indicators that are designed to detect/trip when a pig or sphere has gone through that particular a pipeline.

Pipelines are found in coastal areas or on platforms in the ocean. Pig passage detectors are also used at the end of the pipeline to indicate that the pigging or sphere product has reached its destination and can be retrieved for cleaning and/or repair/refurbishment for its next use in another pipeline segment (See Figures 2 – 4). Many pig passage detectors are installed in highly corrosive, marine, or chemical plant environments limiting switch durability and longevity (See Figure 1).

SOLUTION

MICRO SWITCH™ BX2 hazardous-area switches provide the corrosion resistance desired by designers of equipment and installers. The stainless steel housing is designed for use in highly corrosive environments where salt, harsh environmental or other chemical agents may cause excessive corrosion. The stainless steel BX2 housing can provide corrosion resistance up to four times longer than standard housing switches. Fewer product replacements over time may reduce total installed cost by 50% through lower labor and material costs.

MICRO SWITCH™ BX2

The MICRO SWITCH™ BX2 Series delivers corrosion resistance and can provide both cost and time savings to the end user. The stainless steel housing helps protect the switch mechanism from corrosion often present in chemical processing plants, off-shore/near shore sites, and other hazardous areas. To comply with explosion-proof switching requirements, the flame path within the switch housing is designed to contain and cool escaping hot gases/fumes which could cause an explosion outside of the switch. (See Table 1.)

**Figure 4. MICRO SWITCH™ BX Series Application
PIG SIG Flag-Electrical Indicator Assembly**

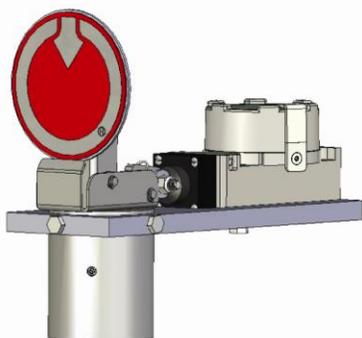
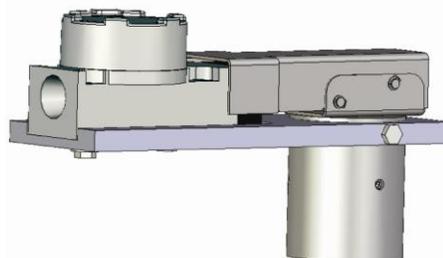


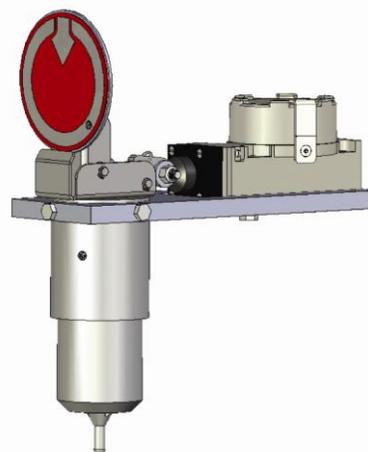
Figure 1. Application



**Figure 2. MICRO SWITCH™ BX Series Application
PIG SIG Electrical Indicator Assembly**



**Figure 3. MICRO SWITCH™ BX Series Application
PIG SIG with flag-electrical indicator**



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Table 1. MICRO SWITCH BX2 Series

BX2 Series	Features	Benefits
	<ul style="list-style-type: none"> • New 316L stainless steel body • Optional conduit selection allows for 20mm metric conduit or imperial conduit ½ in NPT • Tracking interchangeability with existing MICRO SWITCH™ Hazardous Area Switches (LSX & BX) for drop in replacement • Variety of heads and non-sparking actuators • Power-duty load switching through 10A continuous carry electrical rating • Choice of silver or gold contacts (provide enhanced electrical performance) when switching low energy loads • To comply with explosion-proof requirements, the BX/BX2 has flame paths within the housing, which cool exploding gases below the ignition temperature before they reach explosive gases surrounding the housing • Certified for global use: UL, CSA, ATEX, IEC Ex approvals • Both internal and external grounding screw to comply with international standards • Weather sealed ratings: NEMA 1, 3, 4, 6, 7, 9, 13 and IP67 to ensure that product can survive outdoors 	<ul style="list-style-type: none"> • Improved durability due to better resistance in corrosive marine, brine, or chemical environments through full stainless steel body • Global Conduit Connectivity options • Global Explosion Proof Compliance and Approvals • Ease/compatibility of installation • Heavy duty continuous carry switching load • Low energy contact options • Variety of application actuation options

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WARNING

IF USED IN APPLICATIONS CONCERNING HUMAN SAFETY

- Use only NC direct opening (“positive opening”/“positive break”) contacts, identified by the symbol.
- Do NOT use flexible/adjustable actuators. Only use actuators designed for safety applications.
- Do NOT defeat, tamper, remove, or bypass this switch.
- Hazardous voltage, disconnect power before servicing
- Strictly adhere to all installation and maintenance instructions
- Consult with local safety agencies and their requirements when designing a machine-control link, interface and all control elements that affect safety.

Failure to comply with these instructions could result in death or serious injury.

WARNING

MISUSE OF DOCUMENTATION

- The information presented in this application note is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

SALES AND SERVICE

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office or:

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Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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