



Features & Benefits

- **Compact size** ... ideal for limited space applications.
- **Sealed for submersibility** ... assures long-term reliability in the most hostile environments.
- **Tamper-resistant** ... cannot be bypassed with simple magnets.
- **Rugged, corrosion-resistant housing** ... tolerates most industrial environments.
- **Integral LED status indicators** ... facilitate easy installations and provide visual indication of switch status.
- **Shock and vibration tolerant** ... designed to withstand mechanical abuse.
- **Integral reed switch monitoring & control module...** detects faults in reed switch array. Satisfies EN954, Safety Category 1.
- **Available in metal (BNS30) or plastic (BNS300) housings** ... for application versatility.

Description

The Series BNS30 and BNS300 coded-magnet sensors are designed for use as a safety interlock switch on movable machine guards/articulating robot arms. Each sensor set consists of a multiple reed switch unit and a coded-magnet actuator. The reed switches, wired in series, will only close in the presence of their matched magnetic field array.

In addition, the Series features an integral monitoring and control circuit which detects faults in the reed switch array (satisfying EN954, Category 1 without use of an ancillary safety relay module).

Both switch and magnet assemblies are sealed to IP67 (submersible) standards. Their tamper-resistant design prevents bypassing with a simple magnet or improperly coded magnetic field. In addition, the BNS module features an integral LED display of switch status and a 1-meter long prewired pigtail.

Operation

The reed switch assembly is typically mounted to a stationary portion of a guard structure, with the coded-magnet assembly mounted to the movable element of the machine guard. When the guard is closed, and the matched magnetic field aligns with the reed switch unit, the switches will close. When the guard is open, or the required magnetic-field array is not properly aligned with the reed switch assembly, the sensor output will remain "off."

Typical Applications

The sealed, compact units are ideal for use on movable machine guards in hostile environments. Typical applications include food processing equipment, chemical processing equipment, woodworking machinery, packaging machinery, and articulating robot arm rest position sensing.

AVAILABLE STANDARD MODELS

(Please order BPS300 or BPS303 magnet separately)

Part Number	Contact Configuration*	Description
BNS30-01ZG** and BNS300-01zG**	1 NC	Multiple reed switch (24VDC/30mA) assembly with 1-meter prewired pigtail and built-in LED display
BPS300	N/A	Coded-magnet actuator (front mount)
BPS303***	N/A	Coded-magnet actuator (rear mount)

*Contact configuration in presence of BPS300 or BPS 303 coded-magnet actuator.

**Important Note: The BNS30 and BNS300 are 4-wire sensors designed to satisfy EN954, Category 1 requirements. They are not designed for use with a separate safety controller.

***Available with stainless-steel outer jacket. Please consult factory



BPS300 Actuator



BPS303 Actuator***

BNS300 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

Housing	Fiberglass reinforced thermoplastic (BNS300) Brass, nickel-plated (BNS30)
Switching Distance "S" *	"On": 5mm (0.2") "Off": 15mm (0.6")
Degree of Protection	IP67
Operating Temperature	-13°F to +158°F
Operating Principle	Magnetic
Shock Resistance	30g/11ms
Vibration Resistance	10 to 55 Hz, amplitude 1mm
Conformity to Standards	CE, UL, CSA VDE 0660 Part 209 EN954-1 EN1088 BG-GS-ET-14

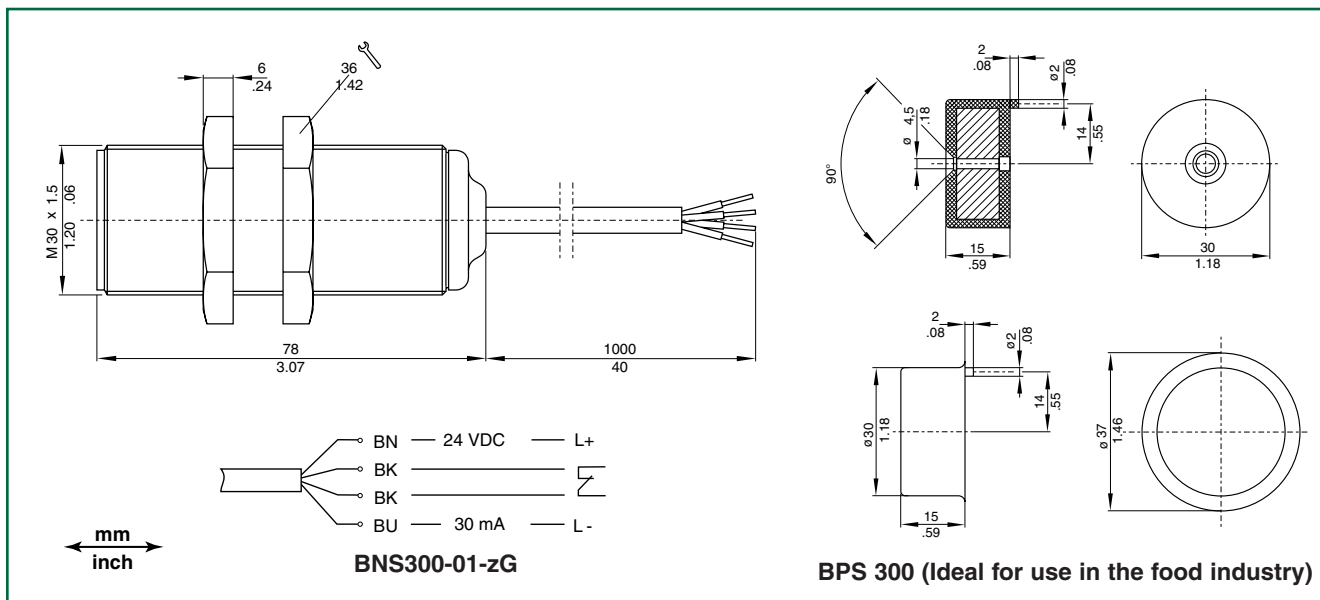
*Without ferromagnetic material in vicinity of switch or magnet. The proximity of ferrous material may affect switching distances.

ELECTRICAL SPECIFICATIONS

Maximum Supply Voltage	24VDC
Maximum Continuous Current Rating	30mA
Maximum Switching Capacity (Power Rating)	Voltage: 250VAC Current: 3A (750VA)
Type Connection*	1 meter long LiYY4* 0.25mm ² (23AWG) pre-wired pigtail

*Longer prewired cables (3M, 5M, or 10M lengths) available on request. Also available with M12x1 quick-connect. Please consult factory.

DIMENSIONS & WIRING DETAILS



Note: BNS300 reed switch assemblies should be mounted at least 50mm (2") apart.

MISALIGNMENT ALLOWANCE

