

# SERIES BNS333

## Coded-Magnet Sensors with Integral Safety Control Module



### Description

The Series BNS333 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 BNS333 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 circuit monitoring module).

Their tamper-resistant design prevents bypassing with a simple magnet or improperly coded magnetic field. In addition, the BNS module features an optional built-in LED display of switch status.

### 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 BNS333 is 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.

### 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 installation 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, Category 1.

### AVAILABLE STANDARD MODELS (Please order BPS300 or BPS303 magnet separately)

Part Number	Contact Configuration*	Description
BNS333-01YU**	1 NC	Multiple reed switch(24VAC/DC/40mA) assembly with integral switch monitoring and control module. Actuation from rear (“U”)
BNS333-01YD**		Same as above but actuation from front (“D”)
BNS333-01YL**		Same as above but actuation from left (“L”)
BNS333-01YR**		Same as above but actuation from right (“R”)
BNS333-01YV**		Same as above but actuation from top (“V”)
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.

\*\*The BNS333 is a 4-wire sensor designed to satisfy EN954, Category 1 requirements. It is not designed for use with a separate safety controller.

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



BPS300 Actuator



BPS303 Actuator\*\*\*

