



Description

The Series BNS260 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.

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 a 1-meter long prewired pigtail or an available connector.

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 BNS260 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.

Note: See page 94 for appropriate M8 connector cables. 4 pole models accept either a screw-on or snap-on connector.

6 pole models (with signalling contact) accept only a snap-on connector.

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.
- **Satisfy CE & fail-to-safe requirements** ... when used with Series AES safety controllers.
- **Satisfy PL_c, PL_d, or PL_e to EN ISO 13849-1, or Category 1, 3, or 4 to EN 954-1** ... when used with appropriate Schmersal safety controllers.

AVAILABLE MODELS (Actuator ordered separately)

Part Number	Contacts	Connection
BNS260-02Z-*	2 NC	prewired
BNS260-02ZG-*	2 NC	1 meter cable
BNS260-02Z-ST-*	2 NC	M8, 4 pole connector
BNS260-02ZG-ST-*	2 NC	
BNS260-11Z-*	1 NO & 1 NC	prewired
BNS260-11ZG-*	1 NO & 1 NC	1 meter cable
BNS260-11Z-ST-*	1 NO & 1 NC	M8, 4 pole connector
BNS260-11ZG-ST-*	1 NO & 1 NC	
With 1 NC signalling contact		
BNS260-02/01Z-*	2 NC	prewired
BNS260-02/01ZG-*	2 NC	1 meter cable
BNS260-02/01Z-ST-*	2 NC	M8, 6 pole connector
BNS260-02/01ZG-ST-*	2 NC	
BNS260-11/01Z-*	1 NO & 1 NC	prewired
BNS260-11/01ZG-*	1 NO & 1 NC	1 meter cable
BNS260-11/01Z-ST-*	1 NO & 1 NC	M8, 6 pole connector
BNS260-11/01ZG-ST-*	1 NO & 1 NC	

*Please indicate hinge direction: -L (left) or -R (right)

CODED MAGNET ACTUATORS & ACCESSORIES

Model Number	Description
BPS260-1	Standard Actuator
BPS260-2	Actuator for 90° operation
BNS260	Spacer for mounting reed switch or magnet on ferrous material

Important Note: Series BNS Coded-magnet sensors are for use in safety applications only when used with an electrically compatible safety controller or safety PLC. (For recommended compatible SCHMERSAL Series AES safety controller, see selection chart on Page 147.)



BNS260 TECHNICAL DATA

MECHANICAL SPECIFICATIONS

Housing	Fiberglass reinforced thermoplastic
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 EN 954-1 cUL BG-GS-ET-14 EN ISO 13849-1

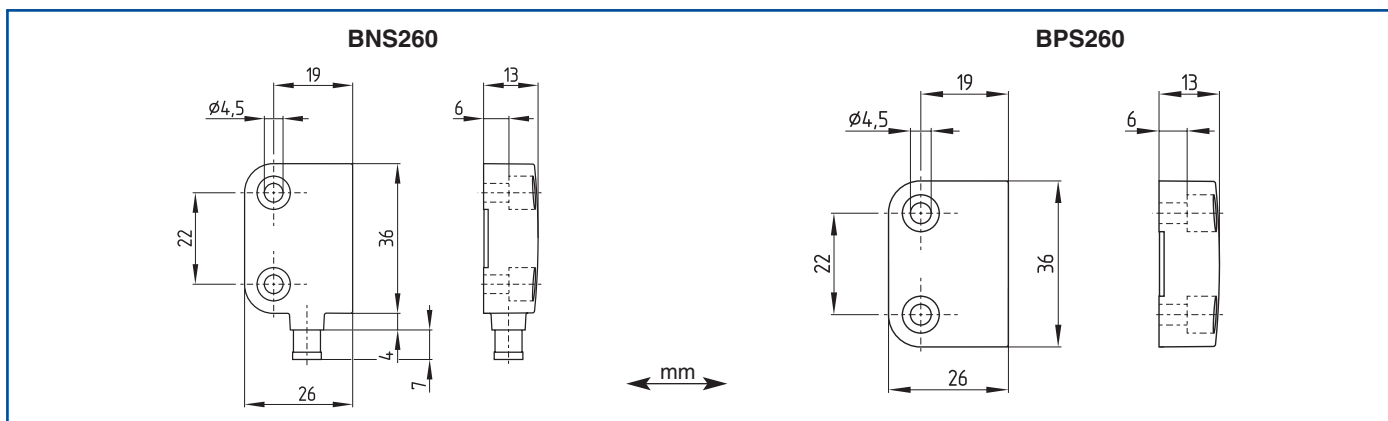
*Without ferromagnetic material in vicinity of switch or magnet. The proximity of ferrous material may affect switching distances.

ELECTRICAL SPECIFICATIONS

Maximum Operating Voltage	75VDC 24VDC for LED versions
Maximum Continuous Current Rating	400 mA without LED 10 mA with LED
Maximum Switching	10va without LED 240mW with LED
Type Connection*	1 meter long LiYY4* 0.25mm ² (23AWG) pre-wired pigtail or M8 4 or 6 pin connector (ST)

*Longer prewired cables (3M, 5M, or 10M lengths) available on request. Please consult factory.

DIMENSIONS



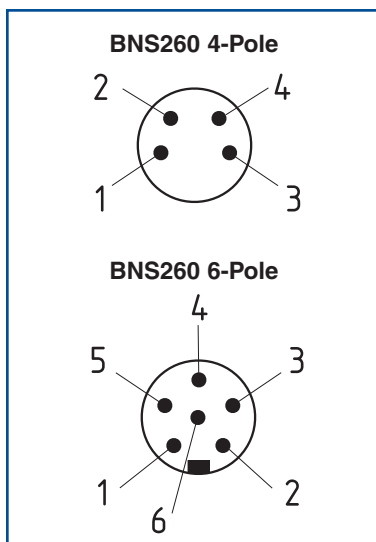
Note: BNS260 reed switch assemblies should be mounted at least 50mm (2") apart.

WIRING DETAILS (Contact configuration shown in presence of BPS260 Coded-magnet actuator)

BNS260-02z(G)	BNS260-02/01z(G)	BNS260-11z(G)	BNS260-11/01z(G)
(3) BK S11 → S12 BU (4) (1) WH S21 → S22 BN (2)	(3) GY S11 → S12 PK (4) (1) GN S21 → S22 YE (2) (5) WH S31 → S32 BN (6)	(3) BK S13 → S14 BU (4) (1) WH S21 → S22 BN (2)	(3) GY S13 → S14 PK (4) (1) GN S21 → S22 YE (2) (5) WH S31 → S32 BN (6)

Contacts shown with gate closed. Color configuration shown for cabled versions, connector color codes may vary.

QUICK-CONNECT DIAGRAMS



MISALIGNMENT ALLOWANCE

