

# MODEL BPMS-1 UNDER SPEED SWITCH



**Model BPMS-1**

The **Model BPMS-1 Speed Switch** is used for accurate sensing of Under Speed, Over Speed and Zero Speed conditions on rotating shafts, pulleys or other rotating equipment within your plant. It has one of the most innovative designs for installation today. It utilizes a magnet for attachment to the rotating shaft. Tapping the pulley and coupling the speed sensor is no longer required. Simply apply the speed sensor to the shaft and a strong magnet holds it place, wire it up and you are ready to go.

## **Unique Features:**

- “Snap” in place installation
- “Break-away” design, allows it detach form the shaft if a large object strikes it
- Universal power supply, 20-240 VAC or VDC
- 2-Wire
- Can be retrofitted with other proximity switches such as Namur, PNP or NPN.
- High visible LED to confirm proper installation
- Multiple pulse ranges 1, 2, 4, 12 and 40 pulse units
- Low profile and high temp units also available

The **Model BPMS-1 Speed Switch** is unmatched in ease of installation and durability. Simply “snap” the BPMS-1 onto the shaft that is to be monitored and complete the wiring. The cost to install other types of speed monitoring products usually surpasses the cost of the BPMS-1 to the user. Because the BPMS-1 is not permanently attached to the conveyor shaft it is considered to be “break-away” in design. In other words, safety concerns are minimal. If an object strikes the BPMS-1, no damage will occur. The BPMS-1 simply detaches from the shaft.

The proximity switch in the BPMS-1 is a standard two-wire 18mm tubular switch that is capable of handling voltages from 20-240 VAC or DC. If your specification requires Namur or other inductive proximity outputs, the BPMS-1 can be retrofitted.

The coupler that guards the proximity switch is fitted with a site hole so the operation can be monitored. In proper operation, a highly visible LED will illuminate that determines if the BPMS-1 is sending pulses. The BPMS-1 is equipped with a 24 inch plastic cable guard with 1/2”NPT threaded connector to assist in wiring. The shaft size of the conveyor or rotating piece of equipment that is to be monitored needs to be larger than 1-15/16 inch to ensure proper holding strength for the magnet rotor. If you equipment shaft is smaller than 1-15/16 there are adapters available for mounting.

# SPECIFICATIONS

## Model BPMS-1 Specifications:

- Operating Voltage: 20-240 VAC/DC
- Max Current Load: 250mA @ 25°C and 200mA@ 70°C
- Switching Frequency: 120 Hz
- Leakage Current: 1.7mA max leakage @ 120 VAC,  $\leq 2.0$ mA VDC
- Voltage Drop:  $\leq 4V @ >25$ mA
- Holding Current: 5mA max
- Protection: Resettable short circuit overload protection
- Switching Hysteresis: 2-20% of rated sensing distance
- Repeat Accuracy:  $< 3\%$  sensing distance
- Output Indicator LED: 360° viewable LED
- Operating Temperature: -13° to 158°F (-25° to 70°C)
- Enclosure Rating: NEMA-4, 4X, 6, 6P, 12 and 13 (IP-67)
- Shock: 30g sine wave, 11 ms per IEC68-2-76
- Vibration: 10 to 50 Hz, 1mm amplitude
- Housing: Stainless steel, polycarbonate end balls, Ryton® front cap (Proximity Sensor)
- Cable: AWM style 2038 (PVC)

## Models Available:

- BPMS-1 1-pulse per revolution, standard sensor
- BPMS-2 2-pulse per revolution, standard sensor
- BPMS-4 4-pulse per revolution, standard sensor
- BPMS-12 12-pulse per revolution, 10-30VDC sensor
- BPMS-40 40-pulse per revolution, standard sensor
- BPMS-1S 1-pulse per revolution, standard sensor, for small diameter shafts.
- BPMS-2S 2-pulse per revolution, standard sensor, for small diameter shafts.
- BPMS-4S 4-pulse per revolution, standard sensor, for small diameter shafts.
- BPMS-12S 12-pulse per revolution, 10-30VDC sensor, for small diameter shafts.
- BPMS-1HT 1-pulse per revolution, standard sensor, high temp.
- BPMS-2HT 2-pulse per revolution, standard sensor, high temp.
- BPMS-4HT 4-pulse per revolution, standard sensor, high temp.
- BPMS-12HT 12-pulse per revolution, 10-30VDC sensor, High Temp for small diameter shafts.
- BPM-SS On/off switch with start-up and shut-down delays, 20-132 VAC sensor



## Options:

- Sensors for small diameter shafts
- High temp sensors
- BPMA adapter for coupling directly to a shaft
- Low Profile units add LP into model number (i.e. BPMSLP-40)
- BPWD-1 controller, monitors the signal from the BPMS-1 switch and provides a relay when the unit drops out, DIN rail mount.
- BPWD-2 controller, monitor up to 8 BPMS-1 switches and provides a relay when the unit drops out, DIN rail mount.
- PL70-115 Speed Monitor, monitors one BPMS-1 switch, provides user programming, i.e. start-up delays, alarm set-points, one DPDT contact and two (2) 4-20mA outputs. Eliminates the need for a PLC.

BPWD-1



BPWD-2



PL70-115

