

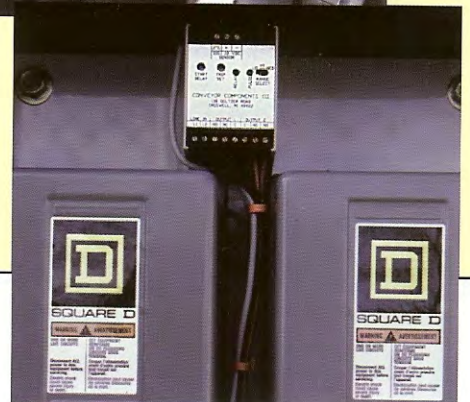
# NON-CONTACT Motion Monitoring System



## **ACCURATE AND RELIABLE SENSING OF UNDERSPEED, OVERSPEED AND ZERO SPEED CONDITONS ON ROTATING SHAFTS AND MACHINERY**

The Model RMS non-contact motion control will provide accurate and reliable speed sensing of rotating shafts and machinery. Choose from a NEMA 1 DIN rail mount controller or a NEMA 4 polycarbonate enclosed controller, then choose a sensor, and a matching mounting bracket and target disk. Each sensor comes with 6 feet of cable, will need to field splice for longer lengths. It will produce an output signal at a predetermined speed which may be either underspeed or overspeed. Solid state electronics and analog technology make this one of the most advanced and versatile motion detectors available. The Model RMS protects all valuable rotating equipment including belt conveyors, bucket elevators, rotary feeders, or screw conveyors.

THESE TWO PHOTOS SHOW THE MODEL RMS IN OPERATION. PHOTO ON RIGHT IS AN EXAMPLE OF THE SENSOR AND SENSOR MOUNTING BRACKET IN USE WITH A WINGED PULLEY. **NOTE:** WITH THE DISTINCTIVE METAL WINGS ON THE PULLEY THERE IS NO NEED FOR PART NO. RMS-T TARGET DISK. THE LOWER PHOTO SHOW THE RMS ENCLOSURE MOUNTED WITHIN THE CONVEYOR SYSTEMS CONTROL PANEL.



Wire input power from source to terminal L1 and L2. The output of the model RMS is a DP/DT relay. There are two sets of output contacts each set includes normally open, normally closed, and common. As a result, the unit can be used to control two separate circuits such as a motor starter and a signal light.

## CONTROLLER, SENSOR, SENSOR MOUNTING BRACKET AND TARGET DISK



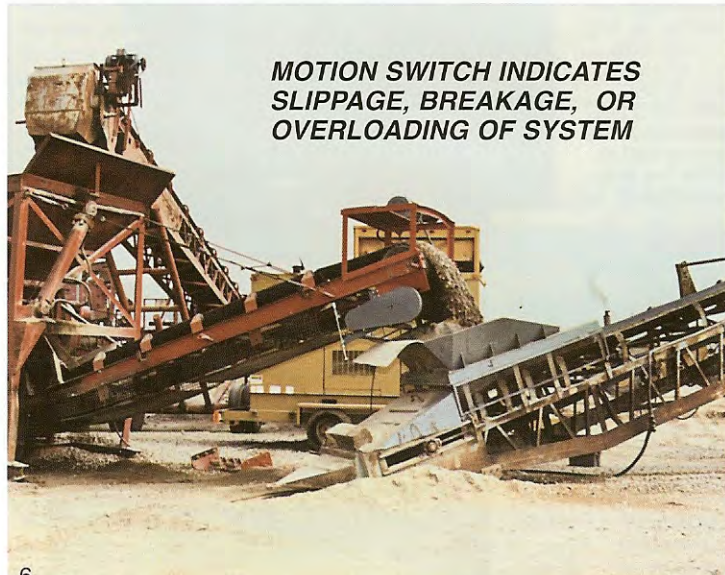
INPUT SIGNAL  
+12 VDC  
-12 VDC

LINE 1  
LINE 2

COMMON 2  
NORMALLY CLOSED 2  
NORMALLY OPEN 2  
NORMALLY OPEN 1  
NORMALLY CLOSED 1  
COMMON 1

### How it works:

The Model RMS uses a remote mounted inductive sensor to monitor speed. Motion is sensed by means of induced measurable pulses produced by a metal target rotating past the sensor. If a distinctive metal target is not available an optional metal disk can be purchased. The produced pulses are converted to a digital electronic signal. Solid state circuitry within the DIN rail mount box then analyzes the digital signal and activates or deactivates the output relay at the pre-set speed point.



**MOTION SWITCH INDICATES SLIPPAGE, BREAKAGE, OR OVERLOADING OF SYSTEM**

## SPECIFICATIONS:

### MECHANICAL SPECIFICATIONS:

**ENCLOSURE:** Polycarbonate  
**MEETS:** NEMA 1  
**WEIGHT:** .75 lbs.  
**SIZE:** 3"x2 1/4"x4 1/4"

### ELECTRICAL SPECIFICATIONS:

**INPUT VOLTAGE:** 105-135 volts A.C., 50/60 Hz.  
210-250 volts A.C., 50/60 Hz. (special order)  
**OUTPUT:** DP/DT relay 5 Amp. Resistive at 120 volts A.C.  
DP/DT relay 5 Amp. Resistive at 240 volts A.C.  
DP/DT relay 5 Amp. Resistive at 30 volts D.C.  
1/10 horse power at 120 volts A.C.  
1/10 horse power at 240 volts A.C.

**OPERATING TEMPERATURE RANGE:** -50°F to +150°F  
**REPEATABILITY:** +2% maximum at constant voltage and temperature

**POWER CONSUMPTION:** 3 watts maximum  
**SPEED RANGES:** Input ranges at which relay will energize:  
LOW: 2 to 120 PPM  
MEDIUM: 20 to 1200 PPM  
HIGH: 200 to 12000 PPM

**SIGNAL POINT:** Speed at which relay will de-energize for Underspeed, or energize for Overspeed. Recommended to be 15-20% lower or higher than running speed. This will eliminate nuisance shutdowns.

**START UP DELAY:** Adjustable up to 45 seconds

### SENSOR SPECIFICATIONS:

MODEL NUMBER	RMS-8S	RMS-12S	RMS-18S	RMS-30S
Sensor type	2 wire DC	2 wire DC	2 wire DC	2 wire DC
Body diameter	8mm (0.31)	12mm (0.47)	18mm (0.71)	30mm (1.18)
Body length	50mm (1.97)	71mm (2.79)	80mm (3.15)	81mm (3.19)
Thread size	M8	M12	M18	M30
Cable length	2m (6.5)	2m (6.5)	2m (6.5)	2m (6.5)
Sensing range	1.5mm (0.06)	2.0mm (0.08)	5.0mm (0.20)	10mm (0.30)
Maximum pulse rate	2 kHz	1.5 kHz	1.0 kHz	0.6 kHz
Maximum voltage	30 VDC	30 VDC	30 VDC	30 VDC
Maximum current	100 MA	100 MA	100 MA	100MA