The Milltronics MD-36 speed sensor is a general purpose and hazardous rated shaft driven speed sensor. It operates in conjunction with a conveyor belt scale, providing a signal to an integrator which computes the rate of material being conveyed.

The sensor is directly coupled to the motor or pulley shaft to ensure accurate belt-travel readout, eliminating problems caused by belt slippage or material build-up.

The MD-36 converts shaft rotation into a pulse train of 36 pulses per revolution using high precision dual optocouplers. The digital signal is transmitted as speed input to any Siemens Milltronics integrator for calculation of belt speed, flow rate and totalized weight.

This high resolution speed sensor provides a frequency signal proportional to the shaft speed, enabling low or varying shaft speeds to be read accurately. The quadrature type circuitry in the MD-36 non-IS models prevents erroneous speed signals due to vibration or shaft oscillation.

The MD-36 is easily mounted and is bi-directional for either clockwise or anti-clockwise rotation.



Product Features

- Standard aluminium or optional stainless steel versions available for corrosive environments
- Hazardous area approved (MD-36 and MD-36 IS aluminium)
- · Reading errors due to vibration are eliminated
- High resolution, suitable for low or varying shaft speeds
- Bi-directional for either clockwise or anti-clockwise belt travel
- · Pulley shaft or motor shaft driven

Technical Specifications

Power

- MD-36/MD-36A/MD-36SS: +15 Vdc, 25 mA from integrator
- MD-36 IS: +5, -25 Vdc from IS switch isolator

Temperature

• -40 to 55 °C (-40 to 130 °F)

Input

shaft rotation 0 to 2,000 rpm, bi-directional

Output

- open collector sinking output, max. 25 mA at 15 Vdc
- 36 pulses / revolution 0 to 2,000 rpm = 0 to 1200 Hz
- . MD-36 IS: load current 0 to 15 mA

Input: Output

• 1:1 (speed ratio)

Enclosure

- MD-36 and MD-36 IS: aluminum rating Type 4/NEMA 4/ IP 65
- MD-36A: aluminum general purpose
- MD-36SS: 304 stainless steel corrosive applications

Cable (optional)

- Belden 8770, 3 wire shielded, 18 AWG or equivalent
- max. run 305 m (1000 ft)

Approvals

- MD-36:
 - CSA & FM: Class II, Gr. E, F & G, Class III
 - CE*
- MD-36 IS (with suitable IS switch isolator)¹:
 - ATEX: II 2 G, EEx ia IIC T6
- CSA/FM: Class I, Div. 1, Groups A, B, C, and D, Class II, Div. 1, Groups E, F, and G (system approval)
- CE*
- MD-36A, MD-36SS: CE*

Optional Switch Isolator (required for MD-36 IS)²

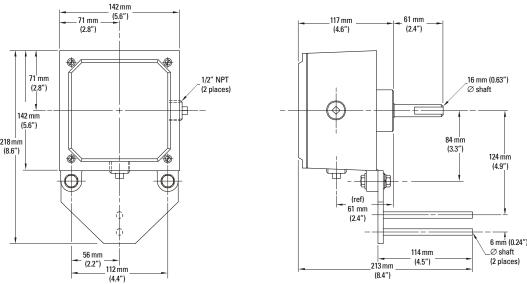
- Pepperl+Fuchs #KFA5-S0T2-Ex2 (115 Vac) and #KFA6-S0T2-Ex2 (230 Vac)
 - ATEX: II (1) G, [EEx ia] IIC
 - CSA/FM: Class 1, Div. 1, Groups A, B, C, and D, Class II, Div. 1, Groups E, F, and G (system approval)

¹Approvals for MD-36 IS are based on internally mounted NAMUR slotted proximity switch (Pepperl+Fuchs #SJ3.5N) and use of suitable IS Switch Isolator (Amplifier). Please see MD-36 instruction manual for more information.

^{*} EMC performance available upon request.

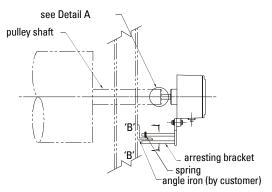
²Approval ratings for the Proximity Switch and IS Switch Isolator are the property of Pepperl+Fuchs. Copies of these Approval Certificates may be obtained at www.siemens-milltronics.com

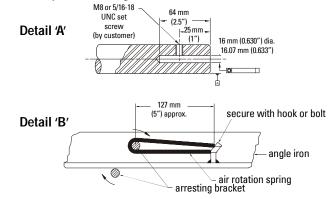
Dimensions*



Mounting**

Machining on tail/bend pulley shaft per Detail A (by customer) to accommodate Siemens Milltronics speed sensor when tail or bend pulley is not supplied by Siemens Milltronics. Arresting bracket is an anti-rotation device only and must not secure or support the speed sensor. Bearing life would be greatly reduced if speed sensor is not free to "float." Use anti-rotation spring to prevent mechanical oscillation of speed sensor. Grease mating surfaces to prevent seizing.





Wiring***

Description	Terminal
+ 15 Vdc	1
speed out-CW	2
speed out-CCW	3
common	4
ground	G

- Determine the pulley shaft rotation on the end of the pulley shaft to which the MD-36 is attached.
- If the pulley shaft is rotating clockwise then connect the appropriate wire to terminal 2.
- If the pulley shaft is rotating counter clockwise then connect the appropriate wire to terminal 3.
- Do not common terminals two or three at the same time.
- · Ground shield of cable at integrator only.
- * Dimensions for stainless steel version are available upon request.
- **Can also be mounted to motor shaft with rubber connector.
- *** See instruction manual for MD-36 IS wiring details.