

Belt Scales

Speed sensors

Milltronics RBSS

Overview



Milltronics RBSS is a high resolution, wheel-driven return belt speed sensor.

Benefits

- Rugged design
- IP67 rated
- Easy, low cost installation
- Accurate belt speed detection

Application

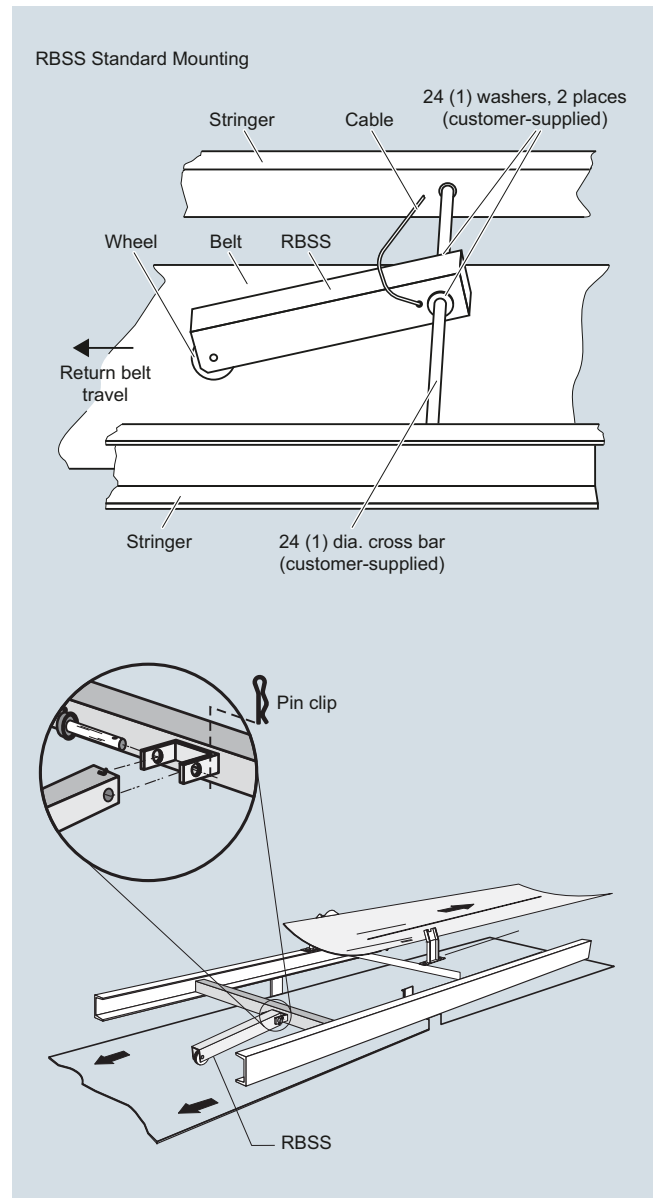
Milltronics RBSS monitors conveyor belt speed, with the output signal transmitted by cable connection to the integrator (Milltronics BW500, or SIWAREX FTC).

Easily installed close to the belt scale assembly, the RBSS provides a signal generated as the wheel on the sensor rotates on the return belt. To secure this cost-effective unit in place, position a cross bar between stringers - either just before or after a return belt idler, or use the optional mounting bracket. The weight of the RBSS ensures positive rotation of the wheel in the middle of the return belt, and pulses from the magnetic sensor are generated by the rotation of the 60 toothed speed sprocket driven by the wheel.

The RBSS output can be applied to any Milltronics belt scale integrator.

Design

Installation



RBSS installation

Technical specifications

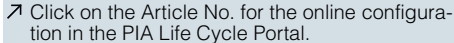
| Milltronics RBSS | |
|--|---|
| Mode of operation | |
| Measuring principle | Proximity sensor provides pulse to integrator |
| Typical application | Aggregate belt conveyors |
| Input | Wheel rotation 2 ... 450 rpm, bi-directional |
| Output | <ul style="list-style-type: none"> 60 pulses per revolution, 2 ... 450 Hz, 150.4 pulses/m (45.8 pulses/ft) RBSS: open collector, NPN sinking output, max. 17 mA RBSS IS: NAMUR NC, load current, 0 ... 15 mA |
| Rated operating conditions | |
| Ambient temperature | <ul style="list-style-type: none"> RBSS: -40 ... +105 °C (-40 ... +220 °F) RBSS IS: -25 ... +100 °C (-14 ... +212 °F) |
| Degree of protection | IP67 |
| Design | |
| Trailing arm | Painted mild steel |
| Sensor wheel | 127 mm (5 inch) diameter, polyurethane tread |
| Power supply | <ul style="list-style-type: none"> RBSS: 4.5 ... 28 V DC, 16 mA RBSS IS: 5 ... 25 V DC from IS switch isolator |
| Interconnection wiring (to integrator) | <ul style="list-style-type: none"> RBSS: 3 m, 3 conductor 22 AWG shielded cable <ul style="list-style-type: none"> - 300 m (1 000 ft) maximum cable run RBSS IS: 2 m, 2 conductor 26 AWG PVC covered cable <ul style="list-style-type: none"> - 300 m (1 000 ft) maximum cable run to IS switch isolator - 300 m (1 000 ft) maximum cable run from IS switch isolator and integrator |
| Approvals | |
| RBSS | CE, RCM ¹⁾ |
| RBSS IS (with suitable IS switch isolator or switch amplifier) ²⁾ | <ul style="list-style-type: none"> ATEX II 1G Ex ia IIC T6 ATEX II 1D Ex iaD 20 T 108 °C CSA/UL: Class I, Div. 1, Groups A, B, C, and D; Class II, Div. 1, Groups E, F, and G; Class III, Div. 1 CE, RCM²⁾ |
| Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N) | <ul style="list-style-type: none"> ATEX II 1G Ex ia IIC T6 ATEX II 1D Ex iaD 20 T 108 °C CE, CSA, UL²⁾ |
| Optional switch isolator (required for RBSS IS) ³⁾ | <ul style="list-style-type: none"> Pepperl+Fuchs #KFA5-SOT2-Ex2 or #KFA6-SOT2-Ex2 ATEX II (1) G [Ex ia] IIC CSA/UL: Class 1, Div. 1, Groups A, B, C, and D. Class II, Div. 1, Groups E, F, and G, Class III CE²⁾ |

¹⁾ EMC performance available upon request.

²⁾ Approvals for RBSS IS are based on internally mounted NAMUR slotted proximity switch (Pepperl+Fuchs #NJ0.8-5GM-N) and use of suitable IS switch isolator (amplifier). Please see RBSS operating instructions for more information.

³⁾ Approval ratings for the proximity switch and IS switch isolator are the property of Pepperl+Fuchs. Copies of these Approval Certificates may be obtained at <http://www.siemens.com/processautomation>.

Selection and ordering data

| Milltronics RBSS speed sensor | | Article No. |
|--|---|-------------------------------------|
| A high resolution wheel-driven return belt speed sensor | | 7MH7134- |
|  | | |
| Model | 60 pulses per revolution | 2 |
| Fabrication | Standard, polyester painted mild steel | A |
| Mounting options | With mounting kit | B |
| Approvals | CE, RCM, ATEX II 1G, Ex ia IIC T6, ATEX II 1D Ex iaD 20 T108 °C, CSA/UL Class I, Div. 1, Groups A, B, C, and D; Class II, Div. 1, Groups E, F, and G; Class III, Div. 1 ⁶⁾ | 2 |
| Switch isolator | CE, RCM | 3 |
| | Not required | 0 |
| | 115 V AC ⁴⁾ | 1 |
| | 230 V AC ⁴⁾ | 2 |
| Further designs | Please add "-Z" to article no. and specify order code(s). | Order Code |
| | Stainless steel tag [69 x 38 mm (2.7 x 1.5 inch)], Measuring-point number / identification (max 27 characters), specify in plain text. | Y15 |
| | Manufacturer's test certificate: According to EN 10204-2.2 | C11 |
| Operating instructions | RBSS Operating instructions, multi-language Note: The operating instructions should be ordered as a separate item on the order. | Article No. 7ML1998-5GX63 |
| | This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library. | |
| Spare parts | Wheel, 127 dia-polyurethane, sealed bearing | 7MH7723-1FX |
| | Magnetic proximity switch | 7MH7723-1GA |
| | Switch, inductive, NJ0.8-5GM-N (approvals option 2) ⁴⁾ | 7MH7723-1AS |
| | P & F switch isolator, 115 V AC ⁴⁾ | 7MH7723-1EB |
| | P & F switch isolator, 230 V AC ⁴⁾ | 7MH7723-1EC |
| | Wheel and shaft, 152 mm dia. ⁵⁾ | 7MH7723-1EN |
| | 60 tooth gear ⁵⁾ | 7MH7723-1EQ |
| | Bearing (two required) ⁵⁾ | 7MH7723-1ER |
| Accessories | Conduit kit | 7MH7723-1NA |

◆ We can offer shorter delivery times for configurations designated with the Quick Ship Symbol ◆.

⁴⁾ Required with RBSS IS.

⁵⁾ For use with old style RBSS PBD-51033452.

⁶⁾ Switch isolator required.

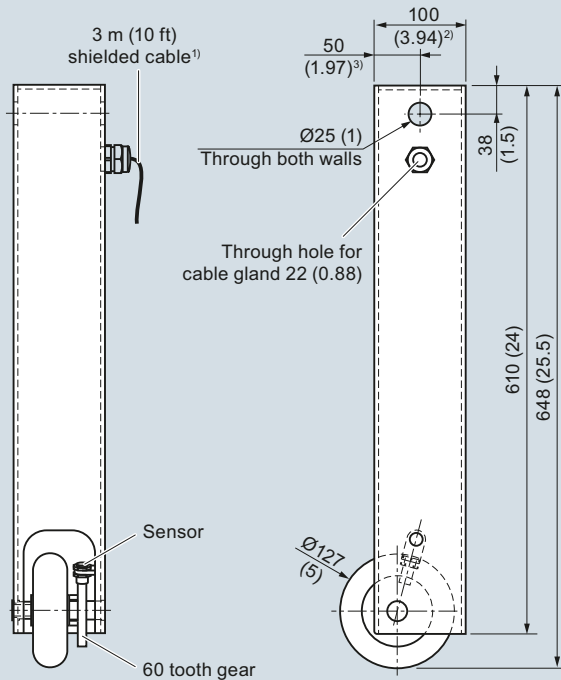
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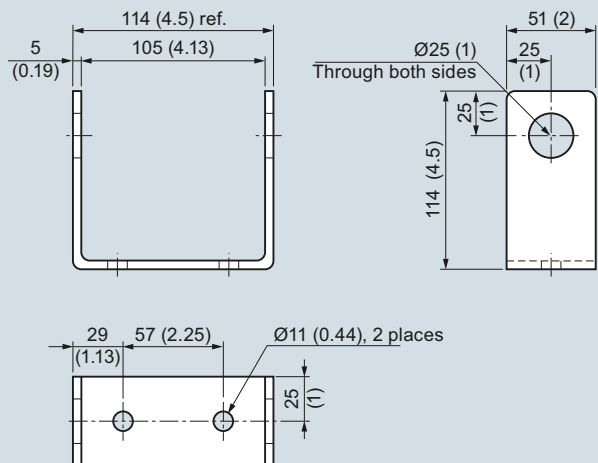
Milltronics RBSS

Dimensional drawings

RBSS



Mounting Bracket



- ¹⁾ Cable for RBSS (IS, 5 ... 25 V) and RBSS (CE, 10 ... 30 V) is 2 m (6.5 ft).
²⁾ Dimension equals 102 (4) if manufactured in Canada.
³⁾ Dimension equals 51 (2) if manufactured in Canada.

RBSS, dimensions in mm (inch)