

Overview


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

Benefits

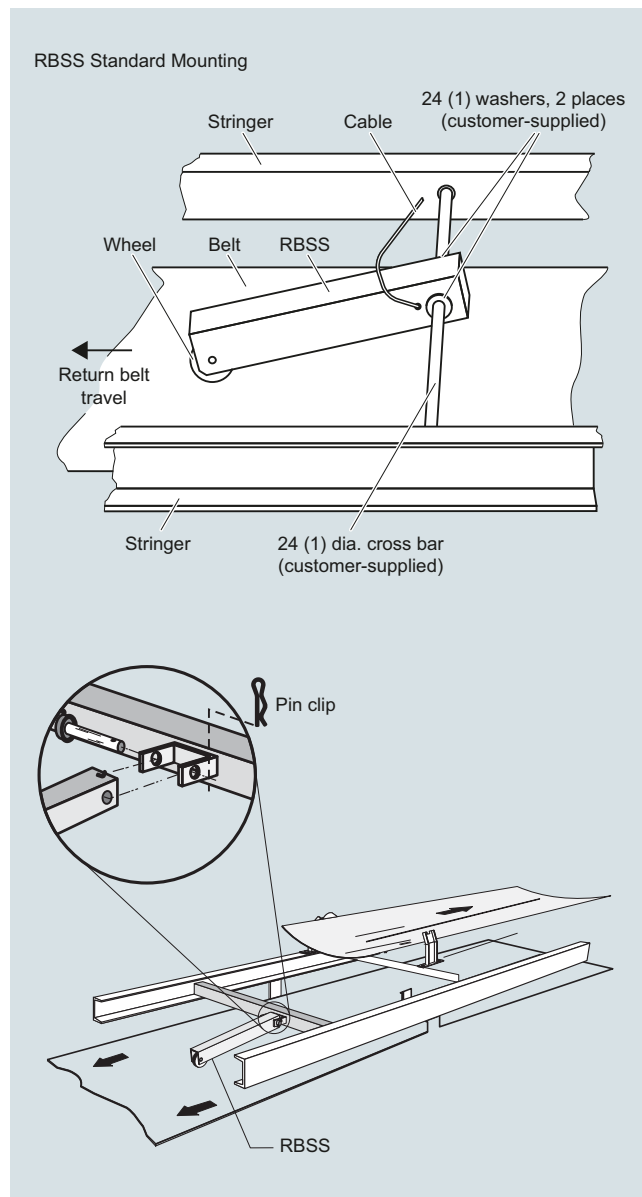
- Rugged design
- IP67 rated
- Easy, low cost installation
- Accurate belt speed detection

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 belt scale integrator.

Design


RBSS installation, dimensions in mm (inch)

Belt Weighing

Speed sensors

Milltronics RBSS

Technical specifications

Milltronics RBSS	
Mode of operation	
Measuring principle	Magnetic 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 (4.58 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)
Max. belt speed	3 m/s (590 fpm)
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, EAC, KCC ¹⁾
RBSS IS (with suitable IS switch isolator or switch amplifier) ²⁾	<ul style="list-style-type: none"> ATEX II 1G Eex 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, EAC Ex CE, RCM, EAC, KCC²⁾
Proximity switch approval ratings (Pepperl+Fuchs #NJ0.8-5GM-N)	<ul style="list-style-type: none"> ATEX II 1G EEx 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 [EEx 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, EAC Ex CE, RCM, EAC, KCC²⁾

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

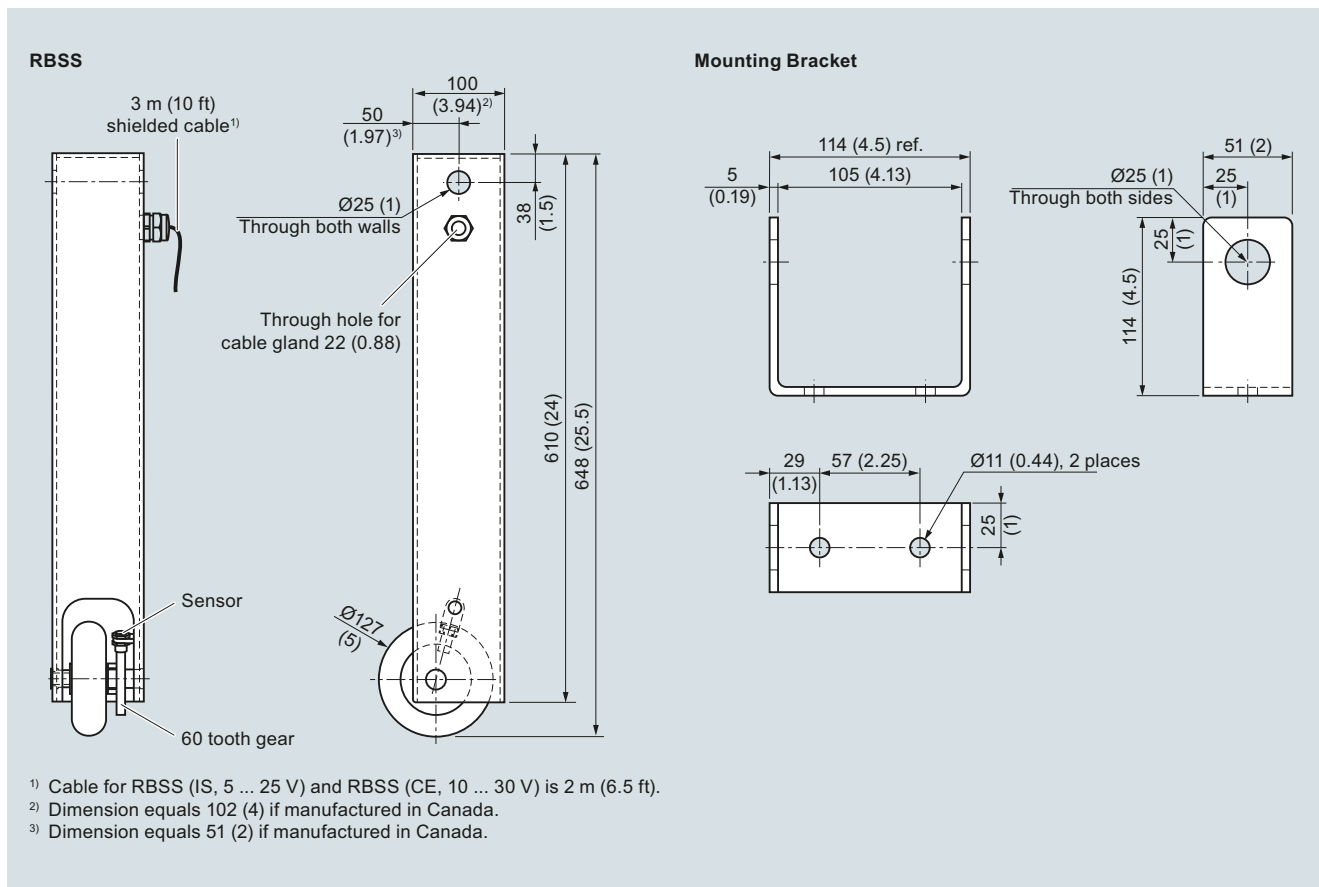
Milltronics RBSS Speed sensor		Article No.
Return belt mounted, 2 ... 450 rpm, with 150.4 pulses/m (4.58 pulses/ft).		7MH7134-
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.		
Model	60 pulses per revolution	2
Fabrication	Standard, C5-M rated polyester painted mild steel	A
Mounting options	With mounting kit	B
Approvals	CE, RCM, KCC, 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, EAC Ex ⁶⁾	2
Switch isolator	CE, RCM, EAC, KCC	3
	Not required	0
	115 V AC ⁴⁾	1
	230 V AC ⁴⁾	2
Further designs	Order Code	
	Please add "-Z" to article no. and specify order code(s).	
	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		
All literature is available to download for free, in a range of languages, at: http://www.siemens.com/weighing/documentation		
Spare parts		Article No.
	Wheel, 127 diapolurethane, 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

⁴⁾ Required with RBSS IS.

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

⁶⁾ Switch isolator required.

Dimensional drawings



RBSS, dimensions in mm (inch)