

Belt Scales

SITRANS belt scales

SITRANS WB310

Overview



SITRANS WB310 is a heavy-duty, full-frame two load cell, pivoted pan based, belt scale used for process monitoring.

Benefits

- Outstanding reliability and repeatability
- Unique parallelogram style load cell design
- Fast reaction to product loading; capable of monitoring low to high material loads
- Rugged construction
- Heavy duty slider pan with counter weight-pivoted design to minimized dead loads
- Suitable for uneven or light product loading

Application

SITRANS WB310 belt scale provides continuous in-line weighing on a variety of products in recycling industries. It is proven in a wide range of tough applications from sorting (in-coming processes) to production monitoring.

SITRANS WB310 uses parallelogram-style load cells that result in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide optimum accuracy and repeatability even with uneven loading.

Operating with Milltronics BW500, SIWAREX WP241, or FTC microprocessor-based integrators, WB310 provides indication of flow rate, totalized weight, belt load, and belt speed of bulk solid materials. A speed sensor monitors conveyor belt speed for input to the integrator.

SITRANS WB310 is installed in a simple drop-in operation and has a complete full length frame to ensure support during operation. With minimal rotating parts, maintenance is kept simple and easy, with just periodic calibration checks and greasing of bearings required.

Technical specifications

SITRANS WB310	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on belt conveyor pan
Typical application	Control in recycling
Measurement accuracy	
Accuracy ¹⁾	± 5 % or better of totalization over 25 ... 100 % operating range
Repeatability	± 0.1 %
Medium conditions	
Material temperature	-40 ... +75 °C (-40 ... +167 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • 54 ... 72 inch • Equivalent to 1 300 ... 1 800 mm in metric size
Belt speed	Up to 1 m/s (200 fpm) ²⁾
Capacity	
	Up to 5 000 t/h (5 500 STPH) at maximum belt speed. Please contact a Siemens representative for higher rates.
Conveyor incline	
	<ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy³⁾
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover.
Degree of protection	IP67
Cable length	3 m (10 ft)
	Note: To calculate installation cable length subtract 3 048 mm (120 inch) from the "A" dimension
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 ± 0.002 mV/V excitation (nominal) at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity	
• Maximum ranges	50, 100, 250, 500 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	<ul style="list-style-type: none"> • -50 ... +75 °C (-58 ... +167 °F) operating range • -40 ... +65 °C (-40 ... +150 °F) compensated
Weight	
	Contact factory
Interconnection wiring (to integrator)	
	<ul style="list-style-type: none"> • < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable • > 150 m ... 300 m (500 ft ... 1 000 ft) 18 ... 22 AWG (0.75 ... 0.34 mm²), 8 conductor shielded cable
Approvals	
	• CE, RCM

¹⁾ Accuracy subject to: On factory approved installations the belt scale system's totalized weight will be within the specified accuracy when compared to a known weighed material test sample. The test rate must be within the specified range of the design capacity and held constant for the duration of the test. The minimum material test sample must be equivalent to a sample obtained at the test flow rate for three revolutions of the belt or at least ten minutes running time, whichever is greater.

²⁾ Contact Siemens application engineering (factorysupport.smpi@siemens.com) for consideration of higher belt speeds.

³⁾ Review by Siemens application engineer required.

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Selection and ordering data

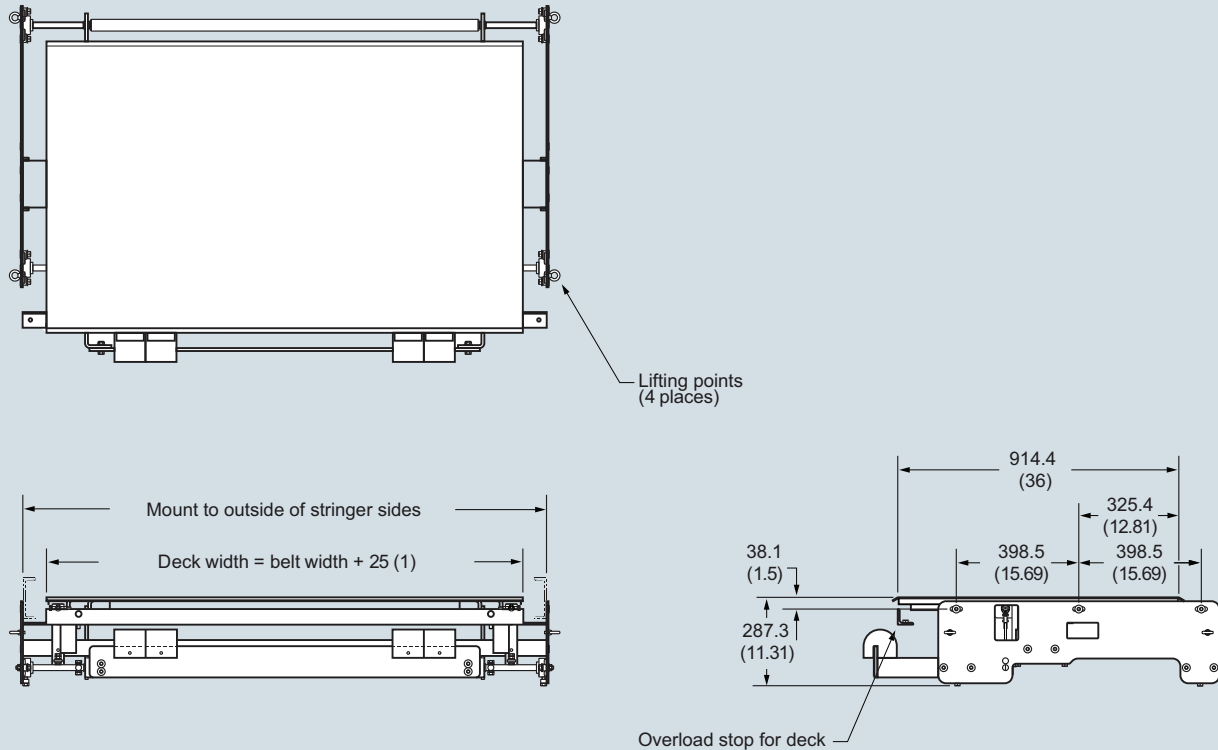
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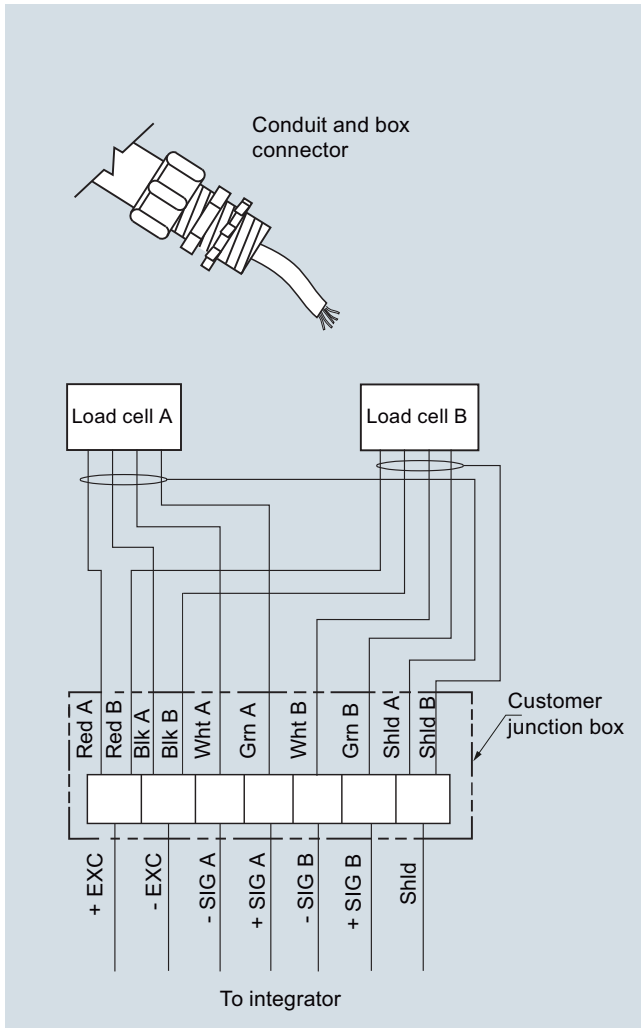
factorysupport.smpi@siemens.com

Dimensional drawings



SITRANS WB310, dimensions in mm (inch)

Schematics



SITRANS WB310 connections