MMI
Milltronics Belt Scale

Milltronics MMI is a precision belt scale for heavy duty with two roller bridges, suitable for process control and loading/ unloading operations. The roller bridge is not included in the scope of delivery.

Benefits

- Exceptional accuracy and reproducibility
- Unique parallelogram design of load cells
- Guaranteed accuracy even with light or particularly irregular product loads or particularly uneven
- Use even with high-speed belts
- Low operating costs
- NTEP, OIML, MID and Measurement Canada certifications

Application

The Milltronics MMI scale consists of two or more MSI weighing bridges installed in series. It realises highly accurate continuous weighing in both the raw materials and processing industries. The MMI scale offers a proven solution in many demanding applications, from raw material extraction and energy production to the metallurgical, food and chemical industries. Typical products are fertilisers, sand, grain, flour, coal and sugar.The special parallelogram-shaped load cells of the MMI scale ensure maximum reaction to vertical forces and immediate response to material loading. This enables extreme precision and reproducibility even with light or particularly irregular loads, sparsely spaced rolls, or high-speed belts. The MMI belt scale is used with a Milltronics BW500 microprocessor electronics (integrator) (for custody transfer applications) and provides measurements of instantaneous flow rate, total weight, load and speed of solid materials on the belt.
A sensor provides the integrator with a signal proportional to the belt speed.
The MMI scale is easily installed between the conveyor belt supports and secured with eight screws. The roller bridges are attached to the scale's dynamic frame. This weighing system with no moving parts requires minimal maintenance, and only a periodic calibration check.

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TECHNICAL SPECIFICATIONS

Mode of operation Measuring principle	Strain gauge load cells that measure the load on one or several roller decks of a belt conveyor
Typical applications	Approved for trade
Measuring accuracy Accuracy	Note: Only available with option D (System characteristics)
• MMI-2 (2 rollers)	Min. ± 0.25 % of the totalized weight over 20 ... 100 % of the operating range
• MMI-3 (3 rollers)	Min. ± 0.125 % of the totalised weight over 25 ... 100 % of the operating range
Repeatability	± 0,1%
Material Conditions Max. material temperature	-50 ... +200 °C (-58 ... +392 °F)
Belt execution Belt width	• 18 ... 96 inch (CEMA) • 500 ... 2 000 mm (metric) • See Dimensions
Belt speed	Up to 5 m/s (1 000 fpm)[2])
Capacity	Up to 12 000 t/h (13 200 STPH) at maximum belt speed. If the belt speed is higher, please contact your Siemens representative.[2])
Conveyor inclination	• ± 20° from horizontal line, constant inclination • Up to ± 30° with reduced accuracy3)
Roller bridge Conveyor roller	• From flat to 35° reentrant • Up to 45° with reduced accuracy[3])
Roller diameter	50 ... 180 mm (2 ... 7 inch)
Free space between roller bridges	0,5 ... 1,5 m (1.5 ... 5.0 ft)
Load cell Construction	Stainless steel construction with 1.4301 (304) stainless steel cover Load cell based protection: Polybutadiene
Degree of protection	IP67, IP65 on models for hazardous areas
Cable length	3 m (10 ft) Note: To calculate installation cable length, subtract 3 048 mm (120 inch) from dimension 'A'.
Excitation	DC 10 V nominal, max. DC 15 V
Output	2 ± 0.002 mV/V supply at nominal load cell capacity
Linearity and hysteresis error	0.02 % of nominal output value
Repeatability error	0.01 % of nominal output value
Capacity Maximum values	25, 50, 100, 250, 500, 750, 1 000, 1 250, 1 500, 2 000 lb
Overload	150 % of nominal capacity, max. 300 % of nominal capacity
Temperature	• 50 ... +75 °C (58 ... +167 °F) field of work, optional -50 ... +175 °C (-58 ... 347 °F) • 40 ... +65 °C (40 ... +150 °F) compensated • 10 ... +40 °C (-14 ... 104 °F) compensated (versions for tax-calibrated applications)
Weight	See Dimensions
Interconnection wiring **(to the integrator, per MSI)**	< 150 m (500 ft) 0,75 mm² (18 AWG) 6-wire shielded cable > 150 ... 300 m (500 ... 1 000 ft) 0,75 ... 0,34 mm² (18 ... 22 AWG), 8-wire shielded cable
Approvals	• CSA/FM Class I, Div. 1, Groups A, B, C. Class II, Div. 1, Groups E, F, G, Class III • ATEX II 1GD, Ex ia IIC T4 Ga, Ex ia IIIC T135 ºC Da, ATEX I M1, Ex ia I Ma • ATEX II 2D Ex tD A21 IP65 T90 ºC • EAC Ex • IEC Ex 1G Ex ia IIC T4 Ga, Ex ia IIIC T135 ºC Da M1, Ex ia I Ma • MSHA • CE, RCM, EAC, KCC, CMC, RTN
Metrological certifications	Measurement Canada, MID, OIML, SABS4), NTEP5), STAMEQ, GOST

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