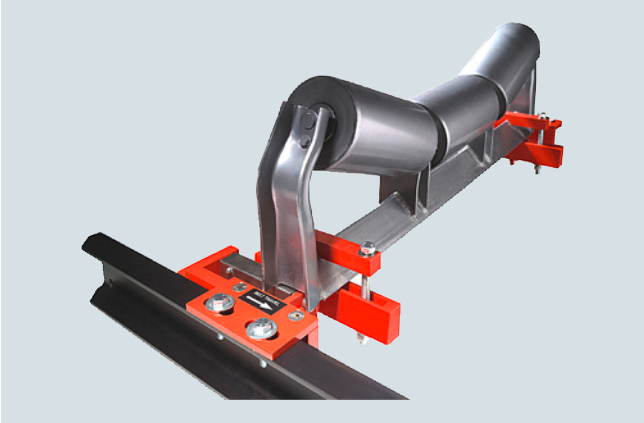
Milltronics MCS

Overview



Milltronics MCS is a compact, rugged, modular, heavy-duty belt scale for use in mobile crushers and aggregate screening plants.

Idler not included with belt scale.

Benefits

- Rugged design
- Low profile
- Easy retrofit
- Low cost
- Stainless steel load cells

Application

Milltronics MCS provides continuous, in-line weighing at minimal cost. The stainless steel load cells ensure long-term, consistent, reliable measurement. The modular construction and easy assembly of the MCS ensures quick delivery to meet even the tightest of schedules.

Operating with Milltronics BW500, SIWAREX WT241, WP241, or FTC microprocessor-based integrators, the MCS provides indication of flow rate, total weight, belt load, and belt speed of bulk solids materials on a belt conveyor.

To complete the weighing system, include a speed sensor to monitor conveyor belt speed for input to the integrator. On mobile crushing equipment, the TASS speed sensor is a compact, rugged speed sensor designed for use with the MCS.

Technical specifications

Milltronics MCS	
Mode of operation	
Measuring principle	Strain gauge load cells measuring load on belt conveyor idlers
Typical application	Mobile crusher systems
Measurement accuracy	
Accuracy[1]	• ± 0.5 … 1 % of totalization over 25 … 100 % operating range, application dependent • ± 2 % of totalization over 25 … 100 % operating range on mobile crusher applications
Repeatability	± 0.1 %
Belt design	
Belt width	• Up to 1 600 mm (60 inch CEMA) width • Refer to the outline dimension section
Belt speed	Up to 4 m/s (800 fpm)[2]
Capacity	Up to 2 400 t/h (2 640 STPH) at maximum belt speed[2]
Conveyor incline	• ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[3]
Idlers	
Idler profile	• Flat to 35° • To 45° with reduced accuracy[3]
Idler diameter	100 … 150 mm (4 … 6 inch)
Idler spacing	0.6 … 1.2 m (2.0 … 4.0 ft)
Load cell	
Construction	17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover Strain gauge protection: polybutadiene
Degree of protection	IP67, IP65 on hazardous approved models
Cable length	3 m (10 ft)
Excitation	10 V DC nominal, 15 V maximum
Output	2 mV/V excitation at rated load cell capacity
Non-linearity and hysteresis	0.02 % of rated output
Non-repeatability	0.01 % of rated output
Capacity	25, 50, 100, 250, 500 lb stainless steel
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	• -50 … +75 °C (-58 … +167 °F) operating range • -40 … +65 °C (-40 … +150 °F) compensated

Milltronics MCS	
Weight	Up to 20 kg (44 lb), 10 kg (22 lb) per side
Interconnection wiring (to integrator)	• < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable • > 150 m (500 ft) to 300 m (1 000 ft) 18 … 22 AWG (0.75 … 0.34 mm²), 8 conductor shielded cable
Approvals	CSA/FM Class II, Div. 1, Groups E, F, G, Class III; ATEX II 2D Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; UKEX II 2D Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; IECEx Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; EAC Ex Ex tD A21 IP65 T90°C X; CE, UKCA, RCM, EAC, RTN
Metrological approvals	PAC Russia

[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 (http://www.automation.siemens.com/aspa_app) for consideration of higher values.

[3] Review by Siemens required (http://www.automation.siemens.com/aspa_app).

PAC Russia specification data	
Accuracy limits (%)	
Highest linear density (kg/m)	
Lowest linear density (kg/m)	

Selection and ordering data

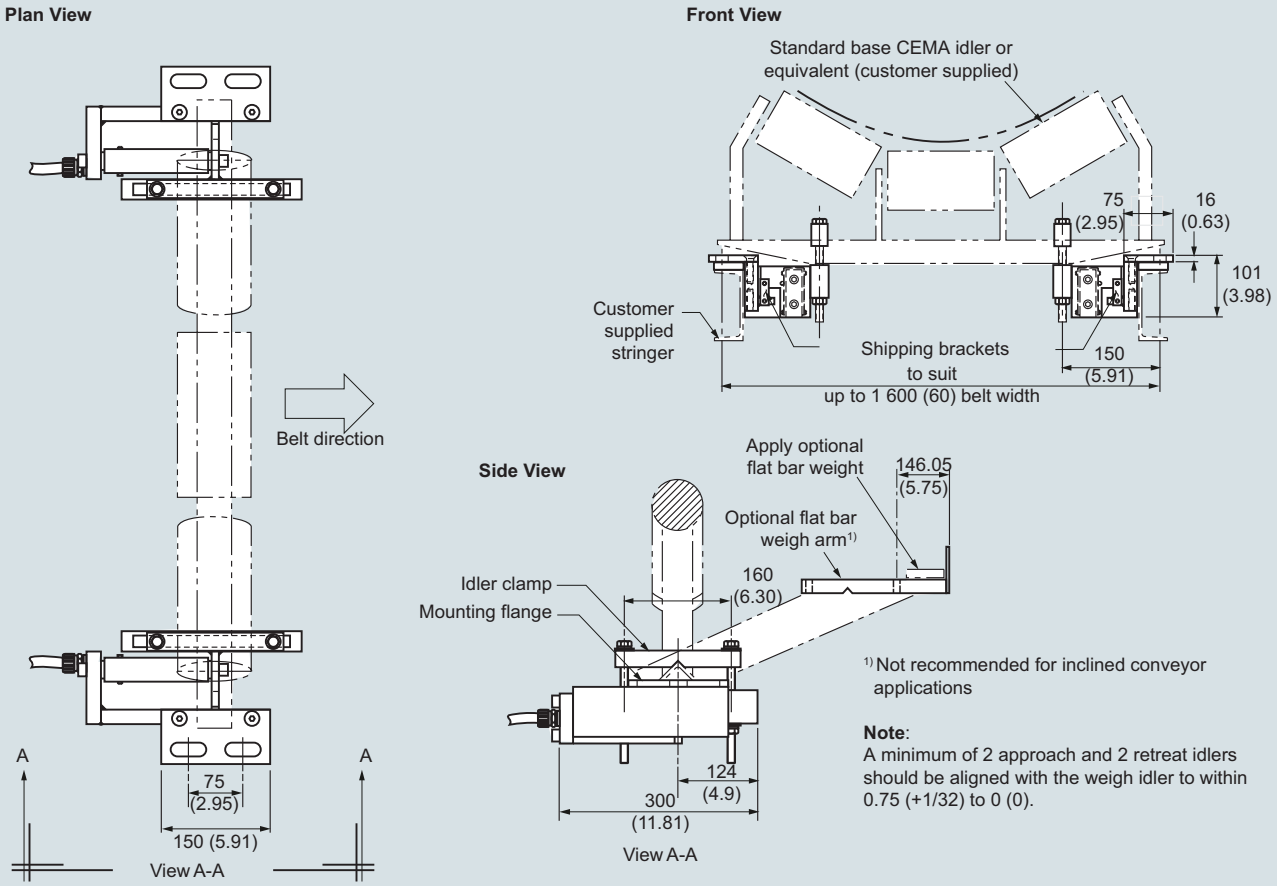
	Article No.
Milltronics MCS Belt scale ↗	**7MH7125-**
Accuracy is ± 0.5 … 1 % of totalization over 25 … 100 % operating range with capacity up to 2 400 t/h (2 640 STPH).	
↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	
Scale construction	
Ordinary Locations/General Purpose (Non-Ex), CE, UKCA, RCM, EAC, KC	**1**
CSA/FM Class II, Div. 1, Groups E, F, G, Class III; ATEX II 2D Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; UKEX II 2D Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; IECEx Ex tb IIIC T90°C Db, Tamb = -40°C to +75°C; EAC Ex Ex tD A21 IP65 T90°C X; CE, UKCA, RCM, EAC, KC	**2**
Load cell capacity	
50 lb (22.7 kg) (use not recommended for mobile crushers)	**A A**
100 lb (45.5 kg) (use not recommended for mobile crushers)	**A B**
250 lb (113.6 kg)	**A C**
500 lb (226.8 kg)	**A D**
25 lb (11.3 kg) (use not recommended for mobile crushers)	**A E**
Not specified[1)]	**B B**
Fabrication	
C5-M rated polyester painted mild steel	**1**
C5-M rated polyester painted mild steel, for use with flat bar or MWL calibration	**2**
System specification	
Standard	**0**
PAC Russia	**1**
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**
Application Eng. reference number (max. 15 characters), specify in plain text.	**Y31**
Manufacturer's test certificate: According to EN 10204-2.2	**C11**
PAC Russia approval additional nameplate (submit application data with order)[2)]	**Y79**
Operating instructions	
All literature is available to download for free, in a range of languages, at: http://www.siemens.com/weighing/documentation	

	Article No.
Spare parts	
Stainless steel load cell	
[17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover]	
25 lb (11.3 kg)	**A5E01673047**
50 lb (22.7 kg)	**A5E01135823**
100 lb (45.4 kg)	**A5E01135824**
250 lb (113.4 kg)	**A5E01135825**
500 lb (226.8 kg)	**A5E01135826**
Stainless steel load cell, mounting hardware included	
[17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover]	
25 lb (11.3 kg)	**7MH7725-1DR**
50 lb (22.7 kg)	**7MH7725-1DH**
100 lb (45.4 kg)	**7MH7725-1DJ**
250 lb (113.4 kg)	**7MH7725-1DK**
500 lb (226.8 kg)	**7MH7725-1DS**
25 lb (11.3 kg), CSA/FM/ATEX/IECEx	**7MH7725-1DQ**
50 lb (22.7 kg), CSA/FM/ATEX/IECEx	**7MH7725-1DL**
100 lb (45.4 kg), CSA/FM/ATEX/IECEx	**7MH7725-1DM**
250 lb (113.4 kg), CSA/FM/ATEX/IECEx	**7MH7725-1DN**
500 lb (226.8 kg), CSA/FM/ATEX/IECEx	**7MH7725-1DP**
Conduit replacement kit	**7MH7723-1NA**
Calibration weights	
Flat bar/MWL retrofit kit	**7MH7723-1HA**
Calibration test arm assembly, c/w one 8.2 kg (18 lb) calibration weight	**7MH7723-1FR**
Calibration test arm assembly, c/w two 8.2 kg (18 lb) calibration weights	**7MH7723-1FS**
MCS calibration arm c/w idler clip [holds up to two 8.2 kg (18 lb) weights]	**7MH7726-1AD**
Calibration weight, 18 lb (8.2 kg)	**7MH7724-1AA**
Calibration weight, 6 lb (2.7 kg)	**7MH7724-1AB**
Milltronics flat bar calibration weights, see page 4/53.	
Note: calibration accessories should be ordered as a separate item on the order.	

1) Only for quotation purposes, not a valid ordering option.

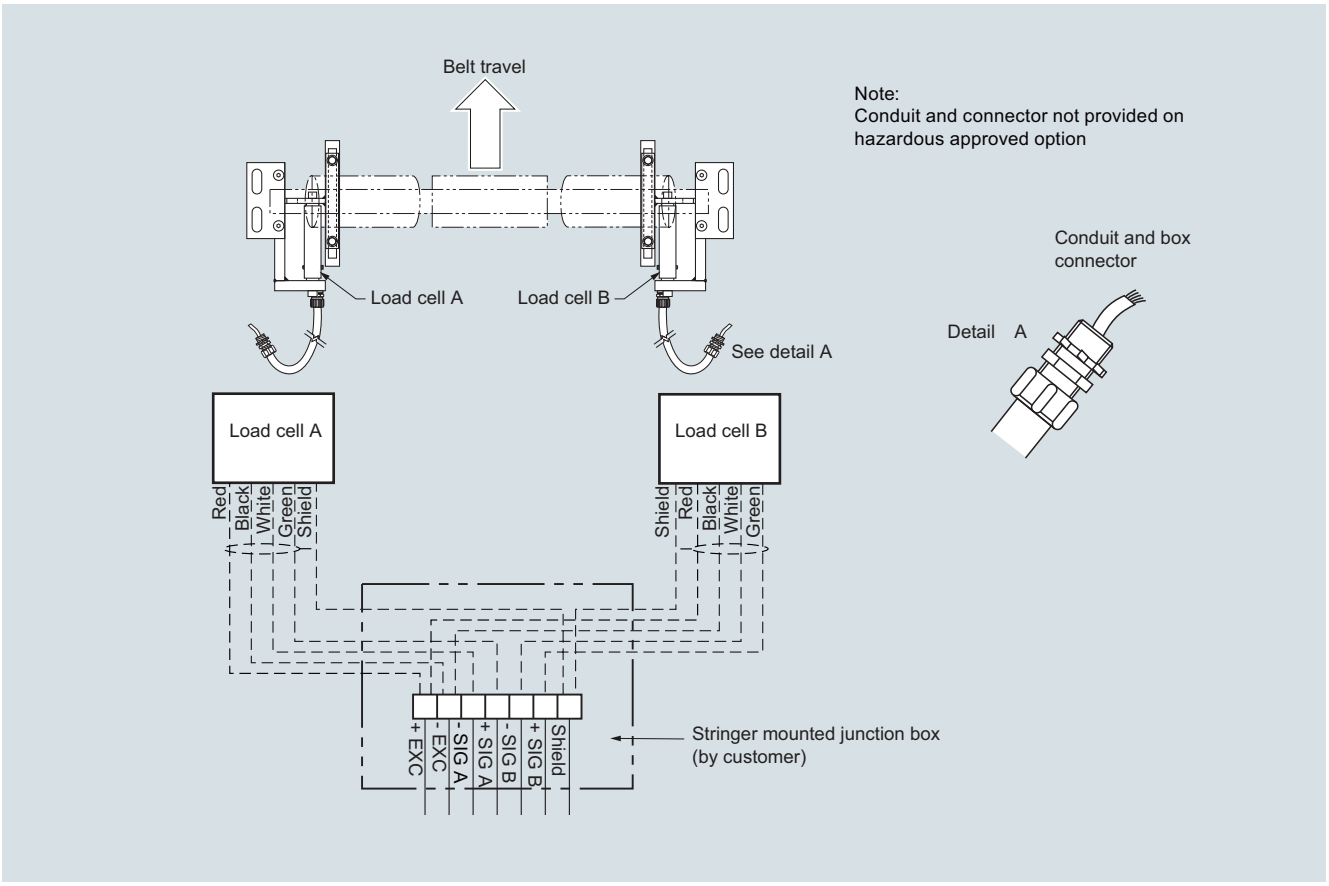
2) Complete specification data sheet and submit with order "legal for trade" version (see Application Questionnaire at https://assets.new.siemens.com/siemens/assets/api/uuid:35272d97-6289-4291-ac8a-03398eb9315c/questionnaire-beltscale-en.pdf)

Dimensional drawings



MCS, dimensions in mm (inch)

Circuit diagrams



MCS connections