

Overview

Milltronics MLC is a low-capacity scale for light belt loading.

Benefits

- Unique parallelogram style load cell design
- Designed for light product loading
- Compact and easy to install
- System includes weighing idler
- Stainless steel option
- Low cost of ownership

Application

The MLC is suitable for monitoring such products as fertilizer, tobacco, animal feed pellets, or sugar.

The MLC's proven use of parallelogram style load cells results in fast reaction to vertical forces, ensuring instant response to product loading. This enables it to provide outstanding accuracy and repeatability even with very light loading. The MLC may be easily installed in existing flat belt conveyors or belt feeders.

Operating with Milltronics BW500, or SIWAREX FTC microprocessor-based integrators, the MLC provides indication of flow rate, total weight, belt load and belt speed of bulk solids materials on a belt conveyor. A speed sensor monitors conveyor belt speed for input to the integrator. When used in conjunction with Milltronics BW500 integrator with PID controller, the MLC may also be used in the food industry as part of a pre-feed control system for extruders, cookers and de-hydrators.

Belt Scales

Milltronics belt scales

Milltronics MLC

Technical specifications

Milltronics MLC	
Mode of operation	
Measuring principle	Strain gauge load cell measuring load on flat belt conveyor idler
Typical application	Monitor fertilizer, tobacco, animal feed pellets, sugar, cereal
Performance	
Accuracy ¹⁾	± 0.5 ... 1.0 % of totalization over 25 ... 100 % operating range
Repeatability	± 0.1 %
Medium conditions	
Max. material temperature	85 °C (185 °F)
Belt design	
Belt width	<ul style="list-style-type: none"> • 450 ... 1 200 mm • 18 ... 48 inch
Belt speed	2.0 m/s (400 fpm) maximum ²⁾
Capacity	Up to 50 t/h (55 STPH)
Conveyor incline	<ul style="list-style-type: none"> • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy
Idlers	
Conveyor idler	Horizontal
Idler diameter	50 or 60 mm (1.90 or 2.30 inch)
Idler spacing	0.5 ... 1.5 m (1.6 ... 5.0 ft)

Milltronics MLC	
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)
Excitation	10 V DC nominal, 15 V DC maximum
Output	2 mV/V excitation at rated load cell capacity
Non-linearity	0.03 % of rated output
Hysteresis	0.05 % of rated output
Non-repeatability	0.03 % of rated output
Capacity	10 or 20 lb
Overload	150 % of rated capacity, ultimate 300 % of rated capacity
Temperature	<ul style="list-style-type: none"> • -40 ... +85 °C (-40 ... +185 °F) operating range • -10 ... +60 °C (14 ... 140 °F) compensated
Mounting dimensions	Identical for all capacities
Hazardous locations	Consult the factory
Approvals	CE, RCM, GOST-R

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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.

Selection and ordering data	Article No.	Article No.
Milltronics MLC belt scale Low-capacity scale for light belt loading that comes complete with a weighing idler. ↗ Click on the Article No. for the online configuration in the PIA Life Cycle Portal.	7MH7126-	
Belt width/Scale construction <u>Polyester painted mild steel</u> 18 inch (457 mm) 24 inch (610 mm) 30 inch (762 mm) 36 inch (914 mm) 42 inch (1067 mm) 48 inch (1219 mm) 500 mm (20 inch) 650 mm (26 inch) 800 mm (32 inch) 1000 mm (39 inch) 1200 mm (47 inch) 450 mm (18 inch) <u>Stainless steel 304 (1.4301), bead blast finish (1 ... 6 µm, 40 ... 240 µin)</u> 18 inch (457 mm) 24 inch (610 mm) 30 inch (762 mm) 36 inch (914 mm) 42 inch (1067 mm) 48 inch (1219 mm) 500 mm (20 inch) 650 mm (26 inch) 800 mm (32 inch) 1000 mm (39 inch) 1200 mm (47 inch) 450 mm (18 inch)	1 A 1 B 1 C 1 D 1 E 1 F 1 G 1 H 1 J 1 K 1 L 1 M 2 A 2 B 2 C 2 D 2 E 2 F 2 G 2 H 2 J 2 K 2 L 2 M	7ML1998-5GA01 7ML1998-5GA11 7ML1998-5GA31 7ML1998-5GA21
Load cell capacity 10 lb (4.55 kg) 20 lb (9.09 kg) Not specified ¹⁾	A B X	
Weighing idler dimensions 50 mm (1.96 inch) ²⁾ 60 mm (2.40 inch) ³⁾ 1.90 inch (48.2 mm) ⁴⁾	1 2 5	
Further designs 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. Application Eng. reference number (max. 15 characters), specify in plain text. Manufacturer's test certificate: According to EN 10204-2.2 FDA compliant version. Conduit and fittings designed for food applications conforming to FDA/USDA standards	Order Code Y15 Y31 C11 K01	
Operating instructions <ul style="list-style-type: none"> English German 	Article No. 7ML1998-5FF01 A5E32007529	
Belt Scale Application Guidelines <ul style="list-style-type: none"> English French German Spanish Note: The operating instructions should be ordered as a separate item on the order. This device is shipped with the Siemens Milltronics manual DVD containing the complete operating instructions library.		
Spare parts Load cell, 10 lb (4.55 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware Load cell, 20 lb (9.09 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware Conduit replacement kit FDA conduit replacement kit		7MH7725-1AA 7MH7725-1AB 7MH7723-1NA 7MH7723-1QL
Milltronics MLC calibration weight [Stainless Steel 304 (1.4301)] For scales with belt width of 18 inch or 500 mm or 450 mm 1.05 lb (0.47 kg) 1.63 lb (0.73 kg) 2.35 lb (1.06 kg) 3.21 lb (1.45 kg)		7MH7724-1AL 7MH7724-1AM 7MH7724-1AN 7MH7724-1AP
For scales with belt width of 24 inch or 650 mm 1.38 lb (0.62 kg) 2.15 lb (0.97 kg) 3.11 lb (1.41 kg) 4.24 lb (1.91 kg)		7MH7724-1AQ 7MH7724-1AR 7MH7724-1AS 7MH7724-1AT
For scales with belt width of 30 inch or 800 mm 1.72 lb (0.77 kg) 2.67 lb (1.21 kg) 3.85 lb (1.73 kg) 5.26 lb (2.37 kg)		7MH7724-1AU 7MH7724-1AV 7MH7724-1AW 7MH7724-1AX
For scales with belt width of 36 inch or 1 000 mm 2.05 lb (0.92 kg) 3.19 lb (1.44 kg) 4.56 lb (2.07 kg) 6.29 lb (2.83 kg)		7MH7724-1AY 7MH7724-1BA 7MH7724-1BB 7MH7724-1BC
For scales with belt width of 42 inch or 1 000 mm 2.38 lb (1.07 kg) 3.71 lb (1.67 kg) 5.35 lb (2.41 kg) 7.31 lb (3.29 kg)		7MH7724-1BD 7MH7724-1BE 7MH7724-1BF 7MH7724-1BG
For scales with belt width of 48 inch or 1 200 mm 2.72 lb (1.22 kg) 4.23 lb (1.92 kg) 6.06 lb (2.75 kg) 8.34 lb (3.75 kg)		7MH7724-1BH 7MH7724-1BJ 7MH7724-1BK 7MH7724-1BL
Note: Calibration accessories should be ordered as a separate item on the order		

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

²⁾ Available with belt width/scale construction options 1G ... 1M, 2G ... 2M only.

³⁾ Available with belt width/scale options 1G ... 1M only.

⁴⁾ Available with belt width/scale construction options 1A ... 1F, 2A ... 2F only

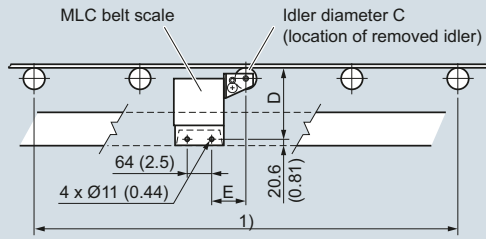
Belt Scales

Milltronics belt scales

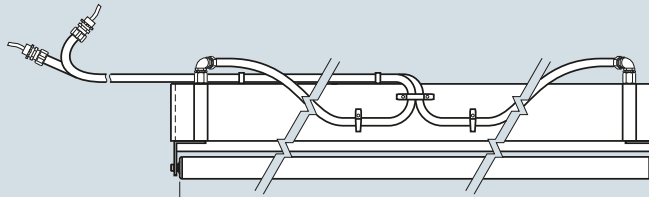
Milltronics MLC

Dimensional drawings

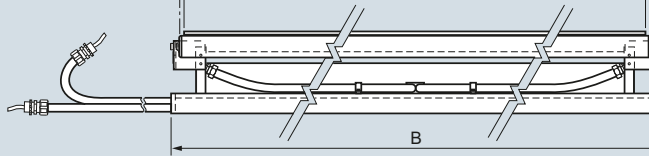
Installation



Plan View



Front View



1) For pan supported belts, the belt should be cut out to allow the MLC and at least two (preferably four) other idlers to be installed.

Imperial designs [dimensions in inch (mm)]

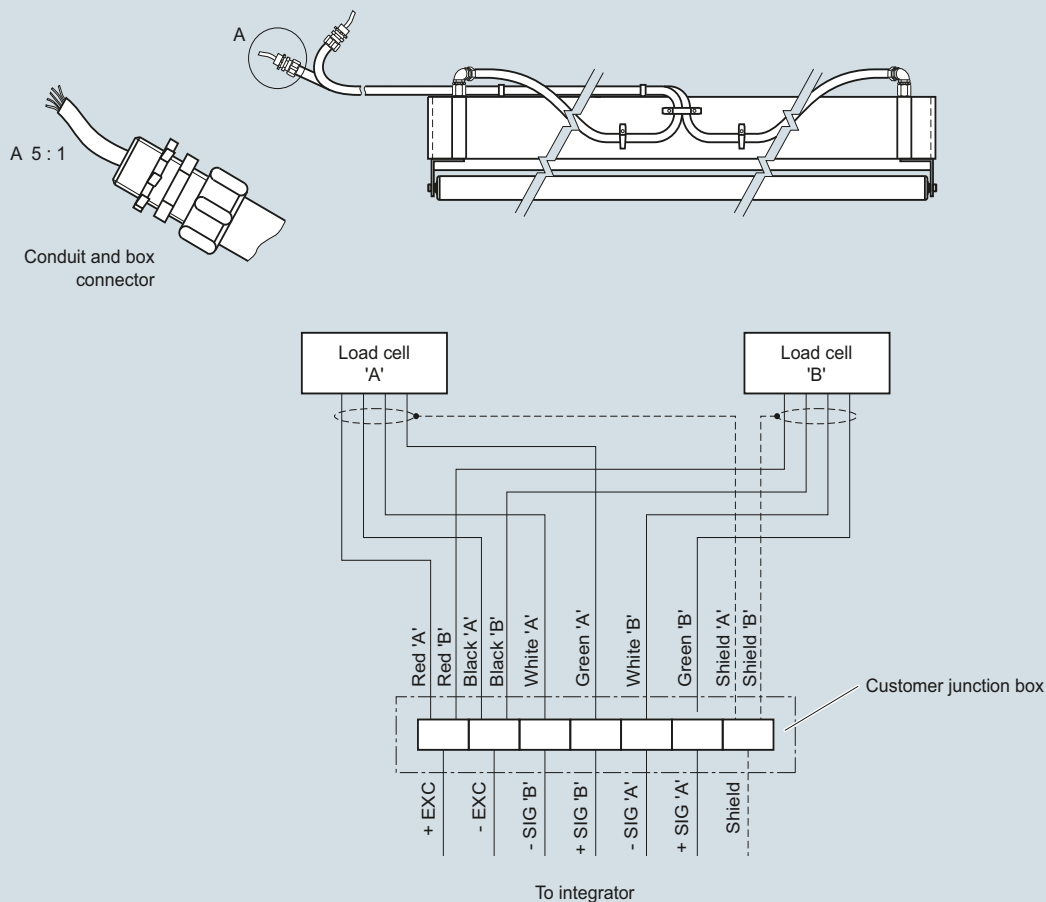
Scale size	'A' roller width	'B' dimension	'C' dimension	'D' dimension	'E' dimension
18 (457)	18 (457)	19 (483)	1.90 (48.3)	6.19 (157)	3.5 (89)
24 (610)	24 (610)	25 (635)	1.90 (48.3)	6.19 (157)	3.5 (89)
30 (762)	30 (762)	31 (787)	1.90 (48.3)	6.19 (157)	3.5 (89)
36 (914)	36 (914)	37 (940)	1.90 (48.3)	6.19 (157)	3.5 (89)
42 (1 067)	42 (1 067)	43 (1 092)	1.90 (48.3)	6.19 (157)	3.5 (89)
48 (1 219)	48 (1 219)	49 (1 245)	1.90 (48.3)	6.19 (157)	3.5 (89)

Metric designs [dimensions in mm (inch)]

Scale size	'A' roller width	'B' dimension	'C' dimension	'D' dimension	'E' dimension
450 (17.72)	450 (17.72)	500 (19.69)	50 (1.97)	158 (6.22)	96 (3.78)
500 (19.69)	500 (19.69)	550 (21.65)	50 (1.97)	158 (6.22)	96 (3.78)
650 (25.59)	650 (25.59)	700 (27.56)	50 (1.97)	158 (6.22)	96 (3.78)
800 (31.50)	800 (31.50)	850 (33.46)	50 (1.97)	158 (6.22)	96 (3.78)
1 000 (39.37)	1 000 (39.37)	1 050 (41.34)	60 (2.36)	158 (6.22)	96 (3.78)
1 200 (47.24)	1 200 (47.24)	1 250 (49.21)	60 (2.36)	158 (6.22)	96 (3.78)

MLC, dimensions in mm (inch)

Schematics



Note:
Conduit and cable arrangement may differ from example shown.

MLC connections