

Belt Weighing

Belt scales

Milltronics MLC

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, SIWAREX WT241, WP241, or 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.

Selection and ordering data

	Article No.		
Milltronics MLC Belt scale	7MH7126-	●	● ●
Accuracy is $\pm 0.5 \dots 1.0$ % of totalization over 25 ... 100 % operating range with capacity up to 50 t/h (55 STPH).			
Click on the Article No. for the online configuration in the PIA Life Cycle Portal.			
Belt width/Scale construction			
<u>C5-M rated polyester painted mild steel</u>			
18 inch (457 mm)	1	A	
24 inch (610 mm)	1	B	
30 inch (762 mm)	1	C	
36 inch (914 mm)	1	D	
42 inch (1 067 mm)	1	E	
48 inch (1 219 mm)	1	F	
500 mm (20 inch)	1	G	
650 mm (26 inch)	1	H	
800 mm (32 inch)	1	J	
1 000 mm (39 inch)	1	K	
1 200 mm (47 inch)	1	L	
450 mm (18 inch)	1	M	
<u>Stainless steel 304 (1.4301), bead blast finish (1 ... 6 μm, 40 ... 240 μm)</u>			
18 inch (457 mm)	2	A	

Selection and ordering data (Continued)

Milltronics MLC Belt scale Accuracy is $\pm 0.5 \dots 1.0$ % of totalization over 25 ... 100 % operating range with capacity up to 50 t/h (55 STPH).	Article No. 7MH712- 6-			
24 inch (610 mm)	2	B		
30 inch (762 mm)	2	C		
36 inch (914 mm)	2	D		
42 inch (1 067 mm)	2	E		
48 inch (1 219 mm)	2	F		
500 mm (20 inch)	2	G		
650 mm (26 inch)	2	H		
800 mm (32 inch)	2	J		
1 000 mm (39 inch)	2	K		
1 200 mm (47 inch)	2	L		
450 mm (18 inch)	2	M		
Load cell capacity				
10 lb (4.55 kg)			A	
20 lb (9.09 kg)			B	
Not specified ¹⁾			X	
Weighing idler dimensions				
50 mm (1.96 inch) ²⁾				1
60 mm (2.40 inch) ³⁾				2
1.90 inch (48.2 mm) ⁴⁾				5

Selection and ordering data	Order code
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.	Y15
Application Eng. reference number (max. 15 characters), specify in plain text.	Y31
Manufacturer's test certificate: according to EN 10204-2.2	C11
FDA compliant version. Conduit and fittings designed for food applications conforming to FDA/USDA standards	K01
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.
Load cell, 10 lb (4.55 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover	PBD-23900244
Load cell, 20 lb (9.09 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover	PBD-23900245
Load cell, 10 lb (4.55 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	7MH7725-1AA

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Selection and ordering data (Continued)

Selection and ordering data	Order code
Load cell, 20 lb (9.09 kg), 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover, includes hardware	7MH7725-1AB
Conduit replacement kit	7MH7723-1NA
FDA conduit replacement kit	7MH7723-1QL
Milltronics MLC calibration weight [Stainless Steel 304 (1.4301)]	
<u>For scales with belt width of 18 inch or 500 mm or 450 mm</u>	
1.05 lb (0.47 kg)	7MH7724-1AL
1.63 lb (0.73 kg)	7MH7724-1AM
2.35 lb (1.06 kg)	7MH7724-1AN
3.21 lb (1.45 kg)	7MH7724-1AP
<u>For scales with belt width of 24 inch or 650 mm</u>	
1.38 lb (0.62 kg)	7MH7724-1AQ
2.15 lb (0.97 kg)	7MH7724-1AR
3.11 lb (1.41 kg)	7MH7724-1AS
4.24 lb (1.91 kg)	7MH7724-1AT
<u>For scales with belt width of 30 inch or 800 mm</u>	
1.72 lb (0.77 kg)	7MH7724-1AU
2.67 lb (1.21 kg)	7MH7724-1AV
3.85 lb (1.73 kg)	7MH7724-1AW
5.26 lb (2.37 kg)	7MH7724-1AX
<u>For scales with belt width of 36 inch or 1 000 mm</u>	
2.05 lb (0.92 kg)	7MH7724-1AY
3.19 lb (1.44 kg)	7MH7724-1BA
4.56 lb (2.07 kg)	7MH7724-1BB
6.29 lb (2.83 kg)	7MH7724-1BC
<u>For scales with belt width of 42 inch or 1 000 mm</u>	
2.38 lb (1.07 kg)	7MH7724-1BD
3.71 lb (1.67 kg)	7MH7724-1BE
5.35 lb (2.41 kg)	7MH7724-1BF
7.31 lb (3.29 kg)	7MH7724-1BG
<u>For scales with belt width of 48 inch or 1 200 mm</u>	
2.72 lb (1.22 kg)	7MH7724-1BH
4.23 lb (1.92 kg)	7MH7724-1BJ
6.06 lb (2.75 kg)	7MH7724-1BK
8.34 lb (3.75 kg)	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 and 2G ... 2M only.
- 3) Available with Belt width/Scale construction options 1G ... 1M only.
- 4) Available with Belt width/Scale construction options 1A ... 1F and 2A ... 2F only.

Technical specifications

Milltronics MLC	
Technical specifications	
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) ²⁾
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)
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
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, UKCA, RCM, EAC, KC

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 () ration of higher values. http://www.automation.siemens.com/aspa_app

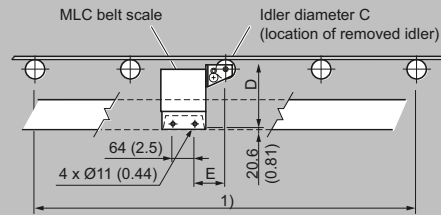
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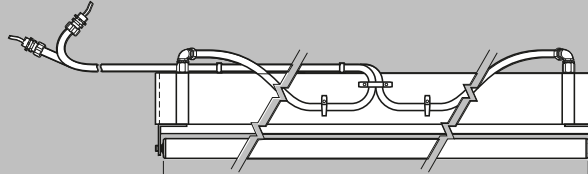
Milltronics MLC

Dimensional drawings

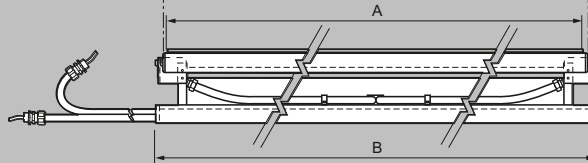
Installation



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)]

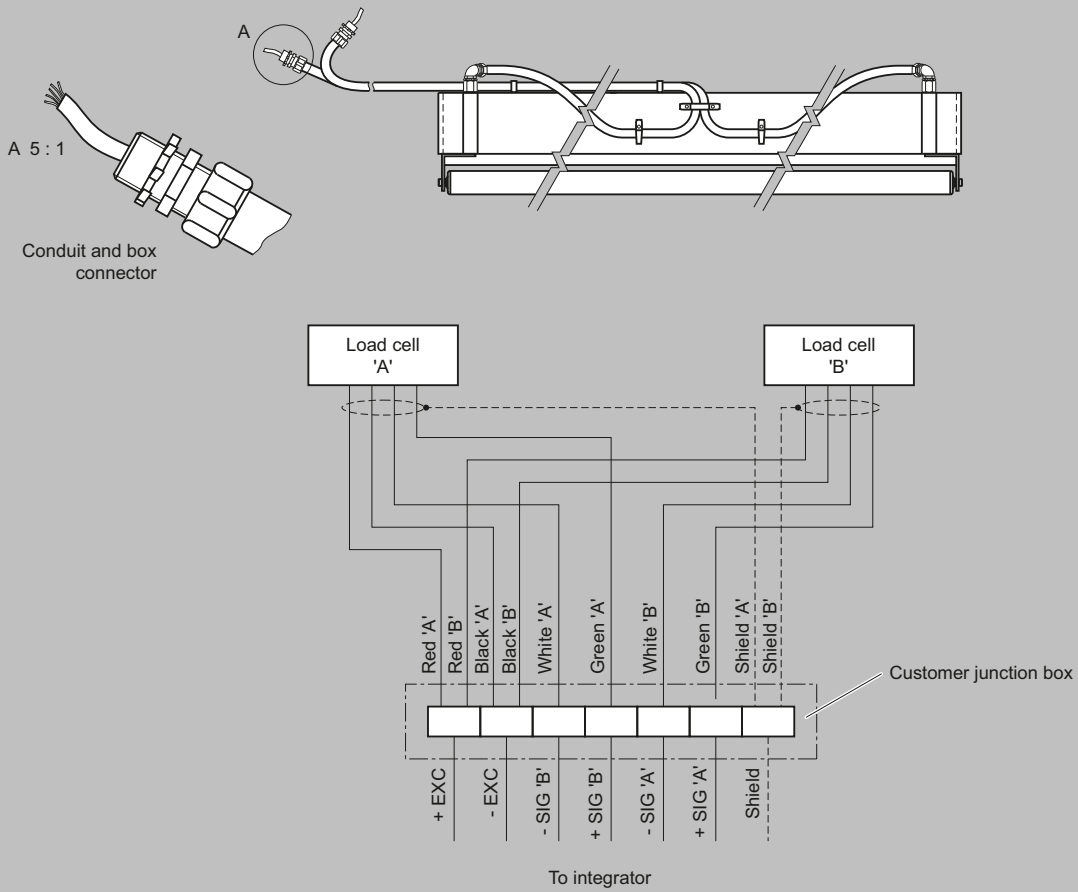
Scale size	'A' roller width	'B' dimension	'C' dimension	'D' dimension	'E' dimension
18 (457)	18 (457)	19 (483)	1.90 (48.3)	6.19 (157)	3.5 (89)
24 (610)	24 (610)	25 (635)	1.90 (48.3)	6.19 (157)	3.5 (89)
30 (762)	30 (762)	31 (787)	1.90 (48.3)	6.19 (157)	3.5 (89)
36 (914)	36 (914)	37 (940)	1.90 (48.3)	6.19 (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)

Circuit diagrams



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

MLC connections