# Continuous weighing –
# No light matter

# Milltronics MSI and MMI

Answers for industry.

## MSI/MMI

If high accuracy matters to you, and your application is rough and rugged, then the Milltronics MSI heavy-duty, single idler scale is your solution for process and load-out control. For even greater accuracy choose Milltronics MMI, a two or three idler scale for custody transfer, and use on applications with fast-moving belts, short idler spacing, and light or uneven belt loading. Milltronics MSI and MMI outperform many four or six-idler scales on accuracy and durability. On your behalf, we don't consider continuous weighing a light matter.

- Outstanding accuracy and repeatability

- Unique parallelogram style strain gauge load cell with 300% overload protection for instant response to vertical loading. This allows the handling of higher belt speeds. The stainless steel triple beam design makes it suited for the harshest conditions, with high moisture and corrosion resistance

- Patented electronic load cell balancing maintains accuracy even with severe off-centre belt loading

- Drop-in installation makes alignment easy, saving time at installation

- Milltronics BW100[2] or BW500 integrators or SIWAREX FTC complete your belt scale system

- Milltronics MSI/BW500 and/ or MMI-2/BW500 systems are NTEP, Measurement Canada, OIML, MID and SABS approved for custody transfer

**www.siemens.com/continuous-weighing**

| | Milltronics MSI | Milltronics MMI |
|---|---|---|
| **Mode of Operation** | | |
| **Measuring Principle** | Heavy-duty strain gauge load cells measuring load on belt conveyor idler(s) | |
| **Typical Applications** | • Control in fractionated stone blending tunnels<br>• Monitor specific grinding mill feed rates<br>• Track daily production rates and totals<br>• Run of mine/course and fine ore/ aggregates<br>• Control coal feed for power plants | • Custody transfer<br>• Track mine-to-mill transfer rates<br>• Material load-outs on truck, barge, ship, rail<br>• Monitor and track inventories<br>• For use on fast-moving belts, short idler spacing, light or uneven belt loading |
| **Performance** | | |
| **Accuracy** | ± 0.5% from 20-100% operating range | MMI-2: ± 0.25% from 20-100% operating range (2 MSI scales in tandem)<br>MMI-3 : ± 0.125% from 25-100% operating range (3 MSI scales in tandem) |
| **Medium conditions** | | |
| **Material temperature** | -40 to 70 °C (-40 to 185 °F) | |
| **Belt design** | | |
| **Belt width** | 500 mm to 2000 mm (18 to 96" in CEMA sizes) | |
| **Belt speed** | Up to 5 m/s (1200 fpm) | |
| **Capacity** | | |
| | Up to 12000 t/h at maximum belt speed | |
| **Conveyor incline** | | |
| | • ± 20° from horizontal, fixed incline • Up to ± 30° with reduced accuracy[1] | |
| **Idlers** | | |
| **Idler profile** | • Flat to 35° | • 45° with reduced accuracy[1] |
| **Idler diameter** | 50 to 180 mm (2 to 7") | |
| **Idler spacing** | 0.5 to 1.5 m (1.5 to 5.0 ft) | |
| **Load cell** | | |
| **Construction** | 17-4 PH (1.4568) stainless steel construction with 304 (1.4301) stainless steel cover (with superior moisture protection). Enclosure: IP65 | |
| **Excitation** | 10 V DC nominal, 15 V DC maximum | |
| **Output** | 2 ± 0.02 mV/V excitation (nominal) at rated load cell capacity | |
| **Non-repeatability** | 0.01% of rated output | |
| **Non-linearity** | 0.02% of rated output | |
| **Capacity** | 50, 100, 250, 500, 750, 1000, 1250, 1500 lbs | |
| **Overload** | 150% of rated capacity, ultimate 300% of rated capacity | |
| **Temperature** | • 40 to 75 °C (-40 to 167 °F) operating range<br>• -18 to 65 °C (0 to 150 °F) compensated | |
| **Interconnection wiring (to integrator per MSI)** | | |
| | • < 150 m (500 ft) 18 AWG (0.75 mm²) 6 conductor shielded cable<br>• > 150 m (500 ft) to 300 m (1000 ft) 18 to 22 AWG (0.75 to 0.34 mm²) 8 conductor shielded cable | |
| **Interface** | | |
| **Output** | Milltronics BW100 integrator[2]: • flow rate • total weight • belt load • belt speed<br>Milltronics BW500 integrator: • flow rate • total weight • belt load • belt speed • batching • PID | |
| **Communications** | With Milltronics BW500 integrator, on board Modbus®<br>Allan-Bradley® RIO, PROFIBUS DP, DeviceNet™ via optional SmartLinx® | |
| **Approvals** | | |
| | FM/CSA Class II, Div. 1, Groups E, F, G and Class III; ATEX II 2D, IEC ExtD A21 IP65 T90°C, CE, C-TICK | |
| | Measurement Canada, SABS (Milltronics MSI), NTEP (Milltronics MMI); OIML; MID | |

[1]Review by Siemens application engineer required.  [2]Milltronics BW100 not applicable to Milltronics MMI models. Allen-Bradley is a registered trademark of Rockwell Automation. DeviceNet is a trademark of Open DeviceNet Vendor Association. Modbus is a registered trademark of Schneider Electric. SmartLinx is a registered trademark of Siemens Milltronics Process Instruments Inc. Specifications are subject to change without notice.
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