

The Accumass BW500 is a powerful integrator designed for use with both belt scales and weigh feeders. Operating with any belt scale with up to four strain gauge load cells, it processes belt load and speed signals for accurate flow rate and totalized weight of bulk solids. It can take on lower level control functions traditionally handled by other devices, and it supports digital communications and Fieldbus connections. Its patented load cell balance function eliminates matching of load cells.



The PID function may be used for rate control on shearing weigh feeders – where belt loading is constant – but can also control pre-feeding devices. Operating in tandem with two or more weigh feeders, the BW500 may be used for ratio blending and controlling additives. Batching, load out and alarm functions are also provided by the BW500.

Milltronics Dolphin Plus software may be used for programming the unit on a PC.

Product Features

- Automatic zero and electronic span calibration
- Alarms for rate, load, speed or diagnostic error
- On-board Modbus, optional Profibus-DP, Allen Bradley RIO and DeviceNet
- Comprehensive weigh feeder control functions
- PID control with optional analog I/O card
- Suitable for belt scale custody approval

Technical Specifications

Power

- 100/115/200/230 Vac $\pm 15\%$, 50/60 Hz, 31 VA
- fuse, FU1: 2AG, Slo Blo, 2 A, 250 V or equivalent

Application

- compatible with Mass Dynamics belt scales or equivalent 1, 2 or 4 load cell scales.
- compatible with LVDT equipped scales, with use of optional interface board (remotely mounted)

Accuracy

- 0.1% of full scale

Resolution

- 0.02% of full scale

Environmental

- location: indoor/outdoor altitude, 2000 m max.
- ambient temperature: -20 to 50°C (-5 to 122°F)
- relative humidity: suitable for outdoor
- installation category: II
- pollution degree: 4

Enclosure

- Type 4X/NEMA 4X/IP 65
- 285 W x 209 H x 92 mm D (11.2 W x 8.2 H x 3.6" D)
- polycarbonate

Programming

- via local keypad and/or Dolphin Plus interface

Display

- illuminated 5 x 7 dot matrix liquid crystal display with 2 lines of 40 characters each

Memory

- program stored in non-volatile FLASH ROM, upgradeable via Dolphin Plus interface
- parameters stored in battery backed RAM, 3 V NEDA 5003LC or equivalent, 10 year life

Inputs

- load cell: 0 - 45 mVdc per load cell
- speed sensor: pulse train: 0 V low, 5-15 V high, 1 to 2000 Hz, or open collector switch, or relay dry contact
- auto zero: dry contact from external device
- mA: see optional mA I/O board
- auxiliary: 5 discrete inputs for external contacts, each programmable for either: display scrolling, totalizer 1 reset, zero, span, multispan, print, batch reset, or PID function.

Outputs (load and speed)

- mA: programmable 0/4 - 20 mA, for rate, optically isolated, 0.1% of 20 mA resolution, 750 Ω load max. (see optional mA I/O board)
- load cell: 10 V dc compensated excitation for strain gauge type, 4 cells max, 150 mA max.
- speed sensor: 12 V dc, 150 mA max. excitation
- remote totalizer 1: contact closure 10 - 300 ms duration, open collector switch rated 30 Vdc, 100 mA max.
- remote totalizer 2: contact closure 10 - 300 ms duration, open collector switch rated 240 Vac/dc, 100 mA max.
- relay output: 5 alarm/control relays, 1 form 'A' SPST relay contact per relay, rated 5 A at 250 Vac, non-inductive or 30 Vdc

Communications

- two RS-232 ports
- one RS-485 port
- SmartLinx™ compatible

Options

- Speed Sensor:
 - Mass Dynamics MD-36 / 36A / 256 or 2000A, or RBSS, or compatible
 - Dolphin Plus: Milltronics Windows based software interface. Refer to associated product documentation
 - SmartLinx@Modules: protocol specific modules for interface with popular industrial communications systems. Refer to associated product documentation.
 - Mass Dynamics Incline Compensator: for load cell excitation compensation on variable incline conveyors

mA I/O board

- inputs: 2 programmable 0/4 – 20 mA for PID, control, optically isolated, 0.1% of 20 mA resolution, 200 Σ input impedance
- outputs: 2 programmable 0/4 – 20 mA for PID control, rate, load and speed output, optically isolated, 0.1% of 20 mA resolution, 750 Σ load max
- output supply: isolated 24 V dc at 50 mA, short circuit protected
- LVDT interface card: for interface with LVDT based scales

Weight

- 2.6 kg (5.7 lbs.)

Approvals

- CE*, CSA NRTL/C

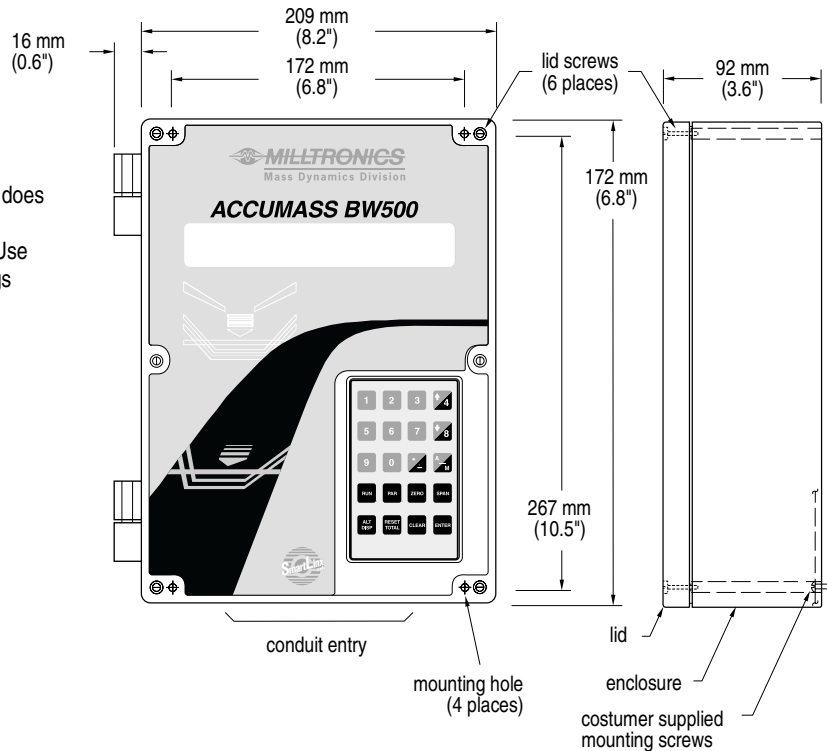
*EMC performance available upon request.

Specifications are subject to change without notice.

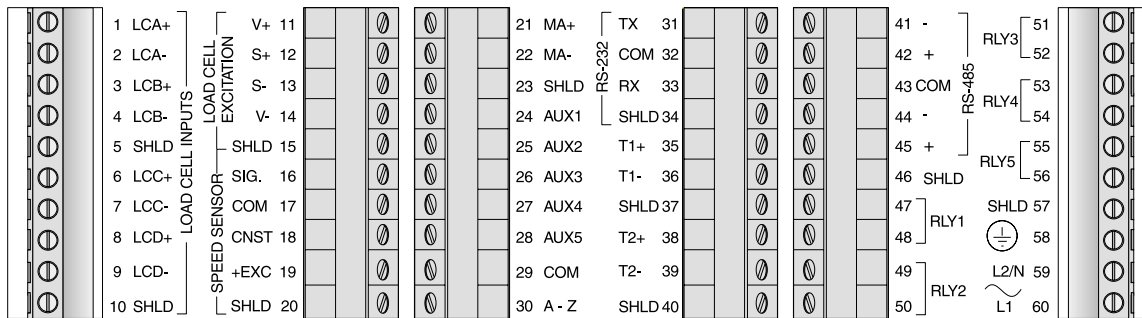
Accumass BW500

Dimensions

Non metallic enclosure does not provide grounding between connections. Use grounding type bushings and jumpers.



Wiring



Cable

- one load cell:
 - non-sensing: Belden 8404, 4 wire shielded, 20 AWG or equivalent, 150 m (500 ft.) max.
 - sensing: Belden 9260, 6 wire shielded, 20 AWG or equivalent, 300 m (1000 ft.) max.
- two / four* load cells:
 - *for four load cell scale, run two separate cables of two load cell configuration
 - non-sensing: Belden 9260, 6 wire shielded, 20 AWG or equivalent, 150 m (500 ft.) max.
 - sensing: Belden 8418, 8 wire shielded, 20 AWG or equivalent, 300 m (1000 ft.) max.
- speed sensor: Belden 8770, 3 wire shielded, 18 AWG or equivalent, 300 m (1000 ft.)
- auto zero: Belden 8760, 1 pair, twisted/shielded, 18 AWG, 300 m (1000 ft.) max.
- remote total: Belden 8760, 1 pair, twisted/shielded, 18 AWG, 300 m (1000 ft.) max.



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