

The Milltronics SF 500 is a full feature integrator for use with solids flowmeters. Operating with any solids flowmeter with up to two strain gauge load cells or LVDT sensor, it processes sensor 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 popular industrial communication buses. Its patented load cell balance function eliminates matching of load cells.

The PID function may be used for rate control of pre-feeding devices and/or control of additives with two internal PID controllers. Operating in tandem with two or more integrators, each connected to a solids flowmeter or weighfeeder, the SF 500 can be used for ratio blending and controlling additives. Batching, load out, and alarm functions are also provided by the SF 500.

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



Product Features

- Automatic zero and electronic span calibration
- Alarms for rate or diagnostic error
- On-board Modbus[®], optional PROFIBUS DP, Allen-Bradley[®] RIO and DeviceNet[™]
- On-line calibration and dual PID control with optional analog I/O card
- Multi-point linearizer for high turndown accuracy
- Up to 8 multi-spans for application of more than one flow condition and/or material

Technical Specifications

Power

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

Application

- compatible with Siemens Milltronics solids flowmeters or equivalent 1 or 2 load cell models
- compatible with LVDT equipped solids flowmeters, 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/LVDT: 0 - 45 mV DC per load cell input
- 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

- 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, 2 cells max, 150 mA max.
- remote totalizer 1: contact closure 10 - 300 ms duration, open collector switch rated 30 V DC, 100 mA max.
- remote totalizer 2: contact closure 10 - 300 ms duration, open collector switch rated 240 V AC/dc, 100 mA max.
- relay output: 5 alarm/control relays, 1 form 'A' SPST relay contact per relay, rated 5 A at 250 V AC, non-inductive or 30 V DC

Communications

- two RS-232 ports
- one RS-485 port
- SmartLinx[®] compatible

Options

- Dolphin Plus: Windows[®] compatible configuration software connected to unit via infrared Converter link.. Refer to associated product documentation
- SmartLinx[®] Modules: protocol specific modules for interface with popular industrial communications systems. Refer to associated product documentation.
- LVDT interface card: for interface with LVDT based solids flowmeters
- mA I/O board
 - inputs: 2 programmable 0/4 - 20 mA for PID control, optically isolated, 0.1% of 20 mA resolution, 200 Ω input impedance
 - outputs: 2 programmable 0/4 - 20 mA for PID control or rate output, optically isolated, 0.1% of 20 mA resolution, 750 Ω load max
 - output supply: isolated 24 V DC at 50 mA, short circuit protected

Weight

- 2.6 kg (5.7 lbs)

Approvals

- CE*, CSA NRTL/C

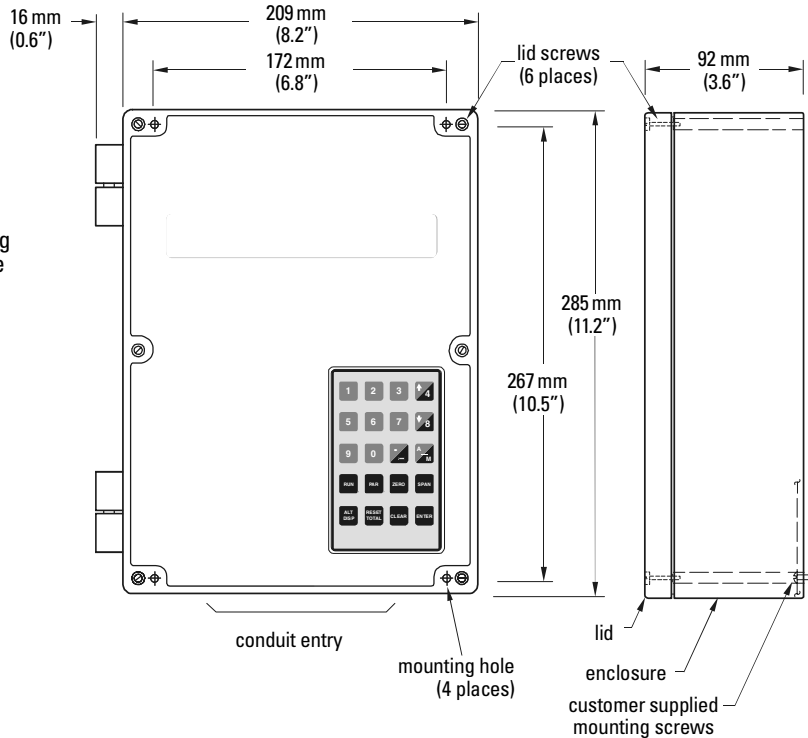
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* EMC performance available upon request.

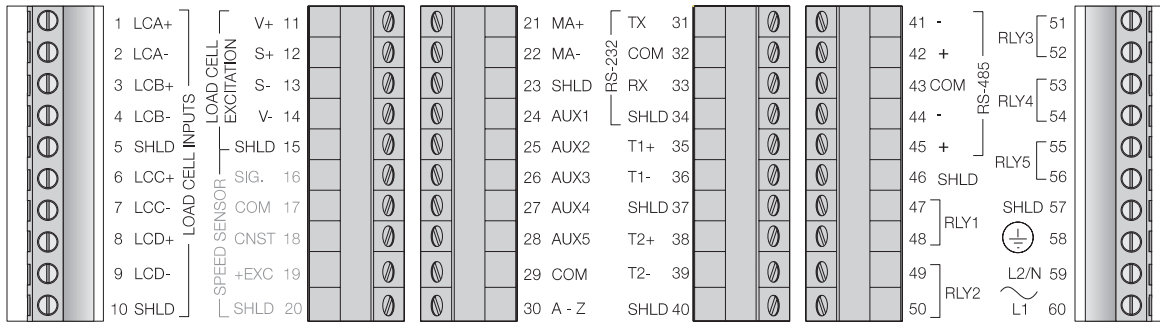
Specifications are subject to change without notice.

Dimensions

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



Wiring



Cable

- one load cell input for single load cell or LVDT application
 - 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 load cells:
 - 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.
- 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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