

million
in one

milltronics

LVDT CARD

SIEMENS

Safety Guidelines: Warning notices must be observed to ensure personal safety as well as that of others, and to protect the product and the connected equipment. These warning notices are accompanied by a clarification of the level of caution to be observed.

Qualified Personnel: This device/system may only be set up and operated in conjunction with this manual. Qualified personnel are only authorized to install and operate this equipment in accordance with established safety practices and standards.

Unit Repair and Excluded Liability:

- The user is responsible for all changes and repairs made to the device by the user or the user's agent.
- All new components are to be provided by Siemens Milltronics Process Instruments Inc.
- Restrict repair to faulty components only.
- Do not reuse faulty components.

Warning: This product can only function properly and safely if it is correctly transported, stored, installed, set up, operated, and maintained.

This product is intended for use in industrial areas. Operation of this equipment in a residential area may cause interference to several frequency based communications.

Note: Always use product in accordance with specifications.

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- For a selection of Siemens Milltronics weighing manuals, go to: **www.siemens.com/processautomation**. Under Weighing Technology, select *Continuous Weighing Systems* and then go to the manual archive listed under the product family.

The LVDT Conditioner Card

Note: This product is intended for use in industrial areas. Operation of this equipment in a residential area may cause interference to several frequency based communications.

The LVDT (Linear Variable Differential Transformer) Conditioner Card is an ancillary piece of equipment. The LVDT Conditioner Card provides all the complex circuitry required to allow the Milltronics BW100 or BW500 to interface with a position transducer (LVDT) based scale.

It also allows the SF500 to interface with a position transducer (LVDT) based solids flowmeter.

Specifications

Power:

- ± 5 V DC (typically from a Milltronics integrator)

Ambient Temperature:

- -40 to 50 °C (-40 to 122 °F)

Input:

- 0 to 1.0 V AC from LVDT based belt scale or solids flow meter

Output:

- 0 to 50m V DC to Milltronics BW100 or BW500/SF500
(maximum 300 m (1000 ft) separation between Conditioner Card and Integrator).
- Accuracy: 0.1% of range

Enclosure:

- General Purpose Type 4/Nema 4

Approvals:

- CE

Cable:

- LVDT Conditioner Card to Integrator: Belden 8404, 4 conductor, shielded 20 AWG or equivalent, 150m (500 ft) max.
Belden 9260, 6 conductor, shielded 20 AWG or equivalent, 300 m (1000 ft) max.

- LVDT to LVDT Conditioner Card (CT connection not required): Belden 8404, 4 conductor, shielded 20 AWG or equivalent, 300 m (1000 ft) max.

General Operation

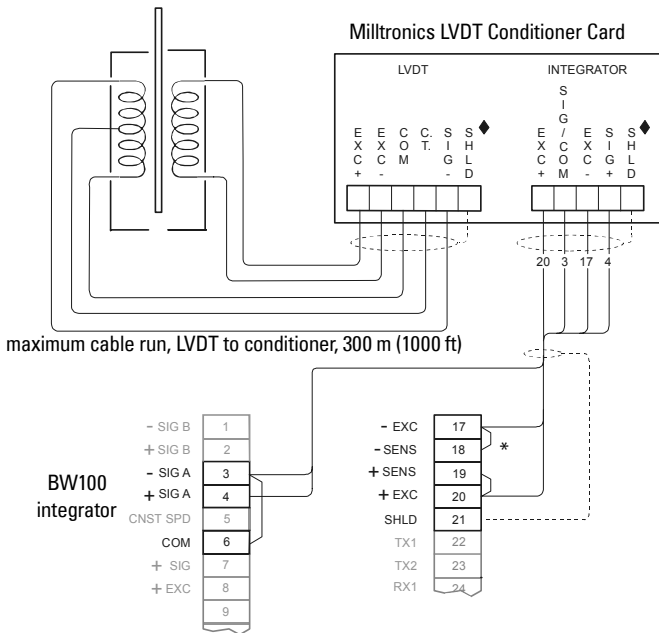
The Milltronics BW100 or BW500/SF500 supplies the excitation for the LVDT Conditioner Card, which in turn supplies the excitation for the LVDT.

In belt scale operations the LVDT signal is proportional to material loading. The LVDT signal is converted to a 0-50mV DC signal then applied to the Load Cell A input of the Milltronics BW100 or BW500 and used with the speed signal to produce an integral rate signal.

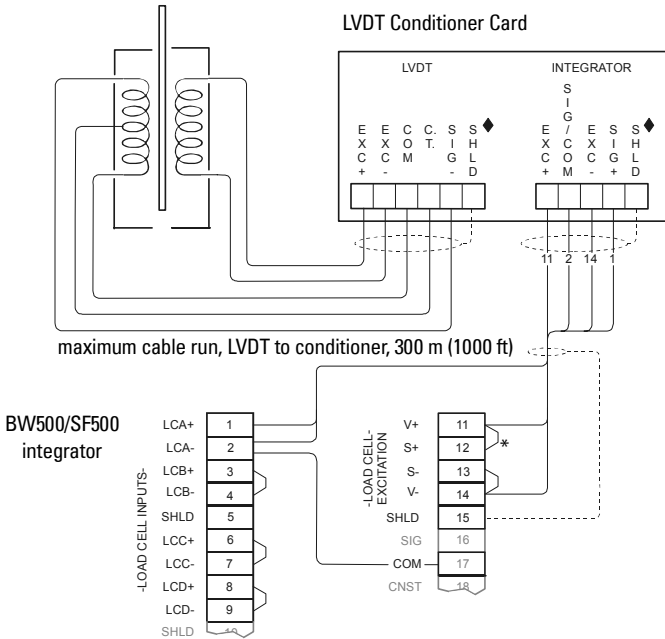
In solids flowmeter applications, the LVDT signal is proportional to the material flow rate. The LVDT signal is converted to a 0-50mV dc signal then applied to Load Cell A input of the Milltronics SF500 and used to produce an integral rate signal.

Interconnection

Connection to Milltronics BW100



Connection to a BW500/SF500



* Where separation between the integrator and LVDT conditioner exceeds 150 m (500 ft):

- remove the jumpers BW500/SF500 terminal 11/12 and 13/14, or BW100 terminal 17/18 and 19/20

- run additional conductors from:

BW500/SF500 terminal 12, or Milltronics BW100 terminal 19, to conditioner terminal block marked **Integrator +EXC**

BW500/SF500 terminal 13, or Milltronics BW100 terminal 18, to conditioner terminal block marked **Integrator -EXC**

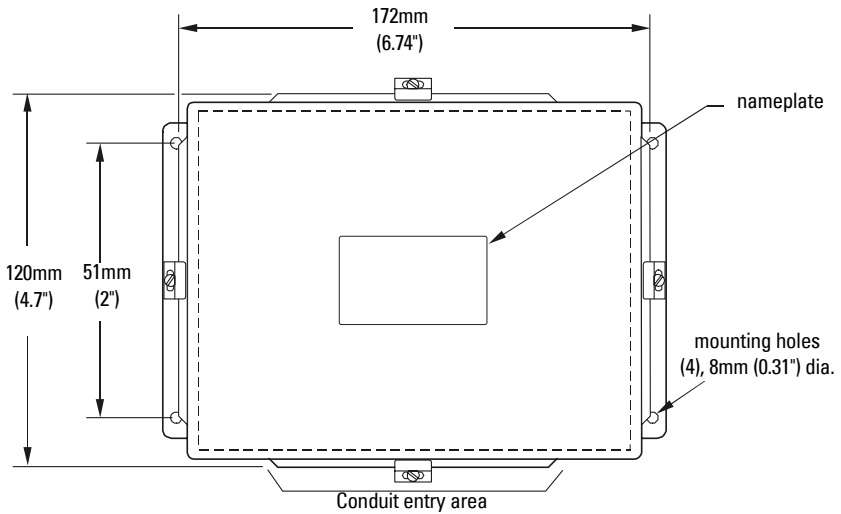
For further connection information on specific LVDTs, consult Siemens. See www.siemens.com/processautomation for a representative near you.

- ◆ Shields are common, but not grounded to chassis. Run cable shields through SHLD terminals and ground at integrator only.

The LVDT Conditioner Card is also available in a smaller configuration for mounting within the solids flowmeter sensing head.

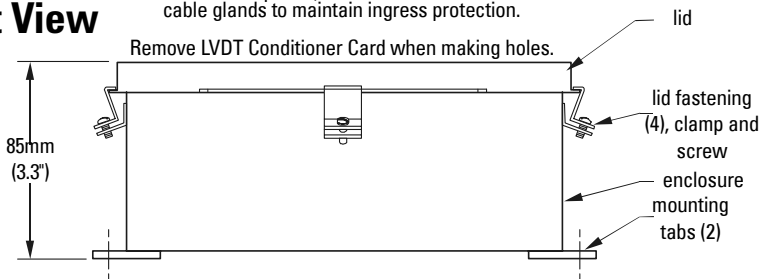
Installation

Top View



For conduit connection, recommend making holes with punch, and the use of suitable cable glands to maintain ingress protection.

Front View





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