

FEATURES

- Standard DIN rail form factor
- Voltage and current output signals
- Phase correction
- Status LED's for power and loop integrity
- Multiple LVDT master/slave capability

APPLICATIONS

- Gas and steam turbine control systems
- Process control systems
- Reeler/dereeler control systems
- Automotive test track instrumentation
- Paper head box control

LDM-1000

LVDT/RVDT Signal Conditioning Module

SPECIFICATIONS

- 10 to 30VDC operation
- Standard DIN rail form factor
- 4 to 20mA and VDC outputs
- Zero, span and phase adjustable
- 2.5, 5 and 10kHz excitation frequencies
- Low noise, 3-pole Butterworth filter
- Master/slave capability
- Compatible with 4, 5 & 6-wire LVDTs/RVDTs
- Works with very low input impedance LVDTs and RVDTs

The **LDM-1000** is an extremely versatile and popular LVDT/RVDT signal conditioning module and the perfect choice for industrial applications requiring the DIN standard rail mount. The LDM-1000 provides everything you will need for accurately interfacing an AC operated Linear or Rotary Variable Differential Transformer to your industrial position control system.

The LDM-1000 was designed with maximum sensor/system compatibility in mind. A wide range of gains, excitation voltages and frequencies ensure compatibility with virtually all LVDT and RVDT type transducers. A full-wave synchronous demodulator eliminates quadrature and harmonics to maximize external noise rejection.

The LDM-1000 also provides several different input/output options to accommodate varying PLC and analog I/O requirements:

- ✓ Single-ended voltage outputs with the use of 100% zero suppression to maximize the sensor stroke utilization while simplifying programming (no need to deal with sign)
- ✓ Bipolar voltage output to maximize A/D bit usage with most PLC analog input modules, for applications requiring high resolution
- ✓ 4-20mA current output for applications requiring long signal runs or where noise immunity may be an issue. The 4-20mA loop is driven by an internal power supply, provided by the LDM-1000.

Finally, the frequency response is internally selectable and so is the master/slave function which allows synchronization of multiple LDM-1000 modules to prevent beat frequencies and cross talk between transducers.

PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	
Supply voltage	18 to 30VDC or 10 to 18VDC (<i>jumper selectable, 18 to 30VDC as shipped</i>)
Supply current	65mA maximum
Output types and ranges	± 5 VDC, 0 to 5VDC, 0 to 10VDC, and 4 to 20mA (<i>DIP switch selectable, ± 5VDC as shipped</i>)
Temp. coefficient of output	$\pm 0.02\%$ of FSO per $^{\circ}\text{F}$ [$\pm 0.036\%$ of FSO per $^{\circ}\text{C}$] over the operating temperature range
Voltage output noise & ripple	5mV RMS maximum
Current output noise & ripple	25 μA RMS maximum
Current loop resistance	700 Ω maximum (<i>with 18 to 30VDC supply voltage</i>)
Frequency response	250 or 1000Hz @ -3 dB (<i>3-pole Butterworth, DIP switch selectable, 250Hz as shipped</i>)
Non-linearity	$\pm 0.02\%$ of FSO
Input sensitivity range	0.05 to 2.50 VRMS
Transducer excitation	
Voltage	1 or 3 VRMS (<i>DIP switch selectable; 3VRMS as shipped, with 18 to 30VDC supply voltage only</i>)
Current	25mA RMS
Frequency	2.5, 5 or 10kHz (<i>DIP switch selectable, 2.5kHz as shipped</i>)
Transducer requirements	
Transducer type	LVDT or RVDT with 4, 5 or 6 electrical connections
LVDT/RVDT input impedance	50 Ω minimum @ 1 VRMS excitation ; 150 Ω minimum @ 3 VRMS
LVDT/RVDT full scale output	0.05 to 2.50 VRMS
ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS	
Operating temperature range	-13 $^{\circ}\text{F}$ to +185 $^{\circ}\text{F}$ [-25 $^{\circ}\text{C}$ to 85 $^{\circ}\text{C}$]
Storage temperature range	-67 $^{\circ}\text{F}$ to +257 $^{\circ}\text{F}$ [-55 $^{\circ}\text{C}$ to 125 $^{\circ}\text{C}$]
Mounting	Standard DIN-3 rail mount
Size	3.90 [99.0] high x 0.89 [22.5] wide x 4.51 [114.5] Deep
Wire terminal size	24 to 12 AWG [0.2 to 2.5mm]
IEC 60529 rating	IP60

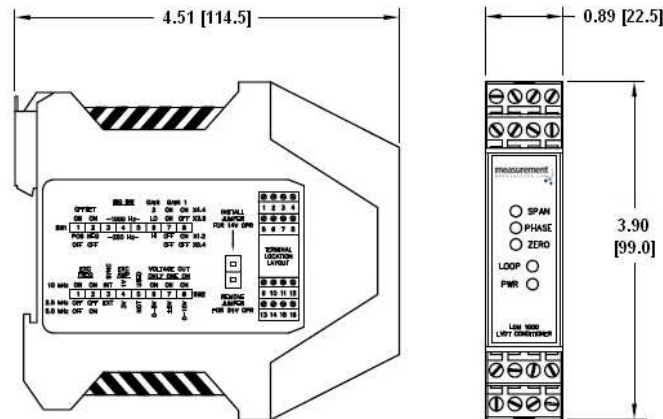
Notes:

All values are nominal unless otherwise noted

Dimensions are in inch [mm]

FSO (Full Scale Output) is the largest absolute value of the outputs measured at the range ends

DIMENSIONS AND INTERNAL VIEW



Dimensions are in inch [mm]

ORDERING INFORMATION

Description	Part Number
LDM-1000 Signal Conditioning Module	02291333-000
DC power supply (15VDC), Model PSD 40-15	02291339-000
Cable to connect HCA/HCI/GCA/R36AS to LDM-1000, 200°C [392°F] (PTO6A-10-6S to Stripped/Tinned) (1)	04290595-000
Extension cable to connect LBB (option -001) to LDM-1000 (PTO6A-10-6S to Stripped & Tinned) (1)	04290596-000

(1) All cables are shielded, 10 foot long, and rated 80°C [176°F] operating unless otherwise noted. Consult factory for other lengths.

NORTH AMERICA

Measurement Specialties, Inc.,
a TE Connectivity Company
1000 Lucas Way
Hampton, VA 23666
United States
Phone: +1-800-745-8008
Fax: +1-757-766-4297
Email: sales@meas-spec.com

EUROPE

MEAS Deutschland GmbH (Europe)
a TE Connectivity Company
Hauert 13
D-44227 Dortmund
Germany
Phone: +49-(0)231-9740-0
Fax: +49-(0)231-9740-20
Email: info.de@meas-spec.com

ASIA

Measurement Specialties (China), Ltd.,
a TE Connectivity Company
No. 26 Langshan Road
Shenzhen High-Tech Park (North)
Nanshan District, Shenzhen 518057
China
Phone: +86-755-33305088
Fax: +86-755-33305099
Email: info.cn@meas-spec.com

TE.com/sensorsolutions

Measurement Specialties, Inc., a TE Connectivity company.

Accustar, American Sensor Technologies, AST, ATEXIS, DEUTSCH, IdentiCal, TruBlue, KPSI, Krystal Bond, Microfused, UltraStable, Measurement Specialties, MEAS, Schaevitz, TE Connectivity, TE, and the TE connectivity (logo) are trademarks of the TE Connectivity Ltd. family of companies. Other logos, product and company names mentioned herein may be trademarks of their respective owners.

The information given herein, including drawings, illustrations and schematics which are intended for illustration purposes only, is believed to be reliable. However, TE Connectivity makes no warranties as to its accuracy or completeness and disclaims any liability in connection with its use. TE Connectivity's obligations shall only be as set forth in TE Connectivity's Standard Terms and Conditions of Sale for this product and in no case will TE Connectivity be liable for any incidental, indirect or consequential damages arising out of the sale, resale, use or misuse of the product. Users of TE Connectivity products should make their own evaluation to determine the suitability of each such product for the specific application.

© 2015 TE Connectivity Ltd. family of companies All Rights Reserved.