





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 (jumper selectable, 18 to 30VDC as shipped) | |
| Supply current | 65mA maximum | |
| Output types and ranges | ±5VDC, 0 to 5VDC, 0 to 10VDC, and 4 to 20mA (DIP switch selectable, ±5VDC as shipped) | |
| Temp. coefficient of output | ±0.02% of FSO per °F [±0.036% of FSO per °C] over the operating temperature range | |
| Voltage output noise & ripple | 5mV RMS maximum | |
| Current output noise & ripple | 25μA RMS maximum | |
| Current loop resistance | 700Ω maximum (with 18 to 30VDC supply voltage) | |
| Frequency response | 250 or 1000Hz @ -3 dB (3-pole Butterworth, DIP switch selectable, 250Hz as shipped) | |
| Non-linearity | ±0.02% of FSO | |
| Input sensitivity range | 0.05 to 2.50 VRMS | |
| Transducer excitation | | |
| Voltage | 1 or 3 VRMS (DIP switch selectable; 3VRMS as shipped, with 18 to 30VDC supply voltage only) | |
| Current | 25mA RMS | |
| Frequency | 2.5, 5 or 10kHz (DIP switch selectable, 2.5kHz as shipped) | |
| Transducer requirements | | |
| Transducer type | LVDT or RVDT with 4, 5 or 6 electrical connections | |
| LVDT/RVDT input impedance | 50Ω minimum @ 1 VRMS excitation ; 150Ω minimum @ 3 VRMS | |
| LVDT/RVDT full scale output | 0.05 to 2.50 VRMS | |
| ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS | | |
| Operating temperature range | -13°F to +185°F [-25°C to 85°C] | |
| Storage temperature range | -67°F to +257°F [-55°C to 125°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 | |

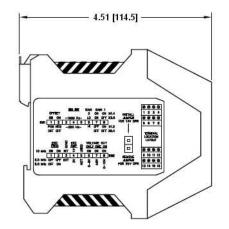
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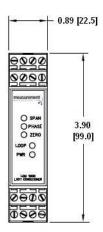
All values are nominal unless otherwise noted

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 | |
|--|--------------|
| LDM-1000 Signal Conditioning Module | 02291333-000 |
| DC power supply (15VDC), Model PSD 40-15 | |
| 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) | |

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

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