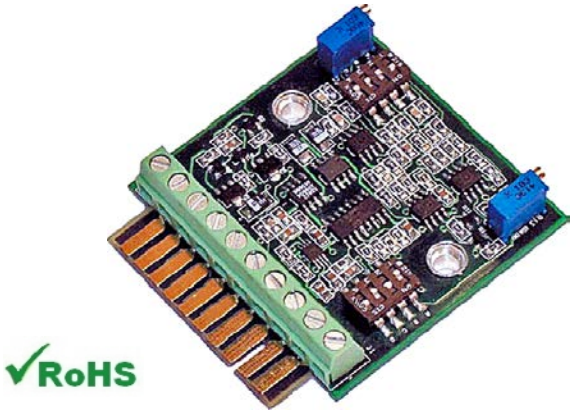
# LVM-110 – Voltage Output, LVDT/RVDT OEM Signal Conditioner



- **Low cost OEM signal conditioner**
- **Very compact, open PC board design**
- **Multiple unipolar and bipolar output options**
- **DIP switch selectable gain and excitation**
- **2.5, 5, 8 and 10kHz excitation frequencies**
- **Zero and span adjustment potentiometers**
- **Master/slave capability**
- **Card-edge or barrier strip connections**
- **Works with very low input impedance LVDTs and RVDTs**

## DESCRIPTION

The **LVM-110** is a full-featured LVDT/RVDT signal conditioner that offers excellent performance on a budget. Operating on either a ±12 or ±15VDC supply voltage, the LVM-110 delivers a full range of selectable unipolar and bipolar, low noise DC voltage outputs.

Designed to be compatible with most LVDTs and RVDT transducers, the LVM-110 will operate with 5 and 6 electrical connection devices. This versatility is due to the wide variety of selectable excitation frequencies, and a generous excitation drive current of 20mA, allowing operation with transducer input impedances as low as 150 Ohms. The master/slave function (DIP switch selectable) allows synchronization of multiple conditioners to prevent beat frequencies and cross talk between transducers. The need for phase correction adjustment is eliminated thanks to demodulation synchronized to the sum of the LVDT/RVDT outputs.

The LVM-110 is designed for easy installation, plugged into a backplane-type connector, or with individual wires connected to the screw terminal barrier strip. Measuring less than 2.5x2.5 inches, it can be mounted or stacked using the permanently attached threaded standoffs, or card-edge guides. All selectable operating parameters are easily accessed via two DIP switches, simplifying the gain, frequency and output setup procedure.

Also see our other LVDT/RVDT signal conditioner models:

| | |
|---|---|
| **LiM-420** | 24VDC supply, 4-20mA (3-wire) output, open circuit board |
| **LDM-1000** | 10 to 30VDC supply, DC voltage and 4 to 20mA outputs, DIN rail mountable |
| **ATA-2001** | Line powered, DC voltage and current outputs, push-button programmable |
| **IEM-422** | Line powered, 4-20mA output, NEMA-13 rated enclosure |
| **PML-1000** | AC or DC supply, DC voltage, current and RS485 outputs, 1/8$^{th}$ DIN panel meter, |
| **MP-2000** | Line-powered, analog DC & RS232 outputs, ¼ DIN, dual channel set point controller with bit-mapped display |

Measurement Specialties, Inc. (NASDAQ MEAS) offers many other types of sensors and signal conditioners. Data sheets can be downloaded from our web site at: http://www.meas-spec.com/datasheets.aspx

*MEAS acquired Schaevitz Sensors and the **Schaevitz**® trademark in 2000.*

## FEATURES

- Low cost/high performance
- 3-pole Butterworth filter
- DIP switch selectable gain, output and LVDT excitation frequency
- 20-turn zero suppression & span potentiometers

## APPLICATIONS

- Position feedback systems
- High density dimensional gaging
- Space restrictive installations
- Testing systems
- Integration into OEM machines

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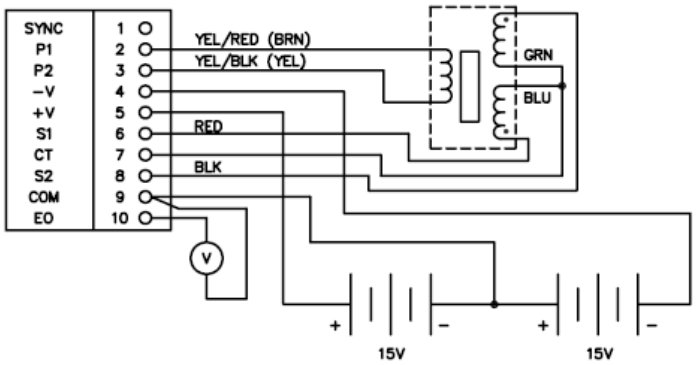
## PERFORMANCE SPECIFICATIONS

| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Supply voltage | ±12VDC or ±15VDC, ±10% *(Note; ±15VDC required for ±10VDC output)* |
| Supply current | ±50mA maximum |
| Output voltage ranges | ±5VDC, ±10VDC, 0 to +5VDC, 0 to +10VDC *(DIP switch selectable)* |
| Temperature coefficient of output | ±0.02% of FSO per ºF [±0.036% of FSO per ºC] over operating temperature range |
| Output current | 5mA maximum |
| Output noise and ripple | 15mV RMS maximum |
| Output impedance | 1Ω maximum |
| Frequency response | 250Hz @ -3 dB (3-pole Butterworth filter) |
| Non-linearity | ±0.05% of FSO maximum |
| Stability | ±0.05% of FSO maximum (after 15 minute warm-up) |
| Zero suppression | ±6VDC total |
| **Transducer excitation** | |
| Voltage | 3VRMS ±10%, sine wave |
| Current | 20mA RMS maximum |
| Frequency | 2.5, 5, 8 or 10KHz *(DIP switch selectable)* |
| **Transducer requirements** | |
| Transducer type | LVDT or RVDT with 5 or 6 electrical connections |
| LVDT/RVDT input impedance | 150Ω minimum |
| LVDT/RVDT output range | 0.1 to 5.6 VRMS for ±10VDC signal conditioner output |

| ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS | |
|---|---|
| Operating temperature range | 30°F to +130°F [-1°C to 55°C] |
| Storage temperature range | -40°F to +257°F [-40°C to 125°C] |
| Zero and gain adjustments | 20-turn potentiometers |
| Electrical connections | PC board edge (to backplane-type connector)<br>or barrier terminal strip (accepts AWG 14 to 30 wire sizes) |
| Mounting | Use the attached threaded standoffs or card-edge guides |

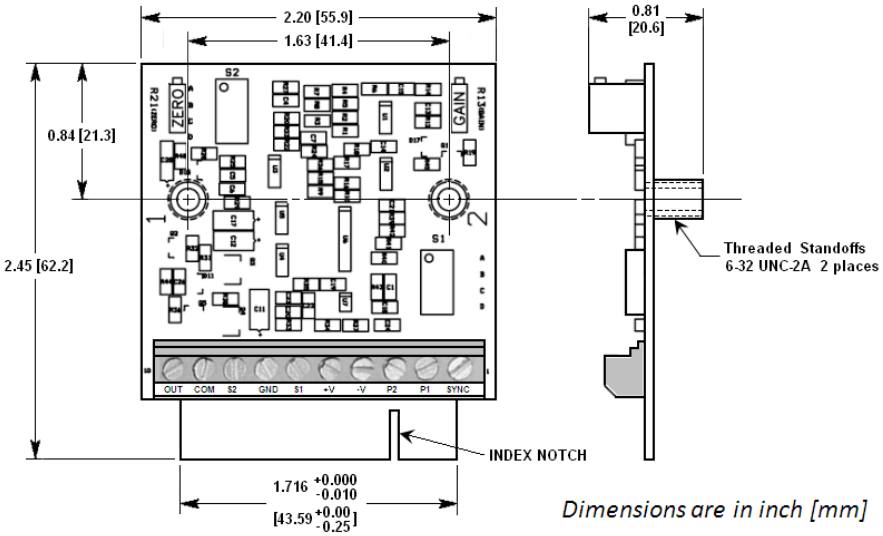
*Notes:*
*All values are nominal unless otherwise noted*
*FSO (Full Scale Output) is the largest absolute value of the outputs measured at the range ends*

## WIRING SCHEMATIC



# LVM-110 – Voltage Output, LVDT/RVDT OEM Signal Conditioner

## DIMENSIONS




## ORDERING INFORMATION

| Description | Model | Part Number |
|---|---|---|
| LVDT/RVDT Voltage Output, OEM Signal Conditioner | LVM-110 | 04171776-000 |
| Dual rail DC power supply (±15VDC) | PSD 40-15 | 02291339-000 |
| Mating Connector *(sold separately)* | CINCH 5010A-20 PCB EDGE 1 | 62105012-000 |
| Cable to connect HCA/HCI/GCA/R36AS to LVM-110 *(1)* | PTO6A-10-6S to Stripped & Tinned | 04290417-000 |
| Extension cable to connect LBB (option -001) to LVM-110 *(1)* | PTO6A-10-6S to Stripped & Tinned | 04290582-000 |

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

Download the operation manual at: http://www.meas-spec.com/manuals.aspx

## TECHNICAL CONTACT INFORMATION


| NORTH AMERICA | EUROPE | ASIA |
|---|---|---|
| Measurement Specialties, Inc.<br>1000 Lucas Way<br>Hampton, VA 23666<br>United States<br>Phone: +1-800-745-8008<br>Fax: +1-757-766-4297<br>Email: sales@meas-spec.com<br>Web: www.meas-spec.com | MEAS Deutschland GmbH<br>Hauert 13<br>D-44227 Dortmund<br>Germany<br>Phone: +49-(0)231-9740-0<br>Fax: +49-(0)231-9740-20<br>Email: info.de@meas-spec.com<br>Web: www.meas-spec.com | Measurement Specialties China Ltd.<br>No. 26, Langshan Road<br>High-tech Park (North)<br>Nanshan District, Shenzhen 518057<br>China<br>Phone: +86-755-33305088<br>Fax: +86-755-33305099<br>Email: info.cn@meas-spec.com<br>Web: www.meas-spec.com |



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ООО «НИОКР СИТЕМС»
Москва, 125362, Россия, ул. Вишневая, д. 9, к. 1, Блок 104 а и 104 в

Телефон: 8 (495) 268-14-82
Email: n@nsistems.ru

ИНН: 7735154786
ОГРН: 1167746717709