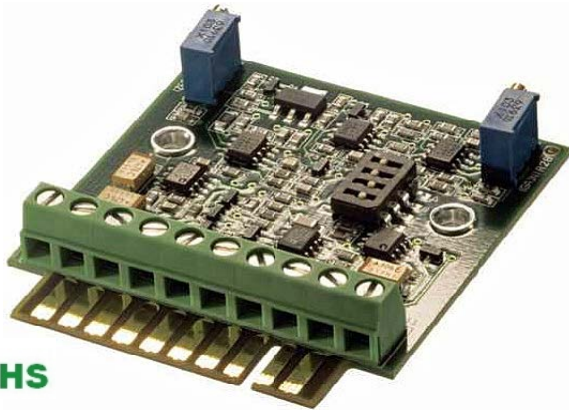


## LiM-420 – Current Output, LVDT/RVDT OEM Signal Transmitter



✓RoHS

- Low cost OEM 4-20mA (3-wire) transmitter
- Very compact, open PC board design
- DIP switch selectable coarse gain
- Zero and span adjustment potentiometers
- 18 to 30VDC supply voltage
- -25° to +85°C operating temperature range
- Card-edge or barrier strip connections
- Works with very low input impedance LVDTs and RVDTs

### DESCRIPTION

The **LiM-420** is an LVDT/RVDT signal conditioning transmitter specifically designed for the OEM marketplace. Operating on an 18 to 30VDC unipolar supply voltage, the LiM-420 delivers a low noise 4 to 20mA output signal. Compatible with many 5 and 6 electrical connection LVDT and RVDT transducers (see specifications), this compact transmitter provides excellent performance on a budget. A generous excitation drive current of 20mA, allowing operation with transducer input impedances as low as 175 Ohms.

The LiM-420 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, the LiM-420 may be mounted or stacked using the permanently attached threaded standoffs, or card-edge guides. All six selectable gain ranges are easily accessed via DIP switches and two multi-turn potentiometers allow for fine zero and gain adjustments.

Also see our other LVDT/RVDT signal conditioner models:

<b>LVM-110</b>	±12 to ±15VDC supply, multiple uni-polar and bipolar selectable DC voltage outputs
<b>LDM-1000</b>	10 to 30VDC supply, DC voltage and 4 to 20mA outputs, DIN rail mountable
<b>ATA-2001</b>	Line powered, DC voltage and current outputs, push-button programmable
<b>IEM-422</b>	Line powered, 4-20mA output, NEMA-13 rated enclosure
<b>PML-1000</b>	AC or DC supply, DC voltage, current and RS485 outputs, 1/8 <sup>th</sup> DIN panel meter,
<b>MP-2000</b>	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
- Wide operating temperature range
- Six selectable gain ranges
- 20-turn zero & gain adjustment potentiometers
- Threaded standoffs for panel/box mounting

### APPLICATIONS

- Valve position feedback
- Roller gap sensing
- Paper head box position
- Coater knife gap
- Materials testing machines

# LiM-420 – Current Output, LVDT/RVDT OEM Signal Transmitter

## PERFORMANCE SPECIFICATIONS

ELECTRICAL SPECIFICATIONS	
Supply voltage	18 to 30VDC (unipolar)
Supply current	50mA maximum
Output range	4 to 20mA
Temperature coefficient of output	±0.02% of FSO per °F [±0.036% of FSO per °C] over operating temperature range
Maximum loop resistance	500Ω (with 24VDC supply)
Output noise and ripple	25µA RMS maximum
Frequency response	50Hz @ -3 dB
Non-linearity	±0.05% of FSO
Stability	±0.05% of FSO maximum (after 30 minute warm-up)
Zero adjustment range	±2.5mA
Transducer excitation	
Voltage	3.5 VRMS ±10%, sine wave
Current	20mA RMS maximum
Frequency	2.5kHz
Transducer requirements	
Transducer type	LVDT or RVDT with 5 or 6 electrical connections
LVDT/RVDT input impedance	175Ω minimum
LVDT/RVDT output range	0.1 to 5.6 VRMS for 20mA full scale output

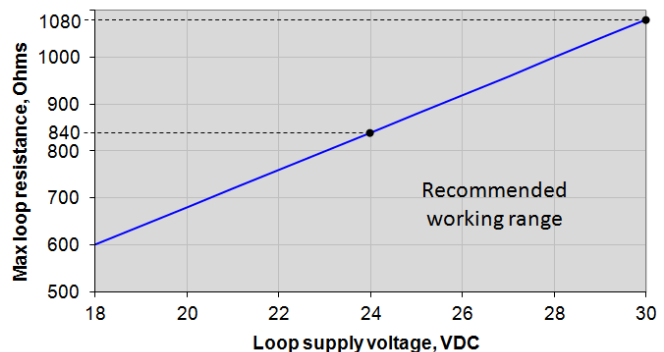
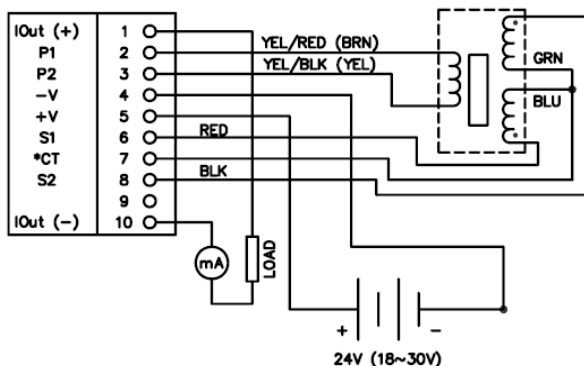
ENVIRONMENTAL AND MECHANICAL SPECIFICATIONS	
Operating temperature range	-13°F to +185°F [-25°C to 85°C]
Storage temperature range	-40°F to +257°F [-40°C to 125°C]
Gain adjustment	6 DIP switch selectable ranges; 20-turn fine adjustment potentiometer
Zero adjustment	20-turn fine adjustment potentiometer
Electrical connections	PC board edge (to backplane-type connector) 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

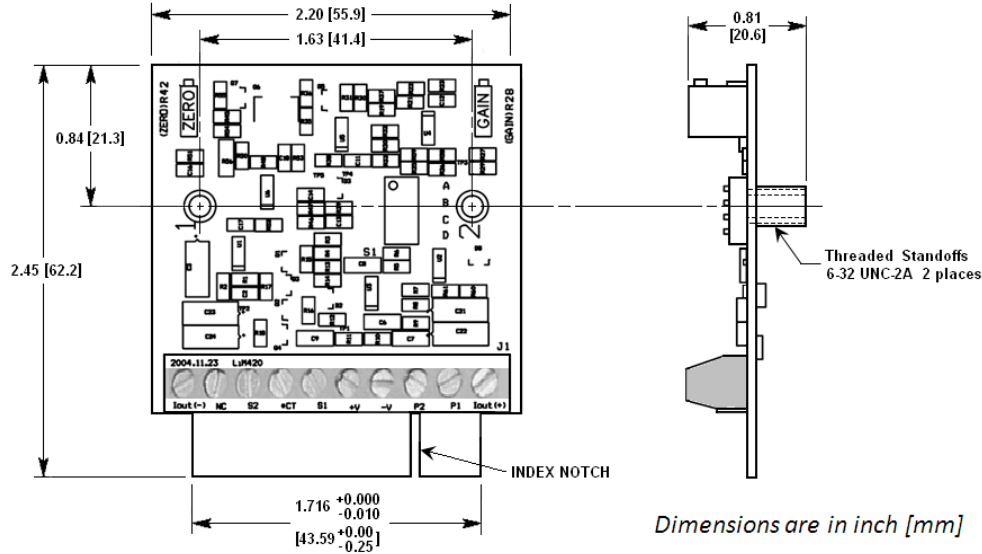
FSO (Full Scale Output) is the largest absolute value of the outputs measured at the range ends

## WIRING SCHEMATIC & LOOP RESISTANCE (LOAD)



# LiM-420 – Current Output, LVDT/RVDT OEM Signal Transmitter

## DIMENSIONS



## ORDERING INFORMATION

Description	Model/Comments	Part Number
LVDT/RVDT 4-20mA Output, OEM Transmitter Module	LiM-420	72290000-000
Mating Connector <i>(sold separately)</i>	CINCH 5010A-20 PCB EDGE 1	62105012-000
Cable to connect HCA/HCI/GCA/R36AS to LiM4-20 (1)	PTO6A-10-6S to Stripped & Tinned	04290417-000
Extension cable to connect LBB (option -001) to LiM4-20 (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. 1000 Lucas Way Hampton, VA 23666 United States Phone: +1-800-745-8008 Fax: +1-757-766-4297 Email: <a href="mailto:sales@meas-spec.com">sales@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>	MEAS Deutschland GmbH Hauert 13 D-44227 Dortmund Germany Phone: +49-(0)231-9740-0 Fax: +49-(0)231-9740-20 Email: <a href="mailto:info.de@meas-spec.com">info.de@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>	Measurement Specialties China Ltd. No. 26, Langshan Road High-tech Park (North) Nanshan District, Shenzhen 518057 China Phone: +86-755-33305088 Fax: +86-755-33305099 Email: <a href="mailto:info.cn@meas-spec.com">info.cn@meas-spec.com</a> Web: <a href="http://www.meas-spec.com">www.meas-spec.com</a>

The information in this sheet has been carefully reviewed and is believed to be accurate; however, no responsibility is assumed for inaccuracies. Furthermore, this information does not convey to the purchaser of such devices any license under the patent rights to the manufacturer. Measurement Specialties, Inc. reserves the right to make changes without further notice to any product herein. Measurement Specialties, Inc. makes no warranty, representation or guarantee regarding the suitability of its product for any particular purpose, nor does Measurement Specialties, Inc. assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability, including without limitation consequential or incidental damages. Typical parameters can and do vary in different applications. All operating parameters must be validated for each customer application by customer's technical experts. Measurement Specialties, Inc. does not convey any license under its patent rights nor the rights of others.