

LiM-420

Current Output LVDT/RVDT OEM Signal Transmitter

SPECIFICATIONS

- 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

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

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.

PERFORMANCE SPECIFICATIONS

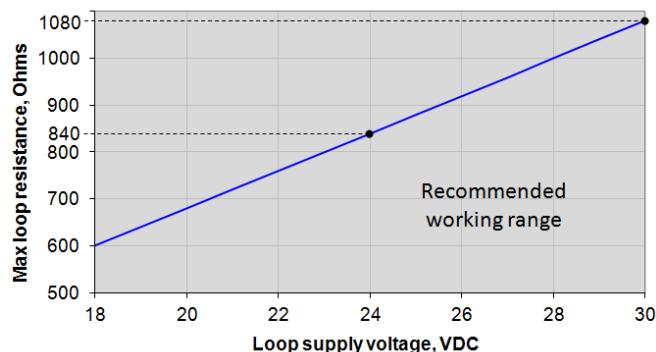
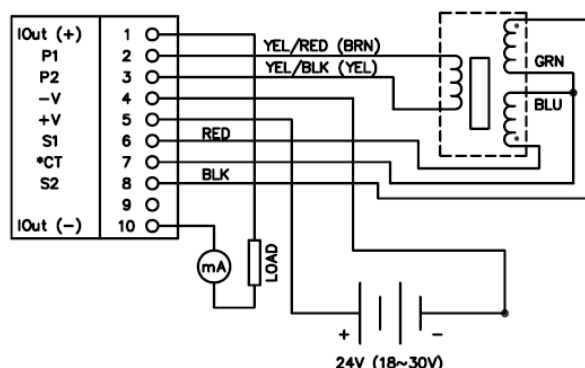
ELECTRICAL SPECIFICATIONS	
Supply voltage	18 to 30VDC (unipolar)
Supply current	50mA maximum
Output range	4 to 20mA
Temperature coefficient of output	$\pm 0.02\%$ of FSO per $^{\circ}\text{F}$ [$\pm 0.036\%$ of FSO per $^{\circ}\text{C}$] over operating temperature range
Maximum loop resistance	500 Ω (with 24VDC supply)
Output noise and ripple	25 μA RMS maximum
Frequency response	50Hz @ -3 dB
Non-linearity	$\pm 0.05\%$ of FSO
Stability	$\pm 0.05\%$ of FSO maximum (after 30 minute warm-up)
Zero adjustment range	$\pm 2.5\text{mA}$
Transducer excitation	
Voltage	3.5 VRMS $\pm 10\%$, 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	175 Ω minimum
LVDT/RVDT output range	0.1 to 5.6 VRMS for 20mA full scale output
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	-40 $^{\circ}\text{F}$ to +257 $^{\circ}\text{F}$ [-40 $^{\circ}\text{C}$ to 125 $^{\circ}\text{C}$]
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:

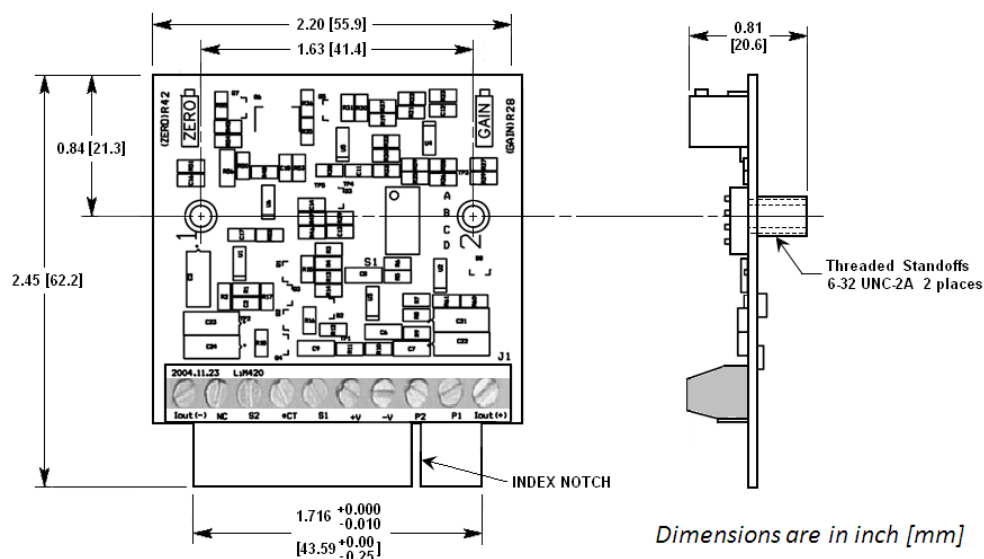
All values are nominal unless otherwise noted

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

WIRING SCHEMATIC & LOOP RESISTANCE (LOAD)



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.

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

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