

SIGNAL CONDITIONER

LVDT/RVDT
MACRO EAZY-CAL™ LVC-4000

Overview

The EAZY-CAL™ LVC-4000 is a standalone signal conditioner, supporting a wide range of AC LVDTs, RVDTs, and VR half-bridges, while providing several choices of voltage, current, and digital RS-485 outputs. Push-button calibration offers intuitive operation as compared to signal conditioners with span and offset trim pots. Fault conditions, such as a wire break on LVDT/RVDT connections, are indicated by blinking LEDs, fault condition error output, and Error Flag Open Collector signal (see manual for details). The LVC-4000 operates from a 9-30V DC power supply and is housed in a polyamide DIN rail-mounted enclosure. Calibration instructions, terminal functions, LVDT connection diagram and DIP switch functions are printed on the side panels for convenience.

Synchronization to other signal conditioners is accomplished by a daisy chain connection to a synchronization bus. One unit will assume the Master function based on DIP switch priority setting. If a fault should occur, the next highest priority unit will take over as Master.

With the use of the RS-485 port, a host computer is able to retrieve measurement data, receive operational status, perform remote calibration, and perform hot swap reconfiguration.

Features

- Push-button or RS-485 command auto-calibration
- Analog voltage or current loop output
- Digital RS-485 interface
- Supports standard AC LVDTs, RVDTs, and VR half-bridge sensors
- Master/slave excitation synchronization
- DIN-rail mountable
- Color-coded terminal blocks

User Selectable Features

- 0-5V DC, 0-10V DC, 0.5-4.5V DC, ±5V DC, ±10V DC or 4-20 mA output
- 1.5V_{rms} or 3.0V_{rms} sensor excitation
- 2.5, 5, 7.5, or 10 kHz excitation frequency

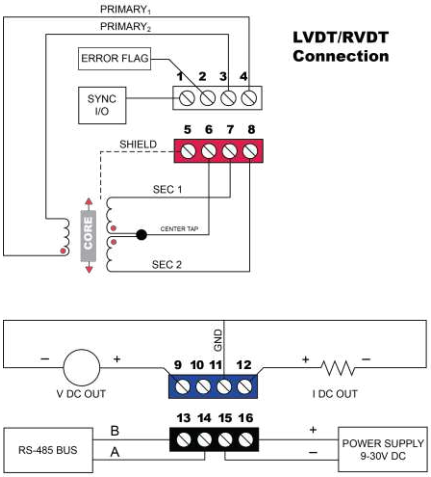
Environmental Data

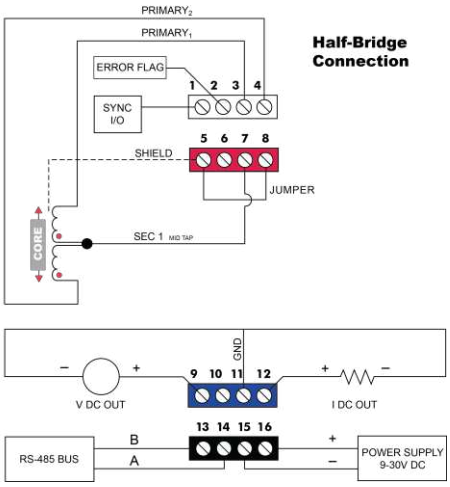
Operating Temperature	-20 to 75°C (0 to 165°F)
Temperature Sensitivity	<0.02% of FSO/°C (<0.01% of FSO/°F)
EMC Compliance	Emissions: EN55011:2007 Immunity: EN61000-4-2:2009 EN61000-4-4:2004 EN61000-4-6:2009 EN61000-4-3:2010+A2:2010

Electrical Data

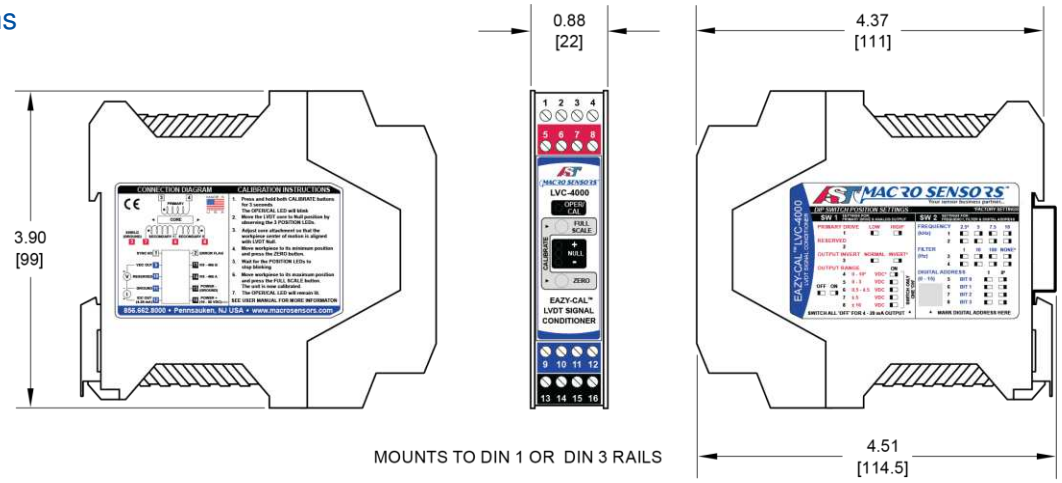
Power Input	9-30V DC (90 mA max. @ 24V DC)
Sensor Excitation	3.0V_{rms} (1.5V_{rms} selectable)
Sensor Excitation Frequency	2.5 kHz, 5 kHz, 7.5 kHz, or 10 kHz
Input Sensitivity Range	55 mV_{rms} to 5.5 V_{rms} full scale input produces full scale DC output
Full Scale Outputs	0-5V DC, 0-10V DC, 0.5-4.5V DC, ±5V DC, ±10V DC or 4-20 mA output
Output Non-Linearity	≤±0.1% full scale output
Output Voltage Ripple	1 mV_{rms} max. (2.5 kHz excitation, no filter) 2 mV_{rms} max. (10 kHz excitation, no filter)
Output Current Ripple	10 µA_{rms} max. (2.5 kHz excitation, no filter) 20 µA_{rms} max. (10 kHz excitation, no filter)
Frequency Response (-3dB)	500 Hz max.

Connection Diagrams





Dimensions



All dimensions in inches [mm].

ABOUT MACRO SENSORS

Macro Sensors, founded by Howard A. Schaevitz, has more than three hundred man-years of experience in just one thing: the design and manufacture of LVDTs. We believe that you need solutions, not simply products. When you call us, you get the benefit of our experience and our commitment.

Most products listed are in stock for immediate delivery, and we strive to offer the finest customer service in the industry: technical support from people who understand LVDTs and how to apply them to your benefit, and a commitment to excellent pricing, quality products, and deliveries that you can truly rely on. Macro Sensors also has a comprehensive network of representatives and distributors in the U.S. and around the world to provide you with local support.

We manufacture an enormous array of LVDTs, from modified standards to complete custom designs. Our customers consistently tell us it is Macro Sensors? quality and service that keeps them coming back. Let our experience go to work for you.

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