Optimize performance and linearity ......

Select the correct frequency for your sensor

Dual Input LVDT Controller

- 1/8 DIN case, maximum depth 137 mm
- 3-button front panel operation
- 6-digit, 0.56" (14.2 mm) alphanumeric display
- Display range: –199999 to 999999 display counts

The LVDT200 is an accurate, high performance, programmable dual channel controller that delivers precise measurement and control for applications using Linear Variable Differential Transformer – LVDT – inputs.

The 6-digit alphanumeric LED display provides easy to follow setup prompts for all LVDT parameters using intuitive scrolling text configuration menus.

Features

- Selectable frequencies to suit your sensor.
- Selectable update rates from 1 to 20 readings per second.
- Independent decimal point position for each channel with 0.00001 resolution.
- 2-point auto calibration (zero and span).
- Offset trim and span trim settings.
- Auto-sensing high voltage 85-265 V AC / 95-370 V DC power supply, or optional low voltage 15-48 V AC / 10-72 V DC.
- 3 V rms sensor excitation.
- 4-20 mA analog output with scaling (low and high settings) through configuration menu.
- Six independently programmable setpoints.
- Up to four relay outputs with multiple relay combination options.

Options

- **Relays**

  Standard: Two 9A SPDT Rslays.

  Options: Four 4A/SPST or combination of four 2-4A/SPST and 2-9A/SPDT.

- **Analog Output**

  Standard: Fully scalable from 0/4 to 20 mA.

  Options: Single 0 to 10 V DC.

Advanced Functions

A range of built-in measurement and control functions, that can also be programmed from the front panel or a PC, are available with the LVDT200 controller's resident Tiger 320 operating system. These include:

- **Advanced Setpoints**. 4 programmable setpoints with advanced multiple timer modes, hysteresis, deviation, PID, setpoint tracking, and register reset functions.
- **Totalizers**. Dual totalizers with independent reset and scaling.
- **Linearization**. Up to four 32-point flexible linearization tables or a single 125-point flexible table.
- **Data Logging**. Optional data logging of up to 4000 samples with real-time clock.
- **Serial Communications**

  Options: Single ASCII or Modbus RS-232 or RS-485, Ethernet (TCP/IP), direct serial output to printer.

- **Differential Measurement**. Differential measurement and cross channel maths available (A+B, A–B, AxB, A/B).

SPECIFICATIONS

General

Digital Display: 14-segment alphanumeric, 0.56" (14.2 mm) LEDs.

Display Color: Red (standard). Green or Super-bright Red (optional).

Display Range: −199999 to 999999.

Display Update Rate: 1, 4, 10, or 20 times per second.

Display Dimming: 8 brightness levels. Front panel selectable.

Scrolling Display Text Messaging: Full alphanumeric text characters supported.

Polarity: Assumed positive. Displays − negative.

Annunciators: 6 red LEDs on front panel; one per setpoint.

Overrange Indication: `OVER`

Underrange Indication: `UNDER`

Front Panel Controls: PROGRAM, UP and DOWN buttons.

Power Supplies. Standard high voltage AC / DC power supply 85-265 V AC / 95-370 V DC, or optional low voltage AC / DC power supply 15-48 V AC / 10-72 V DC.

Environmental

Operating Temperature: 0 to 50 ˚C (32 ˚F to 122 ˚F).

Storage Temperature: −20 ˚C to 70 ˚C (−4 ˚F to 158 ˚F).

Relative Humidity: 95% (non-condensing) at 40 ˚C (104 ˚F).

Mechanical

Case Dimensions: 1/8 DIN, 96x48 mm (3.78" x 1.89").

Case Depth: 137 mm maximum (5.39").

Case Material: 94V-0 UL rated self-extinguishing polycarbonate.

Weight: 11.5 oz (0.79 lbs), 14 oz (0.96 lbs) when packed.

Approvals

CE: As per EN-61000-3/4/6 and EN-61010-1.

Input Module ISL1

Excitation Voltage: 3 V RMS sine wave, zero DC component THD <2% (1.2 kHz).

Excitation Frequency: x 16 selectable frequencies available (1.2 kHz to 11.5 kHz). Crystal locked, software driven.

Temperature Coefficient: ± 50 ppm/ ° C of full scale (typical).

Dual LVDT Inputs: 30 kΩ input impedance. Synchronous demodulation of excitation carrier. >130 db rejection of excitation carrier.

Frequency Response: 500 Hz (−3 db) low-pass filter.

Analog to Digital: Dual channel $\Sigma\Delta$ A/D convertor approaching 19-bit resolution. Ratiometric operation relative to excitation voltage magnitude.

Dual Output Rates: Rapid and average response outputs: 1 Hz, 2 Hz, 10 Hz, 20 Hz, 40 Hz averaged.

Line Frequency Rejection: 50 / 60 Hz noise rejection.

High-speed Control Outputs: Dual high speed open collector transistor outputs 600 mA maximum under setpoint control (SP5 & SP6).

Relay Output Modules

Plug into carrier board from rear:

1. Four Relay Module: Available in six combinations from one relay up to a total of two 9 A Form C Relays* and two 4 A Form A Relays**.

2. Four Relay Module: Available with one to four 5 A Form A Relays**.

*Form C Relay Specifications: 9 A 240 VAC~1/2 HP, 8 A 24 VDC. Isolation 3000 V. UL and CSA listed.

**Form A Relay Specifications: 4 A 240 VAC, 4 A 24 VDC. Isolation 3000 V. UL and CSA listed.

Dual LVDT Input Controller

Configuration Menus Logic Tree

Operational Display

P [_ _ _ INPUT SETUP]
4 secs

Takes you into Input Setup mode and provides selection for:
• Supply frequency: 50 or 60 Hz.
• One of eight excitation settings for either 50 or 60 Hz.
• One of four output rates.
• Independent decimal point position for channels 1 and 2.

P [_ _ _SELECT CALIBRATION CHANNEL]

Takes you into Calibration mode and provides selection for:
• Either channel 1 or channel 2 for calibration.
• 2-point auto calibration for zero and span.
• Manual trim for zero and zero offset.
• Manual trim for span.
• Manual zero window limit.

P [_ _ _SELECT ANALOG OUTPUT]

Takes you into Analog Output Scaling mode and provides:
A menu that allows you to set zero and full scale analog output calibration settings.

P [_ _ _SELECT SETPOINTS]

Takes you into Setpoint mode and provides:
• Selection of individual setpoints SP1 to SP6.
• Setting of individual setpoint source.
• Setting of individual setpoint activation value.
• Setting of individual setpoint activation ABOVE or BELOW.

LVDTs .... endless applications

Aviation

Petrochemical

Mining

Oil Exploration

Aerospace

Marine

Power Generation

Motorsport

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