

# TRACKER 260

## LVDT Indicators



"Fast-Cal" Calibration

Adjustable Display Resolution

Max/Min Memory

Isolated Analogue Output

Two Logic Inputs

Front Panel Function Buttons

Transducer Excitation Supply

High Speed Analogue Output

Universal Mains Power Supply

Serial Communications

Dual Alarm Relays (Tracker 264)

Quad TTL Alarm Outputs (Tracker 265)

The Tracker 260 series of digital panel indicators are designed specifically for use with LVDT transducers. Data Tracks "Fast-Cal" feature provides a fast and simple method of calibrating an indicator to the transducer at any two stroke positions. The Tracker 260 is configured for the correct transducer excitation voltage and frequency as recommended by the sensor manufacturer. As LVDT transducers can only be calibrated when in situ, the sensor is set to the mechanical "low" (zero) and then the "high" (span) positions when prompted by the Tracker 260. The measured LVDT signals values are then stored, with their relevant display values, as the calibration parameters. The Tracker 260 can also automatically set the correct input gain to suit the LVDT transducers output. The displayed values can be in millimetres, inches or any other measurement units.

The Tracker 260 series of LVDT indicators have a five digit display, transducer excitation supply and many software features including max/min memory and maths functions. All models are fitted with two analogue outputs. A high speed analogue output for monitoring fast changes of sensor movement as well as a separate, electrically isolated, scaleable analogue output. The serial RS 422/485 communications interface allows connection to data loggers, PLCs and computers. Two logic inputs are provided to allow remote control of user selectable functions. In addition, two of the front panel push buttons can be user defined to allow fast access to pre-programmed functions. The specification of the three models are identical except that the Tracker 264 has two alarm relays, and the Tracker 265 has four TTL alarm outputs.

## Display

Type: 14.7mm high, red (standard) or green, high brightness LED  
Range: -19999 to +99999  
Decimal point position: User selectable  
Update rate: User selectable 2, 4 or 10 per second  
Filter: User adjustable, 0 (off) to 999 seconds

## LVDT Input

Input voltage range: 0.05V to 5Vrms  
Gain ranges: 1, 5, 10 & 100  
Automatic or manual gain setting facilities  
Non linearity:  $< \pm 0.02\%$   
Temperature drift:  $< \pm 0.005\%$  FSO per °C  
Stability:  $< \pm 0.01\%$  FSO after 15 minutes  
Transducer supply: Selectable 3.0 or 5 Volt rms. @ 25mA  
Supply frequency: User selectable 2.5 or 5.0Khz  
Measurement resolution: Better than 1 part in 120,000  
Measurement rate: 10 readings per second  
Measurement modes: User selectable 4 wire differential or 5 wire Ratiometric

## Alarms

Setpoints for alarms can be quickly adjusted during normal running via the front panel buttons or by password protected menus (user selectable)

Alarms can be flashed on the display with the measured value.

4 Alarm Menus, each individually user selectable for :-  
High, low or deviation alarm action  
High and low band limits (deviation action only)  
On and off delay timers  
On and off hysteresis  
Latching or non-latching

## Alarm Relays (Tracker 264 Only)

2 off, single change over (form C) contacts  
Rated 1A @ 240Vac, 5A @ 30Vdc  
Relays can be configured to be energised or de-energised in the alarm condition.

## TTL Alarm Outputs (Tracker 265 Only)

4 off, TTL open collector.  
Alarm outputs can be configured to be energised or de-energised in the alarm condition.

## Status (Logic) Inputs

One or more of the following functions can be user assigned to either of the two logic inputs.

Tare, Auto (offset) Zero, Display hold, Analogue output hold, Display max, Display min, Display average, Display test, Reset (latched) alarms, Reset max/min & average (to the current measured value), "Enter" button lock (disables entry to configuration menus), Alarm inhibit and "Fast-Cal" Calibration enable.

The logic inputs can be switched by external volt free contacts or a TTL signal

## Function Keys

One or more of the following functions can be user assigned to either of the two front panel function buttons.

Tare, Zero, Display hold, Display max, Display min, Display average, Display test, Reset (latched) alarms, Reset max/min & average (to the current measured value), "Fast-Cal" Calibration enable.

## High speed Analogue Output

This is a buffered output giving a fast response from the LVDT demodulator output. The signal amplitude is dependant on the transducer excitation and the amount of sensor travel.  
Output filter: -3dB @ 125Hz



Tracker 260 indicators have been tested and comply with the European Electromagnetic Compatibility Directives and safety requirements. The units are CE marked.

## Isolated Analogue Output

Isolation: 500Vdc/Peak ac  
Output: User selectable 0-10V, 0-20mA or 4-20mA  
Scaling: User selectable (e.g. 4 to 20mA = 3.0 to 5.0mm)  
Accuracy: Better than 0.2%  
Temperature drift:  $< 100$  ppm per °C  
Response: 63% within 32mS, 99% within 100mS  
Resolution: 0.05% (5mV or 0.01mA)  
Maximum voltage output: 11V @ 22mA  
Maximum current output: 22mA @ 18V  
Maximum load: 900Ω  
Programmable output damping filter

## "Fast-Cal" Calibration

Automatically calibrates and matches the indicator to a connected LVDT transducer. The Tracker 260 reads the transducer's output at any two sensor positions. The two measured values are stored as the calibration parameters. Calibration can be performed at any time.

## Serial Communications

Type: RS 422/485, 2 or 4 wire multidrop  
Isolation: 500Vdc/Peak ac  
Speed: 1200, 2400, 4800, 9600 baud  
Parity: Odd, even or none  
Stop Bits: 1 or 2  
Protocols: User Selectable for MODBUS™ (RTU or ASCII), J-BUS and DTPI (Data Track Process Instruments)

## Maths

Max/Min: Stores maximum and minimum display values  
Averaging: Calculates average value over a user defined period between 1 and 9999 seconds

## Power Requirements

Universal 90 to 265Vac 50 or 60 Hz @ 12VA nominal

## Environmental

Temperature: 10 - 50°C operating, -10 to 70°C storage  
Humidity: 0-95% RH non condensing

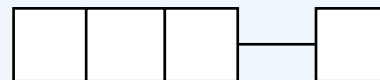
## Physical / Mechanical

Dimensions: 48mm (H) x 96mm (W) x 173mm (D)  
Panel cut-out: 44mm (H) x 92mm (W)  
Depth behind panel: 166mm including terminals  
Weight: 0.4kg (0.55kg packed weight)

## Safety and EMC

Safety: EN61010  
Susceptibility: EN50082-1 & 2  
Emissions: To EN50081-1 & 2, EN50022 Class A for radiated and conducted.  
CE Certified 1997

### Ordering Code



Model Number

Display Colour

#### Model Number:

263 LVDT Indicator  
264 LVDT Indicator with Dual Alarm Relays  
265 LVDT Indicator with Quad TTL Alarm Outputs

#### Display Colour:

R Red (Standard)  
G Green

#### Example: 264-G

Tracker 264 LVDT Indicator with Dual Alarm Relays and Green Display

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