



Product Description

The Type 9150 High Precision Indicator is a versatile instrument intended for the digital read out of strain gage sensors like load cells or force transducers. Optical encoders are also supported.

No knobs or dials. No internal jumpers. All setup and calibration is done by using user-friendly front panel menus or by using standard ASCII commands via the serial interface.

Type 9150 has a vacuum fluorescent display providing two lines by 20 characters and full bi-polar 6 digits read out ($\pm 999,999$) for clear, precise indication of measured quantities and limit status.

Key Features

- 6 digits display with decimal point and sign
- Measures loads in a variety of units
- Captures min. and max. values
- 24-bit resolution
- Digital filter, programmable
- Calibration by known load, shunt or in mV/V
- 10-point sensor curve linearisation
- Analogue DC output (± 10 V)
- Buffered signal output (± 8.14 V, 1.5 kHz)
- 4 isolated digital outputs for setpoints on any measured value
- 4 optically isolated digital inputs
- Full menu driven setup
- Serial port RS232C for remote operation and setup

Options

- Input for 2nd transducer
- Encoder input
- Analogue DC output 4-20 mA
- Serial port RS485

Specifications

DISPLAY

Display type	Vacuum fluorescent; 2 lines by 20 characters
Max. display counts	± 999 999
Update rate	4 times per second

TRANSDUCER INPUT & A/D CONVERTER

Number of channels	1 channel; 2 channels optional
Connection	4 or 6 wire technique
Sensitivity	1 mV/V to 4.5 mV/V
Linearity	0.005 % FS or better
A/D converter	24 bit
CMRR	115 dB
Excitation	5 V DC and 10 V DC, software selectable; max. 180 mA current drive
Linearisation	Up to 10 nodes

CALIBRATION & FUNCTIONS

Calibration	Calibration is performed by known load, shunt or in mV/V
Digital filter	8 filters, software selectable
Measurements	Filtered value, max. value, min. value
Units	N, kN, kg, t, lb, klb, MPa, PSI, mV/V
Update rate	60 measurement values per second
Other	Tare, reset max./min. value

ANALOGUE DC OUTPUT

Number of channels	1 channel; 2 channels optional
Full scale output	± 10 V DC; base for output is value: load, min., max.
Frequency response	Appr. 15 Hz (plus filtering)
Linearity	0.02 % FS or better

RAW TRANSDUCER SIGNAL OUTPUT

Full scale output	± 8.14 V
Frequency response	Appr. 1.5 kHz
Linearity	0.02 % FS or better

ENCODER POSITION CHANNEL (only as an option)

Encoder type	Quadrature, 4X number of lines
Measurements	Position and direction
Excitation	12 V DC, 5 V DC optional
Interface	Single ended or differential

DIGITAL I/O

Digital inputs	4 opto-isolated inputs, 4...22 V DC
Digital outputs	4 isolated solid state switches for setpoint limits (< 350 V, max. 120 mA), normally open/closed, latching/non-latching

SETUP & COMMUNICATION

Front panel	6 smart push buttons
Serial interface	RS232C; RS485 optional

POWER

Power supply	230 V AC / 50 Hz or 115 V AC / 60 Hz; 12 W power consumption (unloaded)
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ENVIRONMENT AND ENCLOSURE

Operation temperature	0 °C to +50 °C (operation); -10 °C to +60 °C (storage); max. 95% RH non-condensing
Enclosure	Aluminium, protection class IP20
Dimensions & Weight	254 x 76 x 267 mm; appr. 3 kg