Model 1003
Transducer Indicator

The Model 1003 Transducer Indicator provides complete electronic support to AC and DC LVDT's, or other DC powered transducers. The AC version provides an appropriate excitation voltage (at 3 or 7 KHz) for the LVDT and also demodulates the output, providing not only a digital readout, but a continuous analog output. This eliminates the need for a separate oscillator/ demodulator. The DC version contains a dual power supply for transducers requiring both positive and negative excitation. Ideal for use in the lab or in a high speed closed loop system, this versatile indicator comes standard with a 5 digit L.E.D. readout to provide maximum resolution.

KEY FEATURES

- **Panel Mount Indicator**
- **Supports AC and DC Transducers**
- **Splashproof Front Panel**
- **4 Independent Setpoints**

Calibrating the unit is accomplished via membrane switches on the front panel, eliminating the need for internal trim pot adjustment. The user can calibrate the unit by simply entering the full scale endpoints, the zero position, and decimal point location. This allows a readout in inches, degrees, or other engineering units corresponding to the application. During the calibration, there are 6 user defined setpoints: two high, two low, and the high and low hysteresis points for the system. When the specified tolerances are exceeded, indicator lights are illuminated, providing a visual signal to the user. Optional relays, which correspond to the distinct set points, will add another level of automation to the user's process. A tare function, which allows the meter to be zeroed anywhere along the transducer's travel, is standard. This feature can be used to measure the deviation from a standard within the working range of the sensor.

The Model 1003 features a continuous analog output for use as an input to a control process or A/D converter. Optional RS232C Serial output is offered for direct connection to PC based data acquisition systems, eliminating the need for external signal conditioning. All connectors necessary for indicator operation are provided, as well as a complete instruction manual.

INDICATOR SPECIFICATIONS

DIMENSIONS	**INCHES (mm)**	**TEMPERATURE**	
Case Size (H x W x L)	1.72 (44) x 3.56 (90) x 5.0 (127)	Operating	+31°F to +131°F (0°C to +55°C)
Front Panel (H x W x L)	1.91 (49) x 3.80 (97) x 0.1 (3)	Storage	-40°F to +185°F (-40°C to +85°C)
Cut Out (H x W)	1.77 (45) x 3.62 (92)	Coefficient of Sensitivity	±0.006%/°F Typ.
Max. Panel Thickness	0.25 (6.35)	Coefficient of Zero	±2 LSD Max.
INPUT		**DISPLAY**	
Supply Voltage	115 VRMS ±10%; 50/60 Hz (220 VRMS Optional)	Readout (Red LED)	5 Digit; 0.4" high
		Resolution	1 part in 20,000
Current	0.05A	Accuracy	±0.01% Reading ±1 LSD
		Update	Once every 500 msec

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SPECIFICATIONS

SUPPLY VOLTAGE TO TRANSDUCER	1.7 VRMS ±4% into 100 Ohm Min.	±15 VDC ±5%; up to 30 mA
MAX. TRANSDUCER OUTPUT	0.973 VRMS	±13.2 VDC
ANALOG OUTPUT VOLTAGE[1]	Adjustable to ±5.0 VDC with LVDT FS Output of .74 VRMS to .92 VRMS	Adjustable to ±5.0 VDC with LVDT FS Output of 2.9 VDC to 13.2 VDC
FREQUENCY RESPONSE (nominal)	300 Hz	375 Hz
NOISE AND RIPPLE	< 2 mVRMS	
STABILITY	±0.002%	

Notes: [1]Impedance < 2 Ohm; can operate into 1000 Ohm Min. without distortion. Short circuit protected.

OPTIONS

RS232C		**RELAYS**	
Mode	Half Duplex Transmit Only	With RS232C	4 - N.O./ COM.
Baud Rate	1200 (Factory Set) (600 to 19,200 available)	Without RS232C	4 - N.O./ COM./ N.C.
		Rating	250 VRMS @ 4 A Max. 30 VDC @ 3 A Max.
Handshake	DSR - Data Set Ready DTR - Data Terminal Ready DTX - Transmit Data Signal	Response Time	"on" approx. 8 msec. "off" approx. 5 msec
		Set Points	2 High; 2 Low
		Hysteresis Points	1 High; 1 Low

ORDERING INFORMATION

Model # S-Number Description

1003 - S - 0 0

TRANSDUCER EXCITATION
1 DC Version
2 3 KHz AC Version
3 7 KHz Version LVDT Phase < 10°
4 7 KHz Version LVDT Phase > 10°
9 Special

OUTPUT OPTIONS
0 Analog Output Only[1]
1 Relays - 4 Setpoint
2 RS232C
3 RS232C & Relays[2]
9 Special

Notes: 1. Analog output provided as standard equipment on all models.
2. The combination of RS232C and Relays results in a different Relay configuration as described in the table above.

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