

TID-110 Series

DYNALCO
CONTROLS

DC or Pickup-Powered

Digital Temperature Gauge

Standard RTD or thermocouple input indicates temperature of power cylinders, coolant, turbochargers, compressor discharge, lubricant, valves. Excellent for process control, instrumentation, textile, machine tool, and food processing.

2-Year Warranty

Features

- Grounded or ungrounded thermocouples; 2-wire RTDs.
- Thermocouples: standard J, K, T, and E; RTDs: platinum, nickel, and copper.
- Rugged: all solid-state. No meter movement.
- Sealed: Resistant to sour gas that attacks internal workings in analog meter movements.
- Lighted version: solid-state illumination.
- Standard SAE case size fits engine panels with 3-3/8 inches (~85.7 mm) openings.
- Large 0.5 in. high LCD digits. Display contrast increases with increasing ambient light: ideal for outdoor installations.
- Power from 8–40 Vdc or magnetic pickup.
- Highly resistive to electrical noise and supply spikes.



Specifications

Display: 3½ digits (–1999 to +1999), liquid crystal display (LCD). Brightness increases with ambient light. No outdoors fade-out. 1 degree increments.

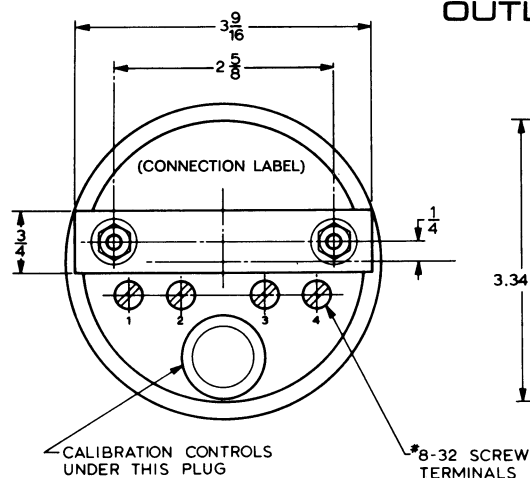
Environment temperature: *Operating:* –5°F to +175°F (–20°C to +70°C). *Storage:* –40°F to +195°F (–40°C to +91°C). 0.25% maximum effect on readout with 50°F (28°C) change in ambient temperature.

Sensors: *Thermocouples:* integral cold junction compensation; thermocouple extension wire resistance of up to 100 ohms introduces less than 1° error. *RTDs:* two-wire only, with heavy copper extension leads to minimize error, i.e., #16 AWG for up to 50 feet; #14 to 100 feet, for platinum or nickel; #8 AWG for up to 25 feet for 10 ohm copper. *Burned out thermocouple or open RTD indicated by a “1” in the thousands column with all other digits blanked.*

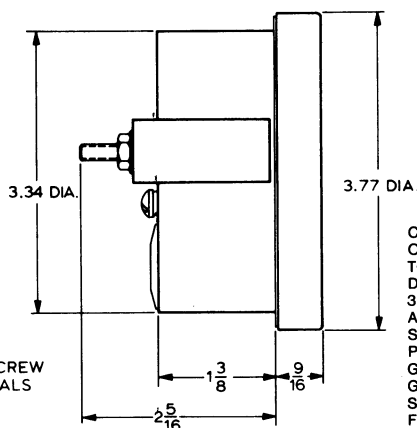
Power: *DC-powered units:* 8 to 40 Vdc. *Typical current consumption:* 1 mA at 12 Vdc; 4 mA at 24 Vdc; 6 mA at 32 Vdc. *Lighted units:* 20 to 30 Vdc; 25 mA at 28 Vdc, nominal. *Magnetic pickup-power units:* require a minimum of 2.5 Vrms pickup signal, and cannot be lighted.

Weight: <1 lb (<0.45 kg)

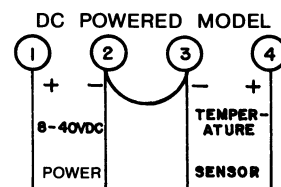
OUTLINE DRAWINGS



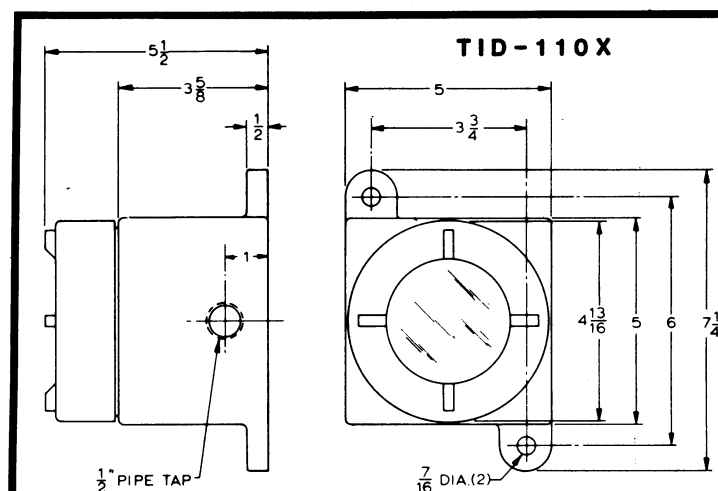
TID-110



ELECTRICAL CONNECTIONS

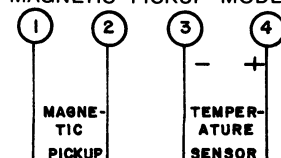


CAUTION: CONNECT TEMPERATURE SENSOR ONLY TO TERMINALS 4(+) AND 3(-); CONNECT 8 TO 40 VDC POWER TO 1(+) & 2(-). FOR LIGHTED DISPLAY UNITS, (SUFFIX "L"), POWER WITH 20 TO 30 VDC ONLY. REMOVE THE EXTERNAL JUMPER ACROSS TERMINALS 2 AND 3 ONLY IF THERE IS SOME EXTERNAL DC PATH BETWEEN SIGNAL AND POWER, i.e. GROUNDED THERMOCOUPLE AND GROUNDED DC SUPPLY OR BATTERY (BOTH GROUNDED). RETAIN JUMPER FOR ALL RTD SENSORS, FOR UNGROUNDED THERMOCOUPLES AND FOR GROUNDED THERMOCOUPLES WITH FLOATING DC POWER.



TID-110X

MAGNETIC PICKUP MODEL



CAUTION: DO NOT CONNECT DC OR AC POWER TO THIS INSTRUMENT; THIS UNIT IS MAGNETIC PICKUP POWERED. CONNECT TEMPERATURE SENSOR TO TERMINALS 4(+) & 3(-); CONNECT MAGNETIC PICKUP TO 1 AND 2. DO NOT USE ANY EXTERNAL JUMPERS ON THIS INSTRUMENT. IF THE MAGNETIC PICKUP OUTPUT IS FLOATING (UNGROUND), THIS UNIT WILL ACCEPT GROUNDED OR UNGROUNDED SENSORS. IF THE MAGNETIC PICKUP OUTPUT IS GROUNDED, (i.e. SHARED WITH OTHER GROUNDED INPUT INSTRUMENTS) THEN USE ONLY UNGROUNDED SENSORS.

SENSOR TYPE AND RANGE

TYPE	SENSOR	TEMP RANGE	TYPE	SENSOR	TEMP RANGE	TYPE	SENSOR	TEMP RANGE
-11	J T/C	-50° to +1400°F	-16	T T/C	-45° to +400°C	-21	Ni RTD	-100° to +500°F
-12	J T/C	-45° to +760°C	-17	E T/C	-50° to +1800°F	-22	Ni RTD	-75° to +260°C
-13	K T/C	-50° to +1800°F	-18	E T/C	-45° to +980°C	-23	Cu RTD	-50° to +500°F
-14	K T/C	-45° to +980°C	-19	Pt RTD	-200° to +1200°F	-24	Cu RTD	-45° to +260°C
-15	T T/C	-50° to +750°F	-20	Pt RTD	-100° to +750°C			

NOTES: Pt RTD is 100 ohms at 0°C, 0.00392 ohms per ohm per 0°C, characteristic winding no. 11
 Ni RTD is 120 ohms at 0°C, characteristic winding no. 7
 Cu RTD is 10 ohms at 25°C, characteristic winding no. 15
 Observe recommendations under "Specifications/Sensors"

HOW TO ORDER

Specify complete part number, for example **TID-110 DC 11 L X**

Dynalco basic number TID-110
 DC: DC powered
 MP: Magnetic powered
 Sensor type and range; see table
 L: lighted; omit for standard
 X: hazardous enclosure; omit for standard

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