

DIVISION OF A.J. ANTUNES & CO.

DIGITAL TEMPERATURE INDICATOR MODEL-TTD

INSTALLATION INFORMATION

SPECIFICATIONS

SENSOR: Thermocouple (Type J or K)

ACCURACY: 1% Full Scale ± 1 LSD

AMBIENT OPERATING

TEMPERATURE: -30°F to 140°F

(-35°C to 60°C)

AMBIENT STORAGE

TEMPERATURE:-40°F to 180°F

(-40°C to 82°C)

POWER: 12 Vac/DC,

24 Vac. (optional transformer) 115 Vac. (optional transformer) 230 Vac. (optional transformer)

PACKAGE: Panel Mount

Epoxy Encapsulated

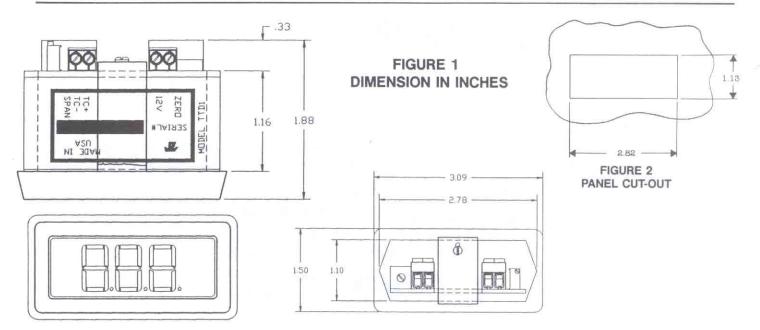
DISPLAY: 3 Digit LED (0.56" High)

CONNECTIONS: Screw Terminal

TEMPERATURE RANGE: 50° - 940°F

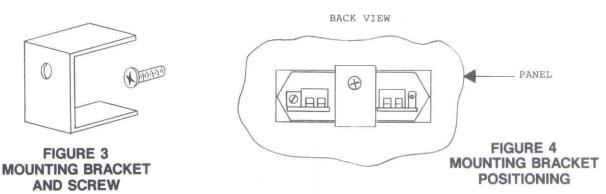
(10° - 530°C)





The indicator requires a panel cut-out 2.82 inches wide, by 1.13 inches high, (see Figure 2). The unit is inserted into the panel from the front, and secured in

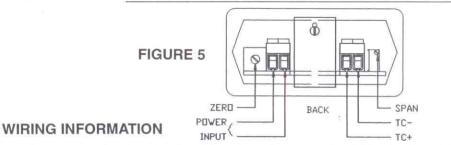
place with the mounting bracket and screw supplied with the unit (Figures 3, 4 and 6).



12 Vac/DC at 250 mA must be supplied to the indicator for power. This is connected to the power terminals as shown in Figure 5. If the indicator is to be powered by a transformer, then 115 Vac or 230 Vac must be supplied to the transformer primary (as required by the transformer type), and the 12 Vac output of the transformer connected to the indicator power terminals as shown in Figure 5. Refer to

Figure 5 for transformer and thermocouple connections.

For long thermocouple wire runs the proper thermocouple extension wire must be used, and the correct polarity must be maintained. If these precautions are not observed, the unit may not meet specifications.



Power and thermocouple wire should not be placed in the same conduit or wiring trough. However wires from several thermocouples may be in the same conduit or wiring trough.

If shielded thermocouples are used, the shields

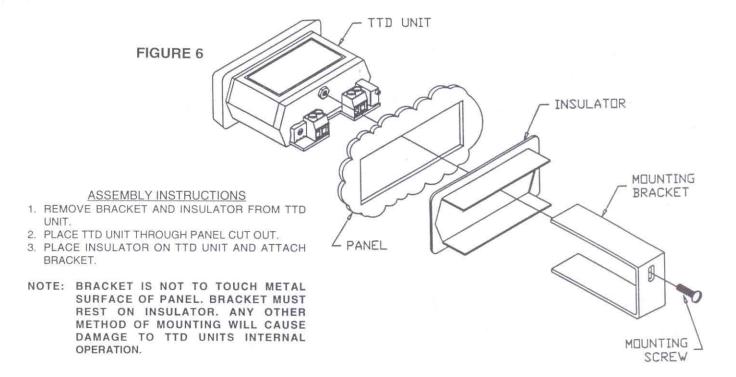
should be insulated electrically from the thermocouple wires and terminated to earth ground.

Ungrounded thermocouples are required when multiple controllers/indicators are used or if the transformer is grounded.

TTD UNIT TO PANEL ASSEMBLY



MARNING MUST INSTALL PER INSTRUCTIONS



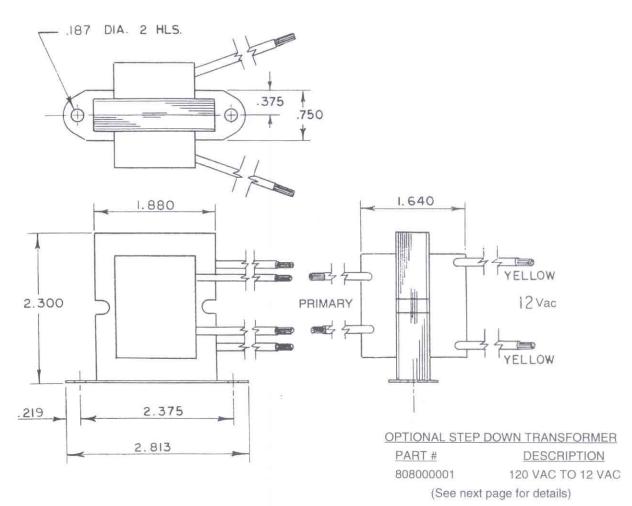


FIGURE 7 TRANSFORMER POWER CONNECTIONS

Each transformer can power up to four display units. If transformers other than those supplied by Antunes Controls are used, the transformer colors/leads and power capabilities may not be the same.

The unit will read "EEE" for over range conditions and "---" for under range conditions.

If field calibration is required, a two point calibration with a millivolt generator can be used. Calibrate the

low reading by adjusting the zero pot. Enter a second calibration higher than the first and adjust the span. Recall these two points if needed. Allow 30 minutes under power, for unit to stabilize before calibration.

NOTE: Transformer must be Class II to maintain U.L. recognition.

LIMITATION OF LIABILITY. It is understood and agreed that seller's liability whether in contract, in tort, under any warranty, in negligence or otherwise shall not exceed the return of the amount of the purchase price paid by purchaser and under no circumstances shall seller be liable for special, indirect or consequential damages.

The price stated for the equipment is a consideration in limiting seller's liability. No action, regardless of form, arising out of the transactions may be brought by purchaser more than one year after the cause of action has accrued.

WARRANTY

- Antunes Controls products are guaranteed to be free from mechanical and electrical defects for a period of one year
 from date of shipment under normal use and service provided installation is made in accordance with manufacturers
 recommendations.
- Parts deemed defective shall be repaired or replaced at manufacturers option and at manufacturers expense but shall not include foreign or federal excise taxes, state or municipal sale or use taxes, all such taxes not limited to the foregoing being responsibility of the purchaser.
- 3. No charge for travel and/or mileage will be allowed to purchaser.
- 4. Antunes Controls reserves the right to make changes in design or make any improvements on any products. The right is always reserved to modify our equipment because of new technology, underwriter's requirements and/or government regulations.
- 5. The following are not covered under warranty:
 - a. Failure from neglect, abuse, careless handling and mis-application of unit.
 - b. Failure to observe guidelines for installation or improper voltage hook-up.
 - c. Failure caused by improper maintenance. (See maintenance guidelines found in operation instructions.)
 - d. Unless specifically allowed by Antunes Controls, no other charges may be included under warranty.



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