

# LED DIGITAL THERMOMETERS

## Installation, Operation & Maintenance Instructions

The Miljoco ED175 & ED2046 LED Digital Thermometers are designed to provide a large, brightly lit temperature display for use on food service cabinets, both hot and cold, and is widely used in this industry. Flush mounted units are very popular and smart in appearance with only a 7/8" x 1-3/4" display lens showing through the stainless steel refrigerator/freezer cabinet. These units are NSF® listed and power transformers are UL® recognized.

### Installation & Operation

#### INSTALLING THE INSTRUMENT INDICATOR HOUSING:

This unit is designed to be wither surface mounted or flush mounted. When flush mounting, cut a hole 0.875" high and 1.75" wide to allow the raised lens front display to penetrate through the sheet metal panel. The housing may be installed with two screws through the 0.140" dia. holes (spaced 1.625" apart), or by applying glue or double-sided tape on the recessed portion of the instrument face.

#### TEMPERATURE SENSOR:

The thermistor type sensor is enclosed in a black PVC jacket 0.250" OD x 1" long and should be located in an area where there is maximum circulation, representing the most critical and true temperature of the device being monitored. Other types of sensor protectors are available for liquid immersion, pressure vessels, etc. See general catalog for complete specifications.

#### TEMPERATURE SENSOR CONNECTING LEADS:

The standard lead is furnished as 96" long, but it may be supplied in longer lengths up to 1000 feet. The lead is PVC covered and should be secured along the length by wire clamps. Leads may be extended in the field (up to 20' additional) by cutting the lead in the middle and splicing in a new two-conductor wire #22 gauge. Calibration should be checked after extending the lead.

#### POWER REQUIREMENTS AND WIRING:

Each thermometer is provided with two leads, 24" long; one black and one red which should be connected to a 12VAC/DC power supply. If a 12 volt supply is not available, use Miljoco Transformer No. A61-115 connected to 120VAC which in turn will provide 120 VAC to the instrument. Normally, one instrument is installed per transformer, however two instruments (maximum) can be installed per transformer, if required. The instrument draws 125mA at 120VAC. Other transformers are also available for 220VAC and other non-standard voltages and cycles - consult factory. **CAUTION:** Before power-up, ensure the transformer is wired with the black and white leads connected to the primary voltage supply source (i.e. 120VAC). If the transformer is wired backwards, the transformer and instrument will be immediately damaged.

#### STARTUP:

Ensure the instrument is not subjected to voltages higher than 15 volts, as the unit will be damaged, rendering it useless. With proper power supplied, the indicator should display the correct temperature of the process. Each instrument is factory-calibrated to the stated accuracy. If the process temperature is not within the range limits of the instrument, the indicator will display HI or LOW.

#### ADJUSTING THE READING:

To verify the accuracy of the instrument, place the temperature sensor in a vessel filled with melting crushed ice and water to provide a verification standard of 32°F (0°C). Vigorously stir the bath and wait at least two minutes before reading. The indicator should read 32°F, ± 2°F (1°C). If recalibration is required, look at the rear of the case, near the top. Some units have the recalibration screw sealed shut, depending on how the unit was originally ordered. If the recalibration screw is accessible, turn it clockwise to decrease and counter-clockwise to increase the reading.

### Caution

Some units are furnished with a time-delay indicator feature for certain applications where opening the refrigerator door will cause a temporary higher reading. This will delay the change in the true reading of the indicator on temperature rise of the refrigerator. The length of the delay is determined by the equipment manufacturer, but in most cases, will not exceed four minutes. For example: The indicator reads 38°F; the door is opened briefly and the temperature rises to 44°F for a moment, but with the delay feature, the indicator will still read 38°F. Once the door closes, the temperature again drops to 38°, and the indicator reads the same. However, if the door remains open or mechanical failure occurs, after four minutes, the indicator will read the actual case temperature. If this feature is included, the unit will be affixed with a label indicating the amount of time delay. Note: This feature does not apply to descending temperatures; therefore; if the temperature is dropping, this feature will not delay or affect the reading. This feature can also be included for units installed in hot-food cabinets and works in reverse.

