

CAUTION: The DPY-4118U-A pyrometer is suitable for use in Class I, Group D hazardous locations when installed in accordance with these instructions.

Do not store or operate the device in an ambient temperature exceeding 175°F. (80°C.).

The thermocouple leads connected to this device must not contact any external voltage source. Damage to the device will result from connection between the thermocouple leads and the ignition system or any AC or DC power source.

WARNING: DEVIATION FROM THESE INSTALLATION INSTRUCTIONS MAY LEAD TO IMPROPER OPERATION OF THE MONITORED MACHINE WHICH COULD CAUSE PERSONAL INJURY TO OPERATORS OR OTHER NEARBY PERSONNEL.

1.0 DESCRIPTION

- 1.1 The Altronic DPY-4118U-A digital pyrometer is an electronic instrument designed to monitor temperatures using industry standard Type J or Type K thermocouple probes. A front panel membrane switch allows the user to select the desired thermocouple channel. The channel selected and the monitored temperature are displayed continuously on the LCD display.
- 1.2 The device uses long life lithium batteries with a PUSH TO READ switch giving a 10-minute readout period with each actuation.
- 1.3 For proper operation, these installation instructions must be adhered to strictly.

2.0 MOUNTING

- 2.1 Mount the pyrometer inside a control panel or to a suitable flat surface so that the display is at a convenient viewing height. A drilling template is provided.
NOTE: Avoid mounting with the LCD display facing direct sunlight. The display temperature range is -40°F. to +175°F. (-40°C. to +80°C.).

3.0 WIRING (SEE WIRING DIAGRAM)

- 3.1 THERMOCOUPLES AND THERMOCOUPLE EXTENSION WIRE - Type J or Type K, ungrounded or grounded thermocouples may be used; ungrounded thermocouples are recommended where possible. Thermocouple extension wire matching the thermocouple type must be run from the device thermocouple terminals to each thermocouple sensing source. Use stranded thermocouple wire having a good moisture-resistant insulation such as PVC; for higher temperatures, teflon or B-fibre insulated thermocouple wire is recommended. To insure an accurate signal is transmitted to the DPY device, avoid any added junctions, splices and contact with other metals. Take care not to damage the insulation of the thermocouple extension wire when installing and take precautions against later damage from vibration, abrasion or liquids in conduits. In addition, it is essential that the following practices be adhered to:
 - A. Never run thermocouple wires in the same conduit as the ignition wiring or other high energy wiring such as AC line power, etc.
 - B. Keep secondary wires to spark plugs and other high voltage wiring at least eight inches (200 mm) away from thermocouples and extension wiring.
 - C. Jumper across the terminals of unused thermocouple inputs.

- 3.2 **INTRINSIC SAFETY** - To meet the requirements of Intrinsic Safety (see NFPA Standard no. 493):
- A. Thermocouple wires within the panel enclosure must be kept at least two inches (50 mm) away from other wiring. Run thermocouple extension wires leaving the panel in a conduit separate from all other wiring and keep separate throughout the installation.
 - B. Wiring to the sensors must have a grade of insulation capable of withstanding an AC voltage of 500 volts RMS.
 - C. Ignition and fuel valve wires must be in separate conduits and junction boxes from thermocouple wires.
- 3.3 **TESTING THERMOCOUPLE LEADS** - If it becomes necessary to check thermocouple to terminal strip wiring with an ohmmeter or other checker, first unplug the thermocouple connectors from the DPY device. This will prevent possible damage to the device's sensitive low voltage detection circuitry.

4.0 OPERATION

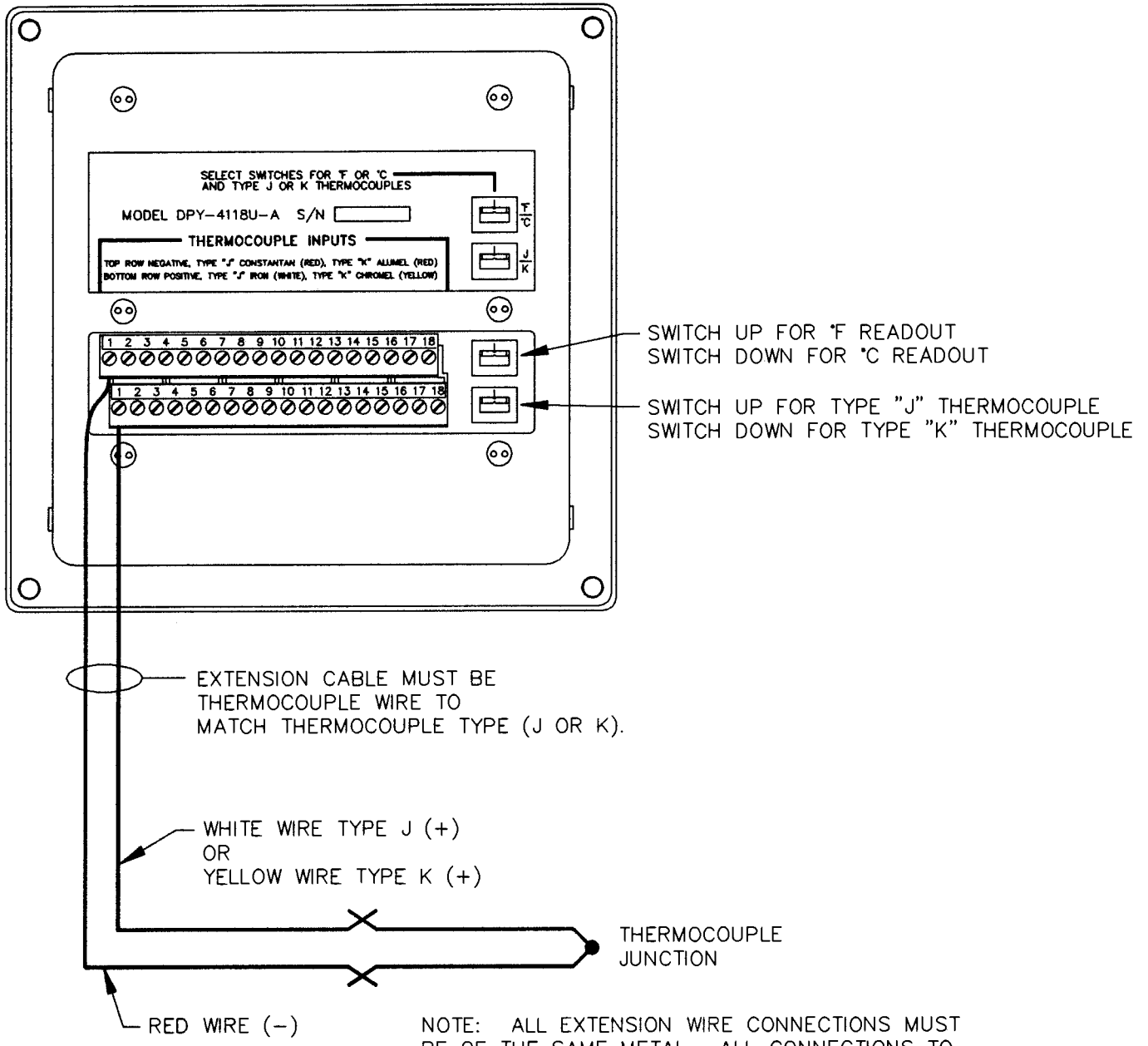
- 4.1 **SET DISPLAY READOUT SCALE** - Set the indicated switch on the back of the device for either °C or °F readout. The selected scale is indicated on the right side of the display.
- 4.2 **SET THERMOCOUPLE TYPE SWITCH** - Set the indicated switch on the back of the device for either Type J or Type K thermocouples corresponding to the type being used.
- 4.3 **TEMPERATURE READOUT** - Pushing the PUSH TO READ OR ADVANCE switch on the front of the device gives approximately a ten minute reading period; the display turns off automatically to conserve battery life. The ten minute period recycles each time the switch is pushed. Each time the device is powered-up, the temperature value of Channel 1 will be displayed. Each push of the switch will increment the readout to the next channel showing the monitored temperature connected to the point indicated on the display. Push and hold the switch to rapidly advance to a desired channel on the display.
- 4.4 **OPEN THERMOCOUPLE INDICATION** - An unused or jumpered input or an open thermocouple connection will read an "Ice point" indication of 32°F. or 0°C.
- 4.5 **LOW BATTERY INDICATION** - A low battery condition is indicated by the words "LO BAT" appearing in the lower right hand corner of the display. To insure proper operation, the batteries should be replaced when this readout appears.

5.0 BATTERY REPLACEMENT

- 5.1 If the batteries require replacement, loosen the four (4) slotted head screws located at the front of the device until they disengage from the back case. Then carefully tilt the back case away from the lower part of the front panel section to access the three internal batteries. Remove the three batteries from their holders.
- NOTE:** Do not disconnect the ribbon cable from either section of the device; the batteries are easily changed with the ribbon cable connected.
- 5.2 Use replacement batteries only of the specified type: Duracell PX28L or Sanyo 2CR-1/3N.
- 5.3 Install batteries with the positive (+) poles toward the ribbon cable on the circuit board, negative (-) poles toward the lower edge. Then align the two sections of the device in place and tighten the four slotted head screws.

WIRING DIAGRAM

DPY-4118U-A PYROMETER



NOTE: ALL EXTENSION WIRE CONNECTIONS MUST BE OF THE SAME METAL. ALL CONNECTIONS TO BE CLEANED, TIGHTLY TWISTED AND INSULATED WITH CERAMIC WIRE NUT.