

Programmable Liquid Level Controller

Type PLLC

For use with ITP Depth Tracker transducer
liquid level probe

Purpose:

The Programmable Liquid Level Control provides remote liquid level management for industrial refrigeration. The PLLC is designed for use specifically with Parker's ITP Depth Tracker transducer liquid level probe. The PLLC provides the power source for the current loop of the ITP. The ITP probe is used to provide a current signal proportional to the vertical liquid level in a standpipe or vessel. The PLLC serving as a switching mechanism also converts the return signal and performs up to 5 programmable relay functions.

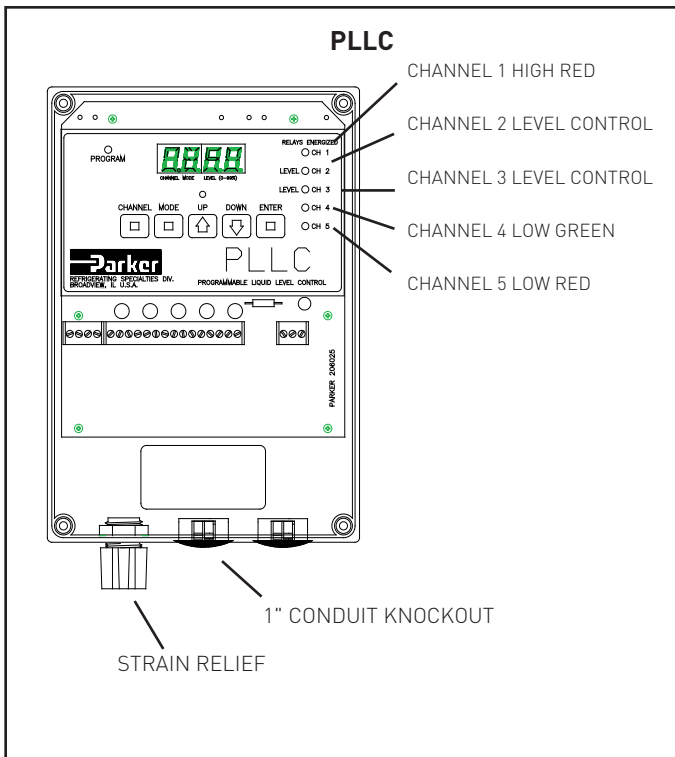


Fig.1

Wiring:

The separable terminal blocks on the PLLC will accommodate up to 14 gage wire. The Line Voltage Input can be either 120/240V 60Hz or 110/220V 50Hz. The PLLC provides the power source for the current loop of the transducer probe. The programmable relays are individually 5 amp fused. Relays are equipped with normally open and closed terminals and can be wired as either. The maximum recommended distance between PLLC and probe is 5000 ft.

Bulletin 61-50B Type PLLC



October 2006 Installation Information

Keypad Programmable Level Setting Procedure

- Supply power to the PLLC. All 4 digits will light for a second then count down 1-4 from left to right. If there is no level in the vessel or the probe is disconnected, the display should read 00
- Push the "Channel" button once. The LED will display the Channel, Mode (Relay Disposition) and the Actual Level Set-point.
- Use the "Up" and "Down" arrow keys to select the set-point for this level.
- Press the "Enter" key, you will hear a BEEP that will confirm your setting.
- Channels 1, 4, and 5 are programmed using the same procedure.
- Channel 2 is capable of operation as an additional differential level control or it can be set to operate an alarm function.
- Differential Level Control: Follow the same procedure used in setting channel 3.
- Alarm: In order for Channel 2 to be used as an alarm, a differential must be set using the High and Low level settings of this channel.
- Push the Channel button on the keypad until Channel 2 and Mode L is displayed. Using the arrow keys, set the low level to represent 2% of Full Scale (Full Scale = 100%) lower than the actual level setting required and press the enter key.
- Example: If 80% is required for Channel 2 setpoint, set the channel 2 Low setting for 78%.
- Push the channel button again to display Channel 2 and Mode H. Now set the High Level setting required for this channel and press Enter.
- **Note: 2% is the smallest value that can be entered.** Larger differentials can be used to allow high liquid levels in the vessel to return to a safe operating

condition. This will prevent rapid repeat alarms due to equipment failure.

- Channel 2 and 3 (Level Controls)
- The Level Control channels require a "Low" and a "High" level setting.
- Push the "Channel" button on the keypad until the Channel "2 or 3" and mode "L" (Low Level) is displayed. Using the arrow keys, make your Low Level setting. Press the "Enter" key, a "BEEP" will confirm your entry.
- Push the "Channel" button again. The "Mode" LED will change from "L" to "H" (High Level). Again, using the arrow keys, make your High Level setting, press the "Enter" key and a "BEEP" will confirm your entry.

Programmable Relay Disposition

- Channels 1, 4 and 5 have programmable relay dispositions. Channels 1 default to "H" (High Level), 4 and 5 default to "L" (Low Level).
- First select the channel by pressing the "Channel" button on the keypad. Pay special attention to the letter displayed on the "Mode" LED.
- Press the "Mode" key on the keypad. You will see the displayed letter change from and "H" to an "L". Pressing the key again will return the "H" on the "Mode" LED.
- Select the Mode. If you started with an "H" displayed, select the "L" to change the relay disposition.
- Use the "Up", "Down" keys to select the level for the channel.
- Press the "Enter" key. You will hear a BEEP to verify your entry. You will also notice the LED for the channel will light-up or turnoff depending on the disposition selected.

Level Test Mode: 2 Modes Available (With Relays De-energized & Energized)

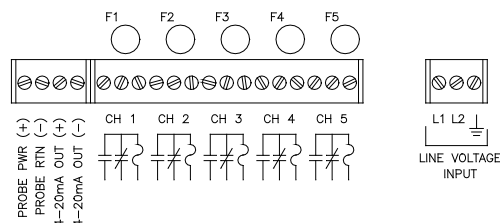
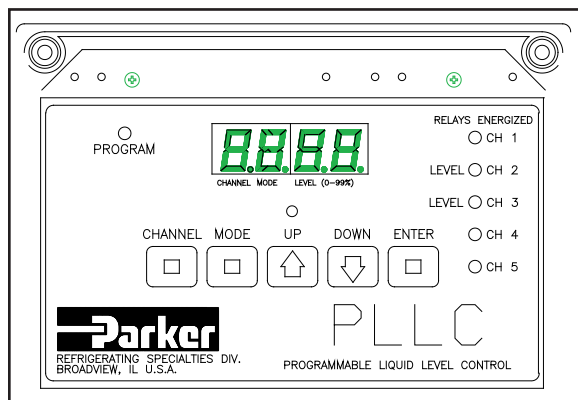
First Mode: Display responds, relays maintain their disposition. Second Mode: Both relays and display respond to confirm control circuits.

First Mode

- First scroll through the channels by pressing the "Channel" button on the keypad until a single "t" is displayed in the "Channel" segment of the LED.
- Press the "Mode" key on the keypad. A second "t" will appear in the "Mode" segment of the LED.
- Push the "Up", "Down" arrow key's on the keypad to simulate a level change. The LED's on the right will light-up or go off (depending on the relay disposition selected) as the channel set-point is passed. The 4-20 mA output will also change while simulating a level change.

Second Mode

- To test the level settings and relay function, follow the same procedure for the De-energized Test Mode to the point where "tt00" is displayed on the LED.
- Using the "Up" arrow key, scroll through the channel



settings one at a time. After each set-point is passed, press and hold the "Enter" key for about 5 seconds. The "tt" segments will flash and you will hear the relay energized or de-energized depending on the relay disposition.

- **Note: Caution should be used during this procedure to prevent Alarms and Equipment Shut Downs.**

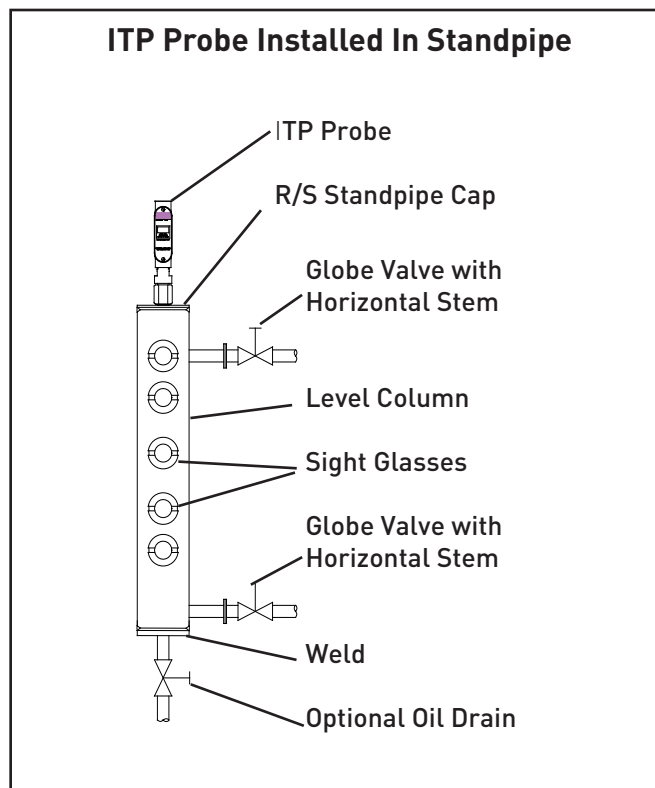


Fig. 2