

HEATEC TEC-NOTE

Publication No. 4-20-232

Setting Yokogawa UT150 controllers used with Siemens pressure transmitters on Heatec vertical fuel tanks

This document provides information for setting Yokogawa UT150-RN-AL/RET controllers (**Figure 1**) used with Siemens pressure transmitters on Heatec vertical tanks (**Figure 2**) that store fuel. If you need help on how to use the buttons on the controller, please refer to the applicable Yokogawa manual. You can call Yokogawa for technical assistance at 1-800-447-9656. Their web site is www.yokogawa.com/.

The controller displays the level of fuel stored in the tank using signals from the Siemens pressure transmitter. Level indications are in inches. A table for converting inch-levels to gallons is provided in Heatec TecNote 9-06-177, which also provides instructions for setting the Siemens pressure transmitter.

The controller automatically activates an alarm circuit when the tank is 90% full. The controller also activates the alarm circuit when the indicated level is 24 inches.

Setting up the controller

To set up a new controller, you must first make the settings shown in **Figure 3**.

These settings are normally made at Heatec before the tank is shipped. However, if a new controller is installed in the field, these settings must be made first.

How to navigate the controller menus

The controller has two menus for the settings shown in **Figure 3: Setup Parameters** and **Operating Parameters**.

If the controller is new and was not preset at our factory, its display will show that **IN** is set to **OFF** when it is first powered. Press the up arrow key repeatedly to display **22**. Press **SET/ENT** key. Thereafter, you navigate the menus as described in the following paragraphs.

To enter the Setup Parameters menu

Press and hold the **SET/ENT** button for about three seconds until display reads **A1**. Repeatedly press the **SET/ENT** button until display reads **LOC**. Press the down-arrow button to change the value to **-1 (minus 1)**. If **LOC** is already set to **1**, press down arrow button and set **LOC** to **0**. Press **SET/ENT**. Now set **LOC** to **-1** and press **SET/ENT**. You are now in the Setup Parameters menu.

To change data use up/down arrow keys. To accept data press **SET/ENT**. To scroll to the next prompt press the **SET/**



Figure 1. Yokogawa UT150 controller.



Figure 2. Heatec vertical fuel tank.

ENT button again. When finished, press and hold **SET/ENT** to return to the main display.

To enter the Operating Parameters menu

Press and hold the **SET/ENT** button about three seconds until display reads **A1**. You are now in the Operating Parameters menu. To change data use up/down arrow keys. To accept data press **SET/ENT**.

To scroll to the next prompt press the **SET/ENT** button again. When finished, press and hold **SET/ENT** to return to the main display.

Figure 3. Setting Yokogawa UT150 controller for fuel tank levels

PROMPT		DESCRIPTION (What it does)	SETTINGS (USE UP/DOWN ARROW KEYS) (Green characters are actual settings)
What you see	What it means		
Setup Parameters (for all tank sizes)			
<i>In</i>	IN	Input type	22 : 1.00 to 5.00
<i>dP</i>	DP	Decimal point position	1
<i>rH</i>	RH	Maximum value of input scale	600
<i>rL</i>	RL	Minimum value of measured input scale	16
<i>SPH</i>	SPH	Setpoint range maximum value	16
<i>SPL</i>	SPL	Setpoint range minimum value	16.1
<i>UPr</i>	UPR	Setpoint ramp-up rate	OFF
<i>dnr</i>	DNR	Setpoint ramp-down rate	OFF
<i>t̄nU</i>	TMU	Setpoint ramp-rate time unit	0
<i>r̄tH</i>	RTH	Retransmission maximum value	600
<i>r̄tL</i>	RTL	Retransmission minimum value	16
<i>AL1</i>	AL1	Alarm 1 type	10 : De-energized on PV Low Limit
<i>AL2</i>	AL2	Alarm 2 type	9 : De-energized on PV High Limit
<i>HY1</i>	HY1	Alarm 1 hysteresis	0
<i>HY2</i>	HY2	Alarm 2 hysteresis	0
<i>dr</i>	DR	Direct / reverse action	0 : Reverse action

Operating Parameters												
PROMPT		DESCRIP- TION What it does	SETTINGS (USE UP/DOWN ARROW KEYS) (green characters are actual settings)									
What you see	What it means		Size of tank (gallons)									
			5 K	6.5 K	10 K	13 K	15 K	20 K	23 K	25 K	30 K	35 K
<i>A1</i>	A1	A1 Value	24									
<i>A2</i>	A2	A2 Value	86.0	108.0	165.0	216.0	251.0	316.0	378.0	402.0	467.0	532.0
<i>CTL</i>	CTL	Control mode	onF									
<i>HYS</i>	HYS	Hysteresis	0.0									
<i>FL</i>	FL	PV input filter	OFF									
<i>BS</i>	BS	PV input bias	0.0									
<i>LoL</i>	LOC	Key lock	0 : No key lock									