

HEATEC TEC-NOTE

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Setting Honeywell UDC2500 controllers used with Siemens pressure transmitter on Heatec vertical asphalt tanks

This document provides information for setting Honeywell controller **DC2500-EE-1000-200-00000-00-0** (Figure 1) used to indicate levels in Heatec asphalt tanks. The controller is used on six sizes of Heatec vertical tanks equipped with Siemens Sitrans P, Series DSIII pressure transmitter **7MF4033-1CY10-1NC6-Z-B21Y01** (fitted with remote seal **7MF4810-2QA02**) (Figure 2).

The controller indicates levels of asphalt in the tank. Levels are shown in *inches*, measured from the bottom of the tank. The controller automatically activates a circuit to shut off pumps used to fill the tank when the tank reaches a preset “full” level. It also activates an alarm circuit when the tank is “full.”

When the asphalt level reaches its low-level setting, the controller shuts off the valve that allows hot oil to heat the tank. The low-level setting prevents heating the asphalt when its level is below the heating coils and avoids coking the coils.

Honeywell controllers purchased from Heatec are normally set at our factory and require no further setup. However, the controller can be set in the field using the information shown in **Figures 3** and **4**.



Figure 1. Honeywell Controller DC2500-EE-1000-200-00000-00-0.

CAUTION

The settings shown in Figure 3 are for tanks where the sensor of the pressure transmitter is installed at a height of 11 inches above the bottom of the tank. These settings should **NOT** be used when the sensor is installed in the tank’s drain outlet, which is at a height of 2.5 inches. Otherwise the level indications will be incorrect and the automatic shut off system will not work properly.

When the sensor is installed in the drain outlet, use the settings in **Figure 4**.

A Honeywell UDC Controller Manual is on a CD furnished with each controller. If you need instructions on how to use buttons on the controller to make settings, you will find them in this manual.

COORDINATION OF SETTINGS

Settings of the Honeywell controller should be coordinated with the settings on the Siemens pressure transmitter shown in Heatec Tec-Note 10-06-180, entitled *Setting Siemens Pressure Transmitter used on Heatec vertical asphalt tanks*. **Failure to coordinate settings may result in erroneous level indications and improper shutoff control!**



Figure 2. Siemens pressure transmitter.

**Figure 3. Honeywell Controller DC2500-EE-1000-200-00000-00-0
used with Siemens Pressure Transmitter on Heatec vertical asphalt tanks (11-inch sensor height)**

Setup button	Function button	Make these settings (Use up/down buttons)					
		10,000 gal tank	15,000 gal tank	20,000 gal tank	25,000 gal tank	30,000 gal tank	35,000 gal tank
TUNING	CYC T1	1	1	1	1	1	1
	SECUR	0	0	0	0	0	0
	LOCK	CAL	CAL	CAL	CAL	CAL	CAL
SPRAMP	SPRAMP	DIS	DIS	DIS	DIS	DIS	DIS
ALGOR	CTRLG	ONOF	ONOF	ONOF	ONOF	ONOF	ONOF
	TIMER	DIS	DIS	DIS	DIS	DIS	DIS
OUTALG	OUTALG	RLY	RLY	RLY	RLY	RLY	RLY
INPUT1	IN1TYP	4-20	4-20	4-20	4-20	4-20	4-20
	XMITR1	LIN	LIN	LIN	LIN	LIN	LIN
	IN1 HI	600.0	600.0	600.0	600.0	600.0	600.0
	IN1 LO	11.00	11.00	11.00	11.00	11.00	11.00
	RATIO1	1.00	1.00	1.00	1.00	1.00	1.00
	BIAS 1	0.0	0.0	0.0	0.0	0.0	0.0
	FILTR1	1	1	1	1	1	1
	BRNOUT	NONE	NONE	NONE	NONE	NONE	NONE
CONTRL	LSP'S	ONE	ONE	ONE	ONE	ONE	ONE
	SP TRK	NONE	NONE	NONE	NONE	NONE	NONE
	PWR UP	ALSP	ALSP	ALSP	ALSP	ALSP	ALSP
	SP Hi	11.00	11.00	11.00	11.00	11.00	11.00
	SP Lo	11.00	11.00	11.00	11.00	11.00	11.00
	ACTION	REV	REV	REV	REV	REV	REV
	HYST	100.0	100.0	100.0	100.0	100.0	100.0
	FAILSF	0.0	0.0	0.0	0.0	0.0	0.0
OPTION	AUXOUT	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	0 PCT	11.0	11.0	11.0	11.0	11.0	11.0
	100PCT	600.0	600.0	600.0	600.0	600.0	600.0
	CRANGE	4-20	4-20	4-20	4-20	4-20	4-20
	DIGIN1	NONE	NONE	NONE	NONE	NONE	NONE
COM	ComADR	3	3	3	3	3	3
	ComSTA	DIS	DIS	DIS	DIS	DIS	DIS
	IRENAB	ENAB	ENAB	ENAB	ENAB	ENAB	ENAB
	BAUD	19.2K	19.2K	19.2K	19.2K	19.2K	19.2K
	TX DLY	1	1	1	1	1	1
ALARMS	A1S1TY	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	A1S1VA	12.00	12.00	18.00	18.00	18.00	18.00
	A1S1HL	LOW	LOW	LOW	LOW	LOW	LOW
	A1S2TY	NONE	NONE	NONE	NONE	NONE	NONE
	A2S1TY	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	A2S1VA	153.0	249.0	321.0	417.0	489.0	561.0
	A2S1HL	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
	A2S2TY	NONE	NONE	NONE	NONE	NONE	NONE
	ALHYST	0.1	0.1	0.1	0.1	0.1	0.1
	ALARM1	NO L	NO L	NO L	NO L	NO L	NO L
	BLOCK	DIS	DIS	DIS	DIS	DIS	DIS
DIA AL	DIS	DIS	DIS	DIS	DIS	DIS	
DISPLY	DECMAL	ONE	ONE	ONE	ONE	ONE	ONE
	TUNITS	NONE	NONE	NONE	NONE	NONE	NONE
	FREQ	60	60	60	60	60	60
	DISPLY	PR N	PR N	PR N	PR N	PR N	PR N
	LNGUAG	ENGL	ENGL	ENGL	ENGL	ENGL	ENGL

Setting sequence: ALGOR, INPUT1, CONTRL, OPTION, COM, ALARMS, DISPLY, TUNING, SPRAMP, OUTALG.

NOTE: Data changed in the revision of 5-29-09 are shaded in green.

**Figure 4. Honeywell Controller DC2500-EE-1000-200-00000-00-0
used with Siemens Pressure Transmitter on Heatec vertical asphalt tanks (2.5-inch sensor height)**

Setup button	Function button	Make these settings (Use up/down buttons)					
		10,000 gal tank	15,000 gal tank	20,000 gal tank	25,000 gal tank	30,000 gal tank	35,000 gal tank
TUNING	CYC T1	1	1	1	1	1	1
	SECUR	0	0	0	0	0	0
	LOCK	CAL	CAL	CAL	CAL	CAL	CAL
SPRAMP	SPRAMP	DIS	DIS	DIS	DIS	DIS	DIS
ALGOR	CTRLG	ONOF	ONOF	ONOF	ONOF	ONOF	ONOF
	TIMER	DIS	DIS	DIS	DIS	DIS	DIS
OUTALG	OUTALG	RLY	RLY	RLY	RLY	RLY	RLY
INPUT1	IN1TYP	4-20	4-20	4-20	4-20	4-20	4-20
	XMITR1	LIN	LIN	LIN	LIN	LIN	LIN
	IN1 HI	600.0	600.0	600.0	600.0	600.0	600.0
	IN1 LO	2.50	2.50	2.50	2.50	2.50	2.50
	RATIO1	1.00	1.00	1.00	1.00	1.00	1.00
	BIAS 1	0.0	0.0	0.0	0.0	0.0	0.0
	FILTR1	1	1	1	1	1	1
	BRNOUT	NONE	NONE	NONE	NONE	NONE	NONE
CONTRL	LSP'S	ONE	ONE	ONE	ONE	ONE	ONE
	SP TRK	NONE	NONE	NONE	NONE	NONE	NONE
	PWR UP	ALSP	ALSP	ALSP	ALSP	ALSP	ALSP
	SP Hi	2.50	2.50	2.50	2.50	2.50	2.50
	SP Lo	2.50	2.50	2.50	2.50	2.50	2.50
	ACTION	REV	REV	REV	REV	REV	REV
	HYST	100.0	100.0	100.0	100.0	100.0	100.0
	FAILSF	0.0	0.0	0.0	0.0	0.0	0.0
OPTION	AUXOUT	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	0 PCT	2.5	2.5	2.5	2.5	2.5	2.5
	100PCT	600.0	600.0	600.0	600.0	600.0	600.0
	CRANGE	4-20	4-20	4-20	4-20	4-20	4-20
	DIGIN1	NONE	NONE	NONE	NONE	NONE	NONE
COM	ComADR	3	3	3	3	3	3
	ComSTA	DIS	DIS	DIS	DIS	DIS	DIS
	IRENAB	ENAB	ENAB	ENAB	ENAB	ENAB	ENAB
	BAUD	19.2K	19.2K	19.2K	19.2K	19.2K	19.2K
	TX DLY	1	1	1	1	1	1
ALARMS	A1S1TY	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	A1S1VA	12.00	12.00	18.00	18.00	18.00	18.00
	A1S1HL	LOW	LOW	LOW	LOW	LOW	LOW
	A1S2TY	NONE	NONE	NONE	NONE	NONE	NONE
	A2S1TY	IN 1	IN 1	IN 1	IN 1	IN 1	IN 1
	A2S1VA	153.0	249.0	321.0	417.0	489.0	561.0
	A2S1HL	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
	A2S2TY	NONE	NONE	NONE	NONE	NONE	NONE
	ALHYST	0.1	0.1	0.1	0.1	0.1	0.1
	ALARM1	NO L	NO L	NO L	NO L	NO L	NO L
	BLOCK	DIS	DIS	DIS	DIS	DIS	DIS
DIA AL	DIS	DIS	DIS	DIS	DIS	DIS	
DISPLY	DECMAL	ONE	ONE	ONE	ONE	ONE	ONE
	TUNITS	NONE	NONE	NONE	NONE	NONE	NONE
	FREQ	60	60	60	60	60	60
	DISPLY	PR N	PR N	PR N	PR N	PR N	PR N
	LNGUAG	ENGL	ENGL	ENGL	ENGL	ENGL	ENGL

Setting sequence: ALGOR, INPUT1, CONTRL, OPTION, COM, ALARMS, DISPLY, TUNING, SPRAMP, OUTALG.

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