

Slave Modes

Application 2290: Heat Pump Controller – Multi-Stage – Slave Mode

Overview

Application 2290 is the slave mode application for the Heat Pump Controller – Multi-Stage (P/N 540-505). Slave mode is the default application that comes up when power is first applied to the controller. Slave mode provides no control. Instead, it allows the operator to perform equipment checkout before a control application is put into effect and to set some basic controller parameters (CTLR ADDRESS, APPLICATION, etc.).

Using Auxiliary Points

It is possible to have extra points available on a Heat Pump Controller – Multi-Stage in addition to the ones used by the current application that is running in the controller. If these extra points are to be controlled by a field panel, they must be unbundled at the field panel.

Using the Controller as a Point Extension Device

If the controller is *only* used as a point extension device, with no control application in affect, its application must be set to slave mode *and* the points must be unbundled at the field panel. All of these points must be controlled from the field panel in order to be used. See Table 2290-2 for point database information.

All DOs can be used as separate DOs. In addition, DO 1, DO 2, DO 3, and DO 4 can be used in pairs, (DO 1 and DO 2) and (DO 3 and DO 4), to control a motor, as shown in the example. DO 5, DO 6, DO 7, and DO 8 cannot be used in pairs.

For other combinations of DOs and motors, see the *APOGEE Automation Start-up Procedures* on InfoLink for complete motor enable/reverse procedures.

NOTE: If using either a motor or DOs as auxiliary points, be sure to set the point MTR SETUP (Point 58) to the correct value. See Table 2290-1. If using a pair of DOs to control a motor, the DOs cannot be unbundled or commanded separately. Only MTR1 COMD (Point 48) and MTR2 COMD (Point 52) can be unbundled to control the motors.

**Table 2290-1. Motor Enable/Reverse Values for MTR SETUP (Point 58).
(For Floating-Type Dampers Only.)**

Motor 1 Not Used	Motor 1 Enabled	Motor 1 Enabled and Reversed
0	1	3

Example

If using DO 1 and DO 2 as the physical terminations for a direct acting motor, follow these steps:

1. Set MTR SETUP to 1 to enable the motor.
2. Unbundle MTR1 COMD at the field panel to command the motor from the field panel.

AOV1 (Point 40) may be used to control a motor. Unbundle AOV1 and command it in voltage to control a 0 to 10V motor.

Table 2290-2. Point Database for Application 2290.

Point Number	Descriptor	Factory Default (SI Units)	Engr. Units (SI Units)	Slope (SI Units)	Intercept (SI Units)	On Text	Off Text
01	CTLR ADDRESS	99	–	1	0	–	–
02	APPLICATION	2290	–	1	0	–	–
{04}	ROOM TEMP	74.00 (23.45)	DEG F (DEG C)	0.25 (0.14)	48.00 (8.89)	–	–
{13}	RM STPT DIAL	74.00 (23.45)	DEG F (DEG C)	0.25 (0.14)	48.00 (8.89)	–	–
{15}	AUX TEMP	74.00 (23.5)	DEG F (DEG C)	0.5 (0.28)	37.5 (3.056)	–	–
18	WALL SWITCH	NO	–	1	0	YES	NO
{19}	DI OVRD SW	OFF	–	1	0	ON	OFF
{24}	DI 2	OFF	–	1	0	ON	OFF
{25}	DI 3	OFF	–	1	0	ON	OFF
{26}	DI 4	OFF	–	1	0	ON	OFF
{29}	DAY.NGT	DAY	–	1	0	NIGHT	DAY
{40}	AOV1	0	VOLTS	0.01	0	–	–
{41}	DO 1	OFF	–	1	0	ON	OFF
{42}	DO 2	OFF	–	1	0	ON	OFF
{43}	DO 3	OFF	–	1	0	ON	OFF
{44}	DO 4	OFF	–	1	0	ON	OFF
{45}	DO 5	OFF	–	1	0	ON	OFF
{46}	DO 6	OFF	–	1	0	ON	OFF
{47}	DO 7	OFF	–	1	0	ON	OFF
{48}	MTR1 COMD	0.00	PCT	0.4	0	–	–
{49}	MTR1 POS	0.00	PCT	0.4	0	–	–
{50}	DO 8	OFF	–	1	0	ON	OFF
51	MTR1 TIMING	130	SEC	1	0	–	–
{52}	MTR2 COMD	0	PCT	0.4	0	–	–
{53}	MTR2 POS	0	PCT	0.4	0	–	–
55	MTR2 TIMING	130	SEC	1	0	–	–
56	DPR1 ROT ANG	90	–	1	0	–	–
57	DPR2 ROT ANG	90	–	1	0	–	–

1. Points not listed are not used in this application.

2. A single value in a column means that the value is the same in English units and in SI units.

3. Point numbers that appear in brackets { } may be unbundled at the field panel.

Table 2290-2. Point Database for Application 2290.

Point Number	Descriptor	Factory Default (SI Units)	Engr. Units (SI Units)	Slope (SI Units)	Intercept (SI Units)	On Text	Off Text
<i>continued on the next page...</i>							
58	MTR SETUP	0	–	1	0	–	–
59	DO DIR.REV	0	–	1	0	–	–
96	CAL TIMER	12	HRS	1	0	–	–
{99}	ERROR STATUS	0	–	1	0	–	–

1. Points not listed are not used in this application.
2. A single value in a column means that the value is the same in English units and in SI units.
3. Point numbers that appear in brackets { } may be unbundled at the field panel.