

SIEMENS

BACnet PTEC Heat Pump Controller

Slave Mode Application 6590

Application Note

Table of Contents

Overview 4
BACnet 4
Using Auxiliary Points..... 4
Using the Controller as a Point Extension Device..... 4
Application 6590 Point Database 5

Overview

Application 6590 is the slave mode application for the Siemens BACnet PTEC Heat Pump Controller (P/N 550-490P). 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.).

BACnet

The controller communicates using BACnet MS/TP protocol for open communications on BACnet MS/TP networks.

Product	Supported BIBBs	BIBB Name
BTEC	DS-RP-B B	Data Sharing-Read Property-B
	DS-RPM-B	Data Sharing-Read Property Multiple-B
	DS-WP-B	Data Sharing-Write Property-B
	DM-DDB-B	Device Management-Dynamic Device Binding-B
	DM-DOB-B	Device Management-Dynamic Object Binding-B
	DM-DCC-B	Device Management-Device Communication Control-B
	DM-RD-B	Device Management-Reinitialize Device-B
	DM-BR-B	Device Management-Backup and Restore-B
	DM-OCD-B	Device Management-Object Creation and Deletion-B

Using Auxiliary Points

It is possible to have extra points available 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.

Using the Controller as a Point Extension Device

If the controller is used only as a point extension device, with no control application in effect, 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 the Point Database for more information.

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

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

**NOTE:**

If using either a motor or DOs as auxiliary points, be sure to set MTR SETUP to the correct value. If using a pair of DOs to control a motor, the DOs cannot be unbundled or commanded separately. Only MTR1 COMD and MTR2 COMD can be unbundled to control the motors.

Motor Enable/Reverse Values for MTR SETUP. (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 may be used to control a motor. Unbundle AOV1 and command it in voltage to control a 0 to 10V motor.

Application 6590 Point Database

Object Type	Object Instance (Point Number)	Object Name (Descriptor)	Factory Default (SI Units)	Engr Units (SI Units)	Range	Active Text	Inactive Text
AO	CTLR ADDRESS	99	--	255	0-255	--	--
AO	APPLICATION	6590	--	32767	0-32767	--	--
AI	ROOM TEMP	74.0 (23.45)	DEG F (DEG C)	255	48-111.75	--	--
AI	RM STPT DIAL	74.0 (23.45)	DEG F (DEG C)	255	48-111.75	--	--
AI	AUX TEMP	74.0 (23.496)	DEG F (DEG C)	255	37.5-165	--	--
BO	WALL SWITCH	NO	--	1	Binary	YES	NO
BI	DI OVRD SW	OFF	--	1	Binary	ON	OFF
AO	RMTMP OFFSET	0.0 (0.0)	DEG F (DEG C)	255	-63.75	--	--
BI	DI 2	OFF	--	1	Binary	ON	OFF
BI	DI 5	OFF	--	1	Binary	ON	OFF
BI	DI 6	OFF	--	1	Binary	ON	OFF
BO	DAY.NGT	DAY	--	1	Binary	NIGHT	DAY
AO	AOV1	0	VOLTS	1023	0-10.23	--	--
BO	DO 1	OFF	--	1	Binary	ON	OFF
BO	DO 2	OFF	--	1	Binary	ON	OFF
BO	DO 3	OFF	--	1	Binary	ON	OFF
BO	DO 4	OFF	--	1	Binary	ON	OFF
BO	DO 5	OFF	--	1	Binary	ON	OFF
BO	DO 6	OFF	--	1	Binary	ON	OFF
BO	DO 7	OFF	--	1	Binary	ON	OFF
AO	MTR1 COMD	0	PCT	255	0-102	--	--
AO	MTR1 POS	0	PCT	255	0-102	--	--
BO	DO 8	OFF	--	1	Binary	ON	OFF
AO	MTR1 TIMING	130	SEC	511	0-511	--	--
AI	AI 3	0	PCT	255	0-102	--	--
AI	AI 4	74.0 (23.496)	DEG F (DEG C)	255	37.5-165	--	--
AO	AOV2	0	VOLTS	1023	0-10.23	--	--

Object Type	Object Instance (Point Number)	Object Name (Descriptor)	Factory Default (SI Units)	Engr Units (SI Units)	Range	Active Text	Inactive Text
BI	DI 3	OFF	--	1	Binary	ON	OFF
AO	DPR1 ROT ANG	90	--	255	0-255	--	--
BI	DI 4	OFF	--	1	Binary	ON	OFF
AO	MTR SETUP	0	--	255	0-255	--	--
AO	DO DIR.REV	0	--	255	0-255	--	--
AO	CTL TEMP	74.0 (23.45)	DEG F (DEG C)	255	48-111.75	--	--
AO	CAL TIMER	12	HRS	255	0-255	--	--
AO	AOV3	0	VOLTS	1023	0-10.23	--	--
AO	ERROR STATUS	0	--	255	0-255	--	--
BO	PPCL STATE	EMPTY	--	1	Binary	LOADED	EMPTY
AI	RM CO2	1000	PPM	8191	0-8191	--	--
AO	AI 4 OFFSET	0.0 (0.0)	DEG F (DEG C)	255	-63.75	--	--
AO	AI 5 OFFSET	0.0 (0.0)	DEG F (DEG C)	255	-63.75	--	--
AO	STAT SUPV	0	--	255	0-255	--	--
AI	RM RH	50	PCT	255	0-102	--	--