

SIEMENS

BACnet PTEC Extended I/O Controller

Application 6596

Application Note

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Overview

Application 6596 runs on TEC Part Number 550-106 and expands its IO capability. Its purpose is to allow point extension in the PTEC.

Room Temperature Offset (Optional)

TEMP OFFSET is a user-adjustable offset that will compensate for deviations between the value of ROOM TEMP and the actual room temperature. This corrected value is displayed in CTL TEMP.

$$\text{CTL TEMP} = \text{ROOM TEMP} + \text{TEMP OFFSET}$$

Example

If the actual room temperature is 72.0°F, and the value of ROOM TEMP is 73.0°F, then the value entered into TEMP OFFSET is –1.0. In this case, the value of ROOM TEMP would read 73.0°F, but the value of CTL TEMP would read 72.0°F.

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 the Controller as a Point Extension Device

Since the controller is used only as a point extension device, with no control application in effect, all the points must be unbundled at the field panel. These points must be controlled from the field panel in order to be used.



NOTE:

Application 6596 allows the inputs at AI 3, AI 4, and AI 5, which are normally analog, to be used as spare DIs if desired.





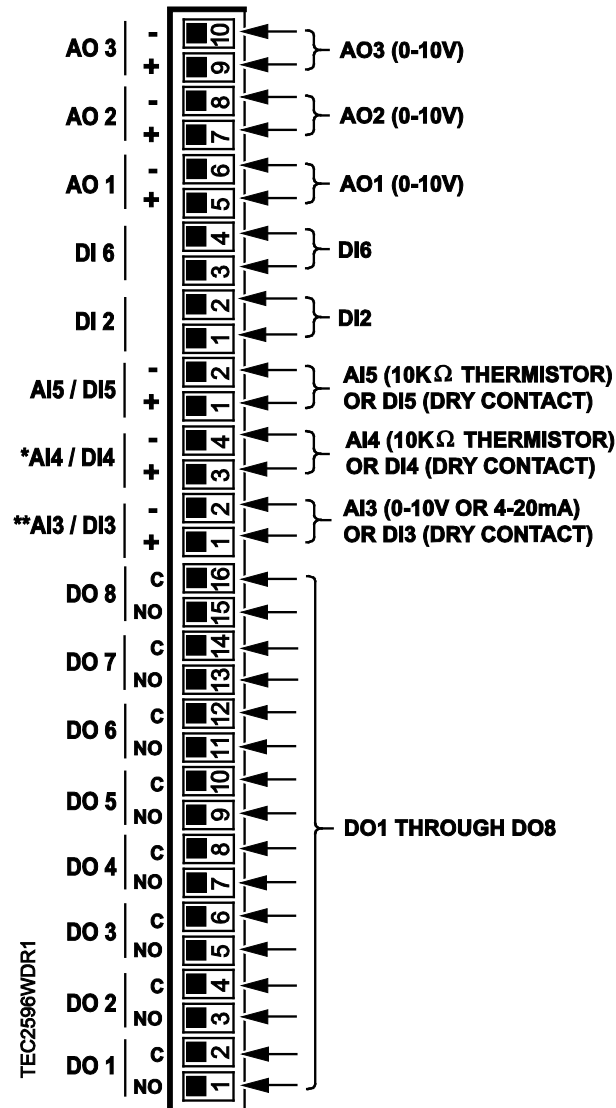
AI4/AI5 OFFSET (Optional)

AI 4 OFFSET works like RMTMP OFFSET. It can be used to calibrate AI4 aux temp sensor input if necessary. The actual temperature plus AI 4 OFFSET will equal AI4 display temperature.

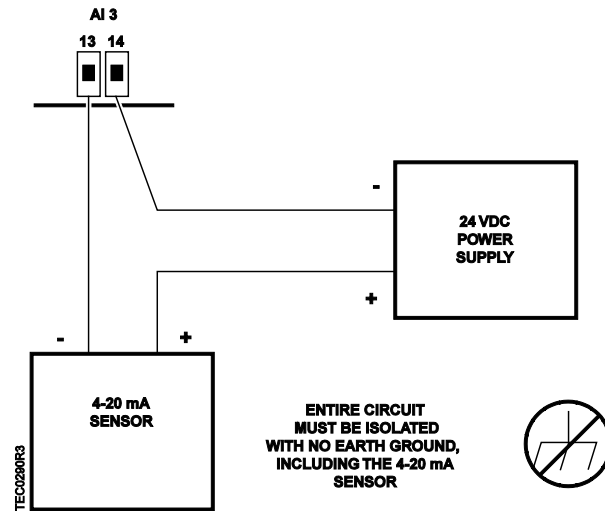
AI 5 OFFSET works the same as AI 4 OFFSET.

Wiring Diagram

	<div> CAUTION</div> <p>The controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. An external interposing relay is required for any of the following:</p> <ul style="list-style-type: none">• VA requirements higher than the maximum• 110 or 220 Vac requirements• DC power requirements• Separate transformers used to power the load. <p>(for example part number 540-147, Terminal Equipment Controller Relay Module)</p>
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Application 6596 Wiring Diagram.



NOTE: You can NOT use the same transformer to power the controller and a 4-20 mA sensor. The 4-20 mA sensor requires a SEPARATE dedicated power supply.

Wiring for AI3 with a 4 to 20mA Sensor.

Application 6596 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	1	CTLR ADDRESS	99	--	0-255	--	--
AO	2	APPLICATION	6596	--	0-32767	--	--
AO	3	RMTMP OFFSET	0.0 (0.0)	DEG F (DEG C)	-63.75	--	--
AI	{04}	ROOM TEMP	74.0 (23.45)	DEG F (DEG C)	48-111.75	--	--
AI	{13}	RM STPT DIAL	74.0 (23.45)	DEG F (DEG C)	48-111.75	--	--
AI	{15}	AI 5	74.0 (23.496)	DEG F (DEG C)	37.5-165	--	--
AI	{17}	AI 3	0	PCT	0-102	--	--
AI	{18}	AI 4	74.0 (23.496)	DEG F (DEG C)	37.5-165	--	--
BI	{19}	DI OVRD SW	OFF	--	Binary	ON	OFF
BI	{22}	DI 2	OFF	--	Binary	ON	OFF
BI	{23}	DI 3	OFF	--	Binary	ON	OFF
BI	{24}	DI 4	OFF	--	Binary	ON	OFF
BI	{25}	DI 5	OFF	--	Binary	ON	OFF
BI	{26}	DI 6	OFF	--	Binary	ON	OFF
BO	{29}	DAY.NGT	DAY	--	Binary	NIGHT	DAY
AO	40	DO DIR.REV	0	--	0-255	--	--
BO	{41}	DO 1	OFF	--	Binary	ON	OFF
BO	{42}	DO 2	OFF	--	Binary	ON	OFF
BO	{43}	DO 3	OFF	--	Binary	ON	OFF
BO	{44}	DO 4	OFF	--	Binary	ON	OFF
BO	{45}	DO 5	OFF	--	Binary	ON	OFF
BO	{46}	DO 6	OFF	--	Binary	ON	OFF
BO	{47}	DO 7	OFF	--	Binary	ON	OFF
BO	{48}	DO 8	OFF	--	Binary	ON	OFF
AO	{49}	AOV1	0	VOLTS	0-10.23	--	--
AO	{50}	AOV2	0	VOLTS	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
AO	{51}	AOV3	0	VOLTS	0-10.23	--	--
AO	52	MTR SETUP	0	--	0-255	--	--
AO	{53}	MTR1 COMD	0	PCT	0-102	--	--
AO	{54}	MTR1 POS	0	PCT	0-102	--	--
AO	55	MTR1 TIMING	130	SEC	0-511	--	--
AO	56	MTR1 ROT ANG	90	--	0-255	--	--
AO	{57}	MTR2 COMD	0	PCT	0-102	--	--
AO	{58}	MTR2 POS	0	PCT	0-102	--	--
AO	59	MTR2 TIMING	130	SEC	0-511	--	--
AO	60	MTR2 ROT ANG	90	--	0-255	--	--
AO	{61}	MTR3 COMD	0	PCT	0-102	--	--
AO	{62}	MTR3 POS	0	PCT	0-102	--	--
AO	63	MTR3 TIMING	130	SEC	0-511	--	--
AO	64	MTR3 ROT ANG	90	--	0-255	--	--
AO	{78}	CTL TEMP	74.0 (23.45)	DEG F (DEG C)	48-111.75	--	--
AO	96	CAL TIMER	12	HRS	0-255	--	--
AO	{99}	ERROR STATUS	0	--	0-255	--	--
AO	122	AI 4 OFFSET	0.0 (0.0)	DEG F (DEG C)	-63.75	--	--
AO	123	AI 5 OFFSET	0.0 (0.0)	DEG F (DEG C)	-63.75	--	--
AO	124	STAT SUPV	0	--	0-255	--	--
AI	{125}	RM CO2	1000	PPM	0-8191	--	--
AI	{126}	RM RH	50	PCT	0-102	--	--
BO	{127}	PPCL STATE	EMPTY	--	Binary	LOADED	EMPTY