



Extended I/O BACnet ASC Controller

Application Notes

Application 2596

Table of Contents

Overview	2
Room Temperature Offset	2
BACnet	2
Using the Controller as a Point Extension Device	2

Overview

Application 2596 runs on TEC Part Number 550–491 and expands its IO capability. Its purpose is to allow point extension in the TEC.

Room Temperature Offset

Room Temperature Offset, RMTMP OFFSET, is a user-adjustable offset that will compensate for deviations between the value of ROOM TEMP (Point 4) and the actual room temperature. This corrected value is displayed in CTL TEMP.
 $\text{CTL TEMP} = \text{ROOM TEMP} + \text{RMTMP OFFSET}$.

BACnet

The Extended I/O BACnet ASC Controller communicates using BACnet MS/TP protocol for open communications on BACnet MS/TP networks.

Table 1. Supported BIBBs.

Product	Supported BIBBs	BIBB Name
BTEC	DS-RP-B	Data Sharing-ReadProperty-B
	DS-RPM-B	Data Sharing-ReadPropertyMultiple-B
	DS-WP-B	Data Sharing-WriteProperty-B
	DM-DDB-B	Device Management-Dynamic Device Binding-B
	DM-DOB-B	Device Management-Dynamic Object Binding-B
	DM-DDC-B	Device Management-Device Communication Control-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.



Application 2596 allows the inputs at AI 3, AI 4, and AI 5, which are normally analog, to be used as spare DIs if desired

**CAUTION:**

The Controller's DOs control 24 Vac loads only. The maximum rating is 12 VA for each DO. Use an interposing 220V 4-relay module for any of the following:

- VA requirements higher than the maximum
- 110 or 220 Vac requirements
- DC power requirements
- Separate transformers used to power the load.

Consult with the local representative if terminations are missing or are different.

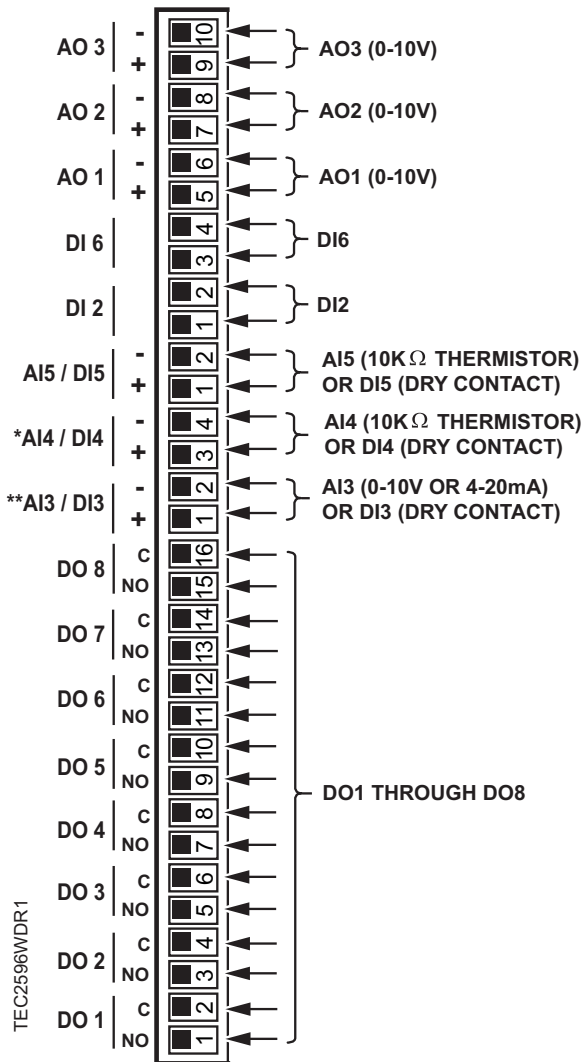
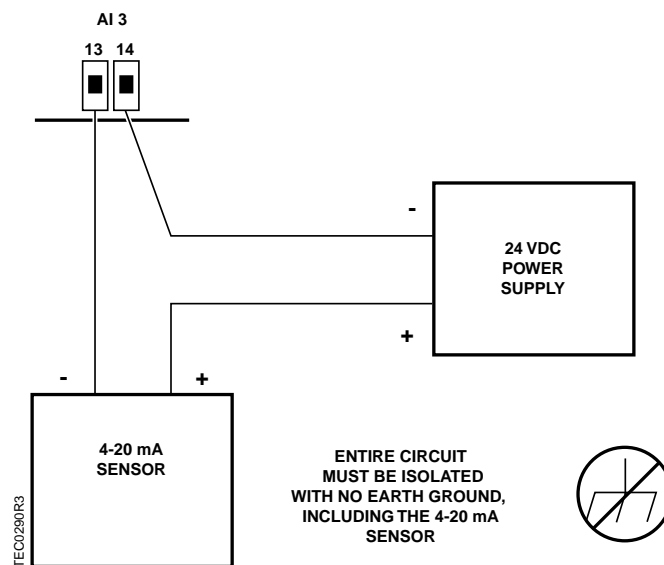


Figure 1. Application 2596 Wiring Diagram.



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.

Figure 2. Wiring Requirements for AI 3(when a 4 to 20 mA Sensor is used).

Table 2. Point Database for Application 2596.

Object Type ^a	Object Instance (Point Number) ^b	Object Name (Descriptor)	Factory Default (SI Units) ^c	Eng. Units (SI Units) ^c	Range	Active Text	Inactive Text
AO	1	CTLR ADDRESS	99	—	0-255	—	—
AO	2	APPLICATION	2596	—	2596	—	—
AO	3	RMTMP OFFSET	0.0 (0.0)	DEG F (DEG C)	-31.75-32	—	—
AI	{04} ^d	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

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Table 2. Point Database for Application 2596. (continued)

Object Type ^a	Object Instance (Point Number) ^b	Object Name (Descriptor)	Factory Default (SI Units) ^c	Eng. Units (SI Units) ^c	Range	Active Text	Inactive Text
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	–	–
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	–	–

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Table 2. Point Database for Application 2596. (continued)

Object Type ^a	Object Instance (Point Number) ^b	Object Name (Descriptor)	Factory Default (SI Units) ^c	Eng. Units (SI Units) ^c	Range	Active Text	Inactive Text
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	{99}	ERROR STATUS	0	–	0- 255	–	–
<p>^a Object Types are; Analog Input (AI), Analog Output (AO), Binary Input (BI) and Binary Output (BO).</p> <p>^b Points not listed are not used in this application.</p> <p>^c A single value in a column means that the value is the same in English units and in SI units.</p> <p>^d Point numbers that appear in brackets {} may be unbundled at the field panel.</p>							