

## BACnet Terminal Box Controller - Electronic Output

### Application Notes

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#### Slave Mode

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## Overview

Application 2587 is the slave mode application for the Terminal Box Controller – Electronic Output with Secure Mode (P/N 540-100C). Slave mode is the default application that comes up when power is first applied to the controller. Slave mode provides no control. Its purpose is to allow the operator to perform equipment checkout before a control application is put into effect and to set some basic controller parameters (CTRLR ADDRESS, APPLICATION, etc.).

## BACnet

The BACnet Terminal Box Controller - Electronic Output 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-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 Auxiliary Points

It is possible to have extra points available on a Terminal Box Controller – Electronic Output 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 Table 2191-1 for point database information.

All DOs may be used as separate DOs. They may also be used in pairs, (DO 1 and DO 2), (DO 3 and DO 4), and (DO 5 and DO 6), to control a motor as shown in the example.



If using either a motor or DOs as auxiliary points, be sure to set MTR SETUP (Point 58) 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 (Point 48) and MTR2 COMD (Point 52) can be unbundled to control the motors.

**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.

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

**Table 2. Point Database for Application 2587.**

Object Type <sup>a</sup>	Object Instance (Point Number) <sup>b</sup>	Object Name and Description	Factory Default (SI Units) <sup>c</sup>	Eng. Units (SI Units) <sup>c</sup>	Range	Active Text	Inactive Text
AO	1	CTLR ADDRESS	99	–	0 to 254	–	–
AO	2	APPLICATION	2587	–	2510 to 2517 and 2587	–	–
AO	3	RMTMP OFFSET	0.0 (0.0)	DEG F (DEG C)	-31.75 to 32.0	–	–
AI	{04} <sup>d</sup>	ROOM TEMP	74.0 (23.44888)	DEG F (DEG C)	48 to 111.75	–	–
BI	{10}	DI 6	OFF	–	Binary	ON	OFF
AI	{13}	RM STPT DIAL	74.0 (23.44888)	DEG F (DEG C)	48 to 111.75	–	–
AI	{15}	AUX TEMP AI5	37.5 (3.055556)	DEG F (DEG C)	37.5 to 165	–	–
BO	18	WALL SWITCH	NO	–	Binary	YES	NO
BI	{19}	DI OVRD SW	OFF	–	Binary	ON	OFF
BI	{24}	DI 2	OFF	–	Binary	ON	OFF
BI	{25}	DI 5	OFF	–	Binary	ON	OFF
BO	{29}	DAY.NGT	DAY	–	Binary	NIGHT	DAY
AI	{35}	AIR VOLUME	0 (0.0)	CFM (LPS)	0 to 131068	–	–
AO	36	FLOW COEFF	1	–	0 to 2.55	–	–
AO	{37}	MTR3 COMD	0	PCT	0 to 102	–	–
AO	{38}	MTR3 POS	0	PCT	0 to 102	–	–
AO	39	MTR3 TIMING	130	SEC	0 to 511	–	–
BO	{41}	DO 1	OFF	–	Binary	ON	OFF

*continued on next page...*

Table 2. Point Database for Application 2587. (continued)

Object Type <sup>a</sup>	Object Instance (Point Number) <sup>b</sup>	Object Name and Description	Factory Default (SI Units) <sup>c</sup>	Eng. Units (SI Units) <sup>c</sup>	Range	Active Text	Inactive Text
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
AO	{48}	MTR1 COMD	0	PCT	0 to 102	–	–
AO	{49}	MTR1 POS	0	PCT	0 to 102	–	–
AO	51	MTR1 TIMING	95	SEC	0 to 511	–	–
AO	{52}	MTR2 COMD	0	PCT	0 to 102	–	–
AO	{53}	MTR2 POS	0	PCT	0 to 102	–	–
AO	55	MTR2 TIMING	130	SEC	0 to 511	–	–
AO	56	DPR1 ROT ANG	90	–	0 to 255	–	–
AO	57	DPR2 ROT ANG	90	–	0 to 255	–	–
AO	58	MTR SETUP	0	–	0 to 255	–	–
AO	59	DO DIR. REV	0	–	0 to 255	–	–
BO	87	CAL MODULE	NO	–	Binary	YES	NO
BO	{94}	CAL AIR	NO	–	Binary	YES	NO
AO	95	CAL SETUP	4	–	0 to 255	–	–
AO	96	CAL TIMER	12	HRS	0 to 255	–	–
AO	97	DUCT AREA	1.0 (0.09292)	SQ. FT (SQ M)	0 to 6.375	–	–
AO	{99}	ERROR STATUS	0	–	0 to 255	–	–

<sup>a</sup> Object Types are; Analog Input (AI), Analog Output (AO), Binary Input (BI) and Binary Output (BO).

<sup>b</sup> Points not listed are not used in this application.

<sup>c</sup> A single value in a column means that the value is the same in English units and in SI units.

<sup>d</sup> Point numbers that appear in brackets {} may be unbundled at the field panel.