

SIEMENS



TEC Controller

VAV 0-10V Fan Control with Hot Water Heat, Slave Mode 2235

Application Note

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Overview

Application 2235 is the slave mode application for the TEC VAV 0-10V Fan Control with Hot Water Heat (540-511AN). 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 (CTRLR ADDRESS, APPLICATION, and so on.).

Hardware Inputs

Analog

- Air velocity sensor
- Room temperature sensor
- Room temperature setpoint dial
- Two temperature sensor (100K Ω thermistor) or Digital Input
- Analog sensor (0-10 Vdc or 4-20 mA) or Digital Input

Digital

- Two Digital Inputs

Hardware Outputs

Analog

Three Analog Outputs (0-10 Vdc)

Digital

- Eight Digital Outputs
- Floating control actuators (up to three)

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 will 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.

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 (DMPR COMD) at the field panel to command the motor from the field panel.



NOTE:

If more than one Motor must be set up, contact your local Siemens Industry representative for more information.

Application 2235 Point Database

Point Number	Descriptor	Factory Default (SI Units) ²	Eng Units (SI Units)	Slope (SI Units)	Intercept (SI Units)	On Text	Off Text
1	CTLR ADDRESS	99	--	1	0	--	--
2	APPLICATION	2235	--	1	0	--	--
{04}	ROOM TEMP	74.0 (23.44888)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.88888)	--	--
10	MTR3 TIMING	130	SEC	1	0	--	--
{13}	RM STPT DIAL	74.0 (23.44888)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.88888)	--	--
{15}	AI 5	74.0 (23.495556)	DEG F (DEG C)	0.5 (0.28)	37.5 (3.055556)	--	--
18	WALL SWITCH	NO	--	--	--	YES	NO
{19}	DI OVRD SW	OFF	--	--	--	ON	OFF
{24}	DI 2	OFF	--	--	--	ON	OFF
{25}	DI 5	OFF	--	--	--	ON	OFF
{35}	AIR VOLUME	0 (0.0)	CFM (LPS)	4 (1.8876)	0	--	--
36	FLOW COEFF	1	--	0.01	0	--	--
{40}	DI 6	OFF	--	--	--	ON	OFF
{41}	DO 1	OFF	--	--	--	ON	OFF
{42}	DO 2	OFF	--	--	--	ON	OFF
{43}	DO 3	OFF	--	--	--	ON	OFF
{44}	DO 4	OFF	--	--	--	ON	OFF
{45}	DO 5	OFF	--	--	--	ON	OFF
{46}	DO 6	OFF	--	--	--	ON	OFF
{47}	DO 7	OFF	--	--	--	ON	OFF
{48}	MTR1 COMD	0	PCT	0.4	0	--	--
{49}	MTR1 POS	0	PCT	0.4	0	--	--
{50}	DO 8	OFF	--	--	--	ON	OFF
51	MTR1 TIMING	95	SEC	1	0	--	--
{52}	MTR2 COMD	0	PCT	0.4	0	--	--
{53}	MTR2 POS	0	PCT	0.4	0	--	--
{54}	MTR3 COMD	0	PCT	0.4	0	--	--
55	MTR2 TIMING	130	SEC	1	0	--	--
56	DPR1 ROT ANG	90	--	1	0	--	--
{57}	MTR3 POS	0	PCT	0.4	0	--	--
58	MTR SETUP	0	--	1	0	--	--

Point Number	Descriptor	Factory Default (SI Units) ²	Eng Units (SI Units)	Slope (SI Units)	Intercept (SI Units)	On Text	Off Text
59	DO DIR. REV	0	--	1	0	--	--
{63}	AI 3	0	PCT	0.4	0	--	--
{64}	DI 3	OFF	--	--	--	ON	OFF
{66}	AOV 1	0	VOLTS	0.01	0	--	--
{67}	AI 4	74.0 (23.495556)	DEG F (DEG C)	0.5 (0.28)	37.5 (3.055556)	--	--
{68}	DI 4	OFF	--	--	--	ON	OFF
{70}	AOV 2	0	VOLTS	0.01	0	--	--
{78}	CTL TEMP	74.0 (23.44888)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.88888)	--	--
{91}	AOV 3	0	VOLTS	0.01	0	--	--
{94}	CAL AIR	NO	--	--	--	YES	NO
95	CAL SETUP	4	--	1	0	--	--
1	CTLR ADDRESS	99	--	1	0	--	--
2	APPLICATION	2235	--	1	0	--	--
{04}	ROOM TEMP	74.0 (23.44888)	DEG F (DEG C)	0.25 (0.14)	48.0 (8.88888)	--	--

- 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.

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