

Systems Integration

APOGEE® Integration to Siemens Building Technologies LONWORKS® Devices: Desigo RXC20/RXC21 FNC03



Application 8463 replaces 8464.

Table 1. RXC20 and RXC21 APOGEE Points, Application Number: 8463, Program ID: 90:00:19:55:00:03:04:25.

Point	Type	Subpoint Name	Description	Range/Units ^{a b c}	Slp ^c	Int ^c
1	LAO	SpaceTempIn	Space Temperature Command In	°F °C	0.018 0.01	32 0
2	LAI	SpaceTemp	Space Temperature	°F °C	0.018 0.01	32 0
3	LENUM	OpMode	Mode	See Table 2	—	—
9	LDI	InAlarm	In Alarm	Normal/Alarm	—	—
11	LAO	SetPntOffset	Setpoint Offset	°F °C	0.018 0.01	0 0
12	LAO	SpSh_OccCool	Setpoint Shift Occupied Cool	°F °C	0.018 0.01	0 0
13	LAO	SpSh_SbyCool	Setpoint Shift Standby Cool	°F °C	0.018 0.01	0 0
14	LAO	SpSh_UnoCool	Setpoint Shift Unoccupied Cool	°F °C	0.018 0.01	0 0
15	LAO	SpSh_OccHeat	Setpoint Shift Occupied Heat	°F °C	0.018 0.01	0 0
16	LAO	SpSh_SbyHeat	Setpoint Shift Standby Heat	°F °C	0.018 0.01	0 0
17	LAO	SpSh_UnoHeat	Setpoint Shift Unoccupied Heat	°F °C	0.018 0.01	0 0
18	LENUM	CurState	Current State	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—

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Table 1. RXC20 and RXC21 APOGEE Points, Application Number: 8463, Program ID: 90:00:19:55:00:03:04:25. (continued)

Point	Type	Subpoint Name	Description	Range/Units ^{a b c}	Slp ^c	Int ^c
19	LENUM	NextState	Next State	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
20	LAO	TimeToNextSt	Time to Next State	min	1.0	0
21	LENUM	OccManCmd	Occupied Manual Command	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
22	LENUM	OccSensorIn	Occupied Sensor Command In	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
23	LENUM	ApplModeCmd	Application Mode Command	See Table 2	—	—
24	LENUM	HeatCoolCmd	Heat Cool Command	See Table 2	—	—
25	LAO	FanSpdCmd_V	Fan Speed Command Value	%	0.5	0
26	LAO	FanSpdCmd_S	Fan Speed Command State		1.0	0
29	LAO	AuxHeatEn_V	Auxiliary Heat Enable Value	%	0.5	0
30	LAO	AuxHeatEn_S	Auxiliary Heat Enable State		1.0	0
33	LAO	EngyHldCmd_V	Energy Hold Command Value	%	0.5	0
34	LAO	EngyHldCmd_S	Energy Hold Command State		1.0	0
35	LENUM	ValveOvrd_S	Valve Override State	See Table 3	—	—
36	LAO	ValveOvrd_P	Valve Override Percent	%	0.005	0
37	LAO	ValveOvrd_F	Valve Override Flow	cfm Lps	2.119 1.0	0 0
51	LENUM	EffectOcc	Effective Occupancy	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
60	LAI	FanSpeed_OPV	Fan Speed Value	%	0.5	0
61	LDI	FanSpeed OPS	Fan Speed State	Off/On	—	—
63	LAI	LoadAbs	Load	W	0.1	0
65	LAI	TerminalLoad	Terminal Load	%	0.005	0
66	LAI	HeatPrim	Heat Primary	%	0.005	0
67	LAI	HeatSec	Heat Secondary	%	0.005	0
68	LAI	CoolPrim	Cool Primary	%	0.005	0
77	LAI	EngyHold_V	Energy Hold Value	%	0.5	0

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Table 1. RXC20 and RXC21 APOGEE Points, Application Number: 8463, Program ID: 90:00:19:55:00:03:04:25. (continued)

Point	Type	Subpoint Name	Description	Range/Units ^{a b c}	Slp ^c	Int ^c
78	LDI	EngyHold_S	Energy Hold State	Off/On	—	—
88	LAI	ESP_OccCool	Effective Setpoint Occupied Cool	°F °C	0.018 0.01	32 0
89	LAI	ESP_SbyCool	Effective Setpoint Standby Cool	°F °C	0.018 0.01	32 0
90	LAI	ESP_UnocCool	Effective Setpoint Unoccupied Cool	°F °C	0.018 0.01	32 0
91	LAI	ESP_OccHeat	Effective Setpoint Occupied Heat	°F °C	0.018 0.01	32 0
92	LAI	ESP_SbyHeat	Effective Setpoint Standby Heat	°F °C	0.018 0.01	32 0
93	LAI	ESP_UnocHeat	Effective Setpoint Unoccupied Heat	°F °C	0.018 0.01	32 0
94	LAI	SetPntOffsFb	Setpoint Offset Feedback	°F °C	0.018 0.01	0 0
95	LAI	TempSensor	Temperature Sensor	°F °C	0.018 0.01	32 0
96	LENUM	OccSensor	Occupied Sensor	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
97	LAI	TempSensPPS	Room Temperature Sensor	°F °C	0.018 0.01	32 0
98	LENUM	UseSCur_In	Use State Current Command In	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
99	LENUM	UseSNext_In	Use State Next Command In	0=Oc_Occupied 1=Oc_Unoccupied 2=Oc_Bypass 3=Oc_Standby 255=Oc_Nul	—	—
100	LAO	UseTTNxt_In	Use Time to Next Command In	min	1.0	0
103	LAO	Ctrl_Y3_V	Control Y3 Value	%	0.5	0
104	LDO	Ctrl_Y3_S	Control Y3 State	Off/On	—	—
105	LAO	Ctrl_Y4_V	Control Y4 Value	%	0.5	0
106	LDO	Ctrl_Y4_S	Control Y4 State	Off/On	—	—
107	LAO	Ctrl_Q24_V	Control Q24 Value	%	0.5	0
108	LDO	Ctrl_Q24_S	Control Q24 State	Off/On	—	—
109	LAO	Ctrl_Q34_V	Control Q34 Value	%	0.5	0
110	LDO	Ctrl_Q34_S	Control Q34 State	Off/On	—	—

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Table 1. RXC20 and RXC21 APOGEE Points, Application Number: 8463, Program ID: 90:00:19:55:00:03:04:25. (continued)

Point	Type	Subpoint Name	Description	Range/Units ^{a b c}	Slp ^c	Int ^c
111	LAI	D1_V	Input D1 Value	%	0.5	0
112	LDI	D1_S	Input D1 State	Off/On	—	—
113	LAI	D2_V	Input D2 Value	%	0.5	0
114	LDI	D2_S	Input D2 State	Off/On	—	—
200	LAO	SP_OccCool	Setpoint Occupied Cool	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
201	LAO	SP_SbyCool	Setpoint Standby Cool	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
202	LAO	SP_UnoccCool	Setpoint Unoccupied Cool	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
203	LAO	SP_OccHeat	Setpoint Occupied Heat	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
204	LAO	SP_SbyHeat	Setpoint Standby Heat	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
205	LAO	SP_UnoccHeat	Setpoint Unoccupied Heat	°F °C	0.018 <i>0.01</i>	32 <i>0</i>
206	LAO	SP_RcvHrtBt	Setpoint Receive Heartbeat	sec	0.1	0

^a Values noted for LDIs and LDOs are in the following format: OFF text/ON text.
^b This column indicates the value/range or engineering units or both if known.
^c The default English value is not italicized. An italicized entry indicates an SI value.

Table 2. HVAC Mode/Status (hvac_t).

Value	Description
0	Hvac_Auto
1	Hvac_Heat
2	Hvac_Mrng_Wrmup
3	Hvac_Cool
4	Hvac_Night_Purge
5	Hvac_Pre_Cool
6	Hvac_Off
7	Hvac_Test
8	Hvac_Emerg_Heat
9	Hvac_Fan_Only

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Table 2. HVAC Mode/Status (hvac_t). (continued)

Value	Description
10	Hvac_Free_Cool
11	Hvac_Ice
255	Hvac_Nul

Table 3. HVAC Override Type (hvac_overid_t).

Value	Description
0	Hvo_Off
1	Hvo_Position
2	Hvo_Flow_Value
3	Hvo_Flow_Percent
4	Hvo_Open
5	Hvo_Close
6	Hvo_Minimum
7	Hvo_Maximum
8	Hvo_Unused8
9	Hvo_Unused9
10	Hvo_Unused10
11	Hvo_Unused11
12	Hvo_Unused12
13	Hvo_Unused13
14	Hvo_Unused14
15	Hvo_Unused15
16	Hvo_Unused16
17	Hvo_Position_1
18	Hvo_Flow_Value_1
19	Hvo_Flow_Percent_1
20	Hvo_Open_1
21	Hvo_Close_1
22	Hvo_Minimum_1
23	Hvo_Maximum_1
24	Hvo_Unused24
25	Hvo_Unused25
26	Hvo_Unused26
27	Hvo_Unused27
28	Hvo_Unused28
29	Hvo_Unused29

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Table 3. HVAC Override Type (hvac_overid_t). (continued)

Value	Description
30	Hvo_Unused30
31	Hvo_Unused31
32	Hvo_Unused32
33	Hvo_Position_2
34	Hvo_Flow_Value_2
35	Hvo_Flow_Percent_2
36	Hvo_Open_2
37	Hvo_Close_2
38	Hvo_Minimum_2
39	Hvo_Maximum_2
40	Hvo_Unused40
41	Hvo_Unused41
42	Hvo_Unused42
43	Hvo_Unused43
44	Hvo_Unused44
45	Hvo_Unused45
46	Hvo_Unused46
47	Hvo_Unused47
48	Hvo_Unused48
255	Hvo_Nul

Table 4. RXC20 and RXC21 LONWORKS Network Variables, Program ID: 90:00:19:55:00:03:04:25.

Point	Subpoint Name	NVO Name	NVI Name	CP Name
1	SpaceTempIn	-	nviSpaceTemp	nviSpaceTemp
2	SpaceTemp	nvoSpaceTemp	-	-
3	OpMode	nvoUnitStatus.mode	-	-
9	InAlarm	nvoUnitStatus.in_alarm	-	-
11	SetPntOffset	-	nviSetptOffset	nviSetptOffset
12	SpSh_OccCool	-	nviSetptShift.occupied_cool	nviSetptShift.occupied_cool
13	SpSh_SbyCool	-	nviSetptShift.standby_cool	nviSetptShift.standby_cool
14	SpSh_UnoCool	-	nviSetptShift.unoccupied_cool	nviSetptShift.unoccupied_cool
15	SpSh_OccHeat	-	nviSetptShift.occupied_heat	nviSetptShift.occupied_heat
16	SpSh_SbyHeat	-	nviSetptShift.standby_heat	nviSetptShift.standby_heat
17	SpSh_UnoHeat	-	nviSetptShift.unoccupied_heat	nviSetptShift.unoccupied_heat
18	CurState	-	nviOccSchedule.current_state	nviOccSchedule.current_state
19	NextState	-	nviOccSchedule.next_state	nviOccSchedule.next_state
20	TimeToNextSt	-	nviOccSchedule.time_to_next_state	nviOccSchedule.time_to_next_state
21	OccManCmd	-	nviOccManCmd	nviOccManCmd
22	OccSensorIn	-	nviOccSensor	nviOccSensor
23	AppiModeCmd	-	nviApplicMode	nviApplicMode
24	HeatCoolCmd	-	nviHeatCool	nviHeatCool
25	FanSpdCmd_V	-	nviFanSpeedCmd.value	nviFanSpeedCmd.value
26	FanSpdCmd_S	-	nviFanSpeedCmd.state	nviFanSpeedCmd.state
29	AuxHeatEn_V	-	nviAuxHeatEnable.value	nviAuxHeatEnable.value
30	AuxHeatEn_S	-	nviAuxHeatEnable.state	nviAuxHeatEnable.state
33	EngyHldCmd_V	-	nviEnergyHoldOff.value	nviEnergyHoldOff.value
34	EngyHldCmd_S	-	nviEnergyHoldOff.state	nviEnergyHoldOff.state
35	ValveOvrd_S	-	nviValveOverride.state	-
36	ValveOvrd_P	-	nviValveOverride.percent	-
37	ValveOvrd_F	-	nviValveOverride.flow	-
51	EffectOcc	nvoEffectOccup	-	-
60	FanSpeed_OPV	nvoFanSpeed.value	-	-
61	FanSpeed_OPS	nvoFanSpeed.state	-	-

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Table 4. RXC20 and RXC21 LONWORKS Network Variables, Program ID: 90:00:19:55:00:03:04:25. (continued)

Point	Subpoint Name	NVO Name	NVI Name	CP Name
63	LoadAbs	nvoLoadAbs	-	-
65	TerminalLoad	nvoTerminalLoad	-	-
66	HeatPrim	nvoHeatPrimary	-	-
67	HeatSec	nvoHeatSecondary	-	-
68	CoolPrim	nvoCoolPrimary	-	-
77	EngyHold_V	nvoEnergyHoldOff.value	-	-
78	EngyHold_S	nvoEnergyHoldOff.state	-	-
88	ESP_OccCool	nvoSetptEffect.occupied_cool	-	-
89	ESP_SbyCool	nvoSetptEffect.standby_cool	-	-
90	ESP_UnocCool	nvoSetptEffect.unoccupied_cool	-	-
91	ESP_OccHeat	nvoSetptEffect.occupied_heat	-	-
92	ESP_SbyHeat	nvoSetptEffect.standby_heat	-	-
93	ESP_UnocHeat	nvoSetptEffect.unoccupied_heat	-	-
94	SetPntOffsFb	nvoSetptOffset	-	-
95	TempSensor	nvoTempSensor	-	-
96	OccSensor	nvoOccSensor	-	-
97	TempSensPPS	nvoTempSensorPPS	-	-
98	UseSCur_In	-	nviUseSchedule.current_state	-
99	UseSNext_In	-	nviUseSchedule.next_state	-
100	UseTTNxt_In	-	nviUseSchedule.time_to_next_state	-
103	Ctrl_Y3_V	-	nviCtrl_Y3.value	nviCtrl_Y3.value
104	Ctrl_Y3_S	-	nviCtrl_Y3.state	nviCtrl_Y3.state
105	Ctrl_Y4_V	-	nviCtrl_Y4.value	nviCtrl_Y4.value
106	Ctrl_Y4_S	-	nviCtrl_Y4.state	nviCtrl_Y4.state
107	Ctrl_Q24_V	-	nviCtrl_Q24.value	nviCtrl_Q24.value
108	Ctrl_Q24_S	-	nviCtrl_Q24.state	nviCtrl_Q24.state
109	Ctrl_Q34_V	-	nviCtrl_Q34.value	nviCtrl_Q34.value
110	Ctrl_Q34_S	-	nviCtrl_Q34.state	nviCtrl_Q34.state
111	D1_V	nvoCtrl_D1.value	-	-
112	D1_S	nvoCtrl_D1.state	-	-

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Table 4. RXC20 and RXC21 LONWORKS Network Variables, Program ID: 90:00:19:55:00:03:04:25. (continued)

Point	Subpoint Name	NVO Name	NVI Name	CP Name
113	D2_V	nvoCtrl_D2.value	-	-
114	D2_S	nvoCtrl_D2.state	-	-
200	SP_OccCool	-	-	nciSetpoints.occupied_cool
201	SP_SbyCool	-	-	nciSetpoints.standby_cool
202	SP_UnoccCool	-	-	nciSetpoints.unoccupied_cool
203	SP_OccHeat	-	-	nciSetpoints.occupied_heat
204	SP_SbyHeat	-	-	nciSetpoints.standby_heat
205	SP_UnoccHeat	-	-	nciSetpoints.unoccupied_heat
206	SP_RcvHrtBt	-	-	SCPTmaxRcvTime

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