

SpaceLogic™ Touchscreen Room Controllers

SXWTRCn500 Modbus Integration Guide

Firmware Revision 1.0

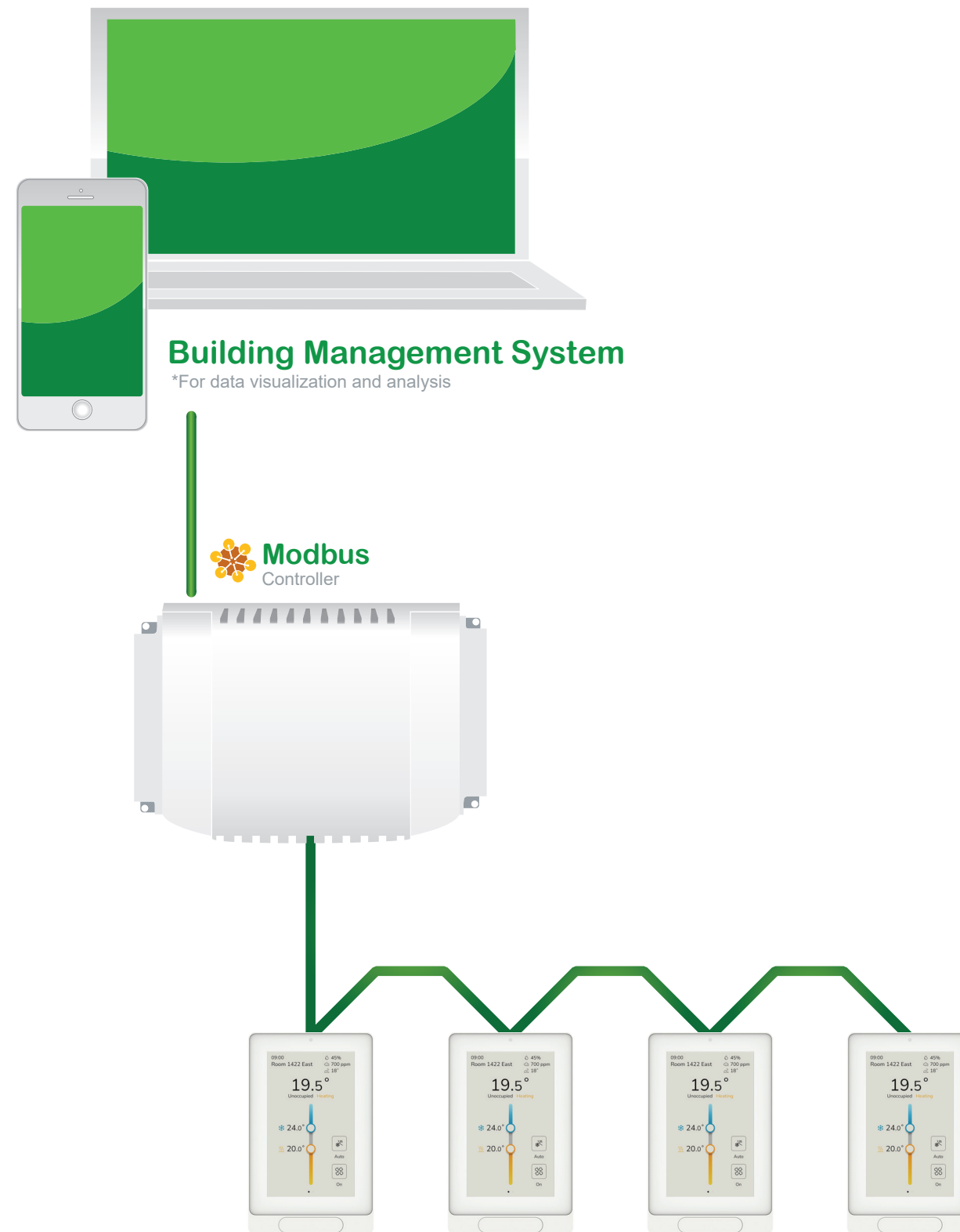


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Introduction

Modbus is an application-layer messaging protocol which is independent of the physical network layer. A Modbus serial line can be integrated into Modbus TCP networks, using simple gateways.

Modbus Specifications

The SpaceLogic™ Touchscreen Room Controller acts as a Modbus slave by using its RS485 port. As BACnet and Modbus use the same RS485 port, a setup menu allows switching between the two protocols.

Modbus Specific Read-Only Points

The below points serve to identify the version Numbers for all Touchscreen Room Controllers.

Modbus point type	Description	Modbus functions available	Modbus Register	Modbus Address
16-bit Input	Hardware Revision	4	9001	39001
16-bit Input	Software Version Major	4	9002	39002
16-bit Input	Software Version Minor	4	9003	39003
16-bit Input	Software Version Revision	4	9004	39004
16-bit Input	Software Version Build	4	9005	39005
16-bit Input	Model Number	4	9006	39006

Configuration

The screenshot shows a 'Modbus' configuration menu with the following settings:

- Network Type: RTU
- COM Address: 254
- Network Units: Imperial
- Baud Rate: 19200
- Parity: Even

At the bottom of the screen are 'Ok' and 'Cancel' buttons.

- Modbus ID is the same as already defined in COM address for BACnet & ZigBee
- Network units can be changed to SI or Imperial
- The baudrate can be: 4800 / 9600 / 19200 / 38400 / 57600
- The data bits are always 8
- The parity can be: none, odd or even. In case of parity odd or even, 1 stop bit is used, otherwise 2 stop bits are used

Configuration Parameters Default Value	Significance and Adjustments
Network Type Default value: Disabled	Network Type RTU: Only available if the BACnet Network Type is set to MSTP. Choices: 1=Disabled, 2=RTU
COM Address Default value: 254	COM Address Room Controller networking address. NOTE: A COM Address may be shared between Modbus and BACnet/MSTP. Range: 0 to 254
Network Units Default value: Imperial	Network Units Network units transmitted over the Modbus network. NOTE: Use the Temperature scale parameter to change the display units locally on the Room Controller. <ul style="list-style-type: none"> • SI: Network units shown as International Metric units. • Imperial: Network units shown as Imperial units. Choices: 1=SI, 2=Imperial
Baud Rate Default value: 19200	Baud Rate Automatically detects Modbus baud rate. Choices: 1=4800, 2=9600, 3=19200, 4=38400, 5=57600
Parity Default value: Even	Parity Determines how the parity bit of the character's data frame is set to detect any errors in the sent/receives frame. Choices: 1=None, 2=Odd, 3=Even

Mapping

The mapping is directly based on database IDs.

The correspondence is the following:

function 1, register 1 (Modbus addr 1)	<=>	DB id 0x6000 (BOs)
function 1/5, register 5001 (Modbus addr 5001)	<=>	DB id 0x4000 (BVs)
function 2, register 1 (Modbus addr 10001)	<=>	DB id 0x5000 (BIs)
function 4, register 1 (Modbus addr 30001)	<=>	DB id 0x3000 (AHVs)
function 4, register 1001 (Modbus addr 31001)	<=>	DB id 0x7000 (AIs)
function 4, register 5001 (Modbus addr 35001)	<=>	DB id 0xC000 (MSIs)
function 3/6, register 1 (Modbus addr 40001)	<=>	DB id 0x1000 (MVs)
function 3/6, register 4001 (Modbus addr 44001)	<=>	DB id 0x2000 (AVs)
function 3, register 8001 (Modbus addr 48001)	<=>	DB id 0x8000 (AOs)
function 3, register 9001 (Modbus addr 49001)	<=>	DB id 0x9000 (AHOs)

A special range of addresses is used to identify the device: function 4, register 9001 (Modbus addr 39001)

General Modbus Functions

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
DO1 Binary Output	1	1	1	1=Off	1=Off, 2=On	Terminals	3500
DO1 Occupancy Output	1	1	1	1=Off	1=Off, 2=On	Terminals	6500
DO2 Low Speed Fan Output	2	2	1	1=Off	1=Off, 2=On	Terminals	3500
Y2 Status	2	2	1	1=Off	1=Off, 2=On	Terminals	6500
DO3 Medium Speed Fan Output	3	3	1	1=Off	1=Off, 2=On	Terminals	3500
Y1 Status	3	3	1	1=Off	1=Off, 2=On	Terminals	6500
DO4 High Speed Fan Output	4	4	1	1=Off	1=Off, 2=On	Terminals	3500
G Fan Status	4	4	1	1=Off	1=Off, 2=On	Terminals	6500
DO5 Auxiliary Binary Output	5	5	1	1=Off	1=Off, 2=On	Terminals	3500
W1 Status	5	5	1	1=Off	1=Off, 2=On	Terminals	6500
DO6 Binary Output	6	6	1	1=Off	1=Off, 2=On	Terminals	3500
W2-OB Status	6	6	1	1=Off	1=Off, 2=On	Terminals	6500
DO7 Binary Output	7	7	1	1=Off	1=Off, 2=On	Terminals	All
DO8 Binary Output	8	8	1	1=Off	1=Off, 2=On	Terminals	All
DO9 Binary Output	9	9	1	1=Off	1=Off, 2=On	Terminals	All

1000+ Modbus Address Functions

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
UI1 Binary	1	10001	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI2 Binary	2	10002	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI3 Binary	3	10003	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI4 Binary	4	10004	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI5 Binary	5	10005	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI6 Binary	6	10006	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI7 Binary	7	10007	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All
UI8 Binary	8	10008	2	1=Activated	1=Activated, 2=Not activ.	Terminals	All

3000+ Modbus Address Functions

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Room Temperature	1	30001	4	0 °F (-18 °C)	-40 to 122 °F (-40 to 50 °C)	Environment	All
Outdoor Temperature	2	30002	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Environment	All
Supply Temperature	3	30003	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Environment	All
Room Humidity	4	30004	4	0 %	0 to 100 %	Environment	All
Changeover Temperature	5	30005	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Economizer	3500
Wired Temperature Sensor	6	30006	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Environment	All
CO2 Level	7	30007	4	0 ppm	0 to 5000 ppm	Environment	All
Airflow Level	8	30008	4	0	0 to 20000	System Status	6500
UI1 Voltage	9	30009	4	0 v	0 to 10 v	Terminals	All
UI2 Voltage	10	30010	4	0 v	0 to 10 v	Terminals	All
UI3 Voltage	11	30011	4	0 v	0 to 10 v	Terminals	All
UI4 Voltage	12	30012	4	0 v	0 to 10 v	Terminals	All
UI5 Voltage	13	30013	4	0 v	0 to 10 v	Terminals	All
UI6 Voltage	14	30014	4	0 v	0 to 10 v	Terminals	All
UI7 Voltage	15	30015	4	0 v	0 to 10 v	Terminals	All
UI8 Voltage	16	30016	4	0 v	0 to 10 v	Terminals	All
UI1 Temperature	17	30017	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI2 Temperature	18	30018	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI3 Temperature	19	30019	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI4 Temperature	20	30020	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI5 Temperature	21	30021	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI6 Temperature	22	30022	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI7 Temperature	23	30023	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI8 Temperature	24	30024	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)	Terminals	All
UI1 Raw Value	1001	31001	4	0	0 to 4095	Terminals	All
UI2 Raw Value	1002	31002	4	0	0 to 4095	Terminals	All
UI3 Raw Value	1003	31003	4	0	0 to 4095	Terminals	All
UI4 Raw Value	1004	31004	4	0	0 to 4095	Terminals	All
UI5 Raw Value	1005	31005	4	0	0 to 4095	Terminals	All
UI6 Raw Value	1006	31006	4	0	0 to 4095	Terminals	All
UI7 Raw Value	1007	31007	4	0	0 to 4095	Terminals	All
UI8 Raw Value	1008	31008	4	0	0 to 4095	Terminals	All
Light Sensor Level	1009	31009	4	0	0 to 30000		All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Relative Humidity Raw Value	1010	31010	4	0 %	0 to 100 %		All
Wireless Device 1 - Temperature	1026	31026	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 2 - Temperature	1027	31027	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 3 - Temperature	1028	31028	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 4 - Temperature	1029	31029	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 5 - Temperature	1030	31030	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 6 - Temperature	1031	31031	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 7 - Temperature	1032	31032	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 8 - Temperature	1033	31033	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 9 - Temperature	1034	31034	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 10 - Temperature	1035	31035	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Effective Setpoint	1040	31040	4	0 °F (-18 °C)	40 to 100 °F (4 to 38 °C)	Operating Status	All
Paired ZigBee Devices	1041	31041	4	0	0 to 20		All
RH Temperature Raw Value	1042	31042	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Wi-Fi Network Signal Strength	1058	31058	4	0 %	0 to 100 %		All
Wireless Device 11 - Temperature	1061	31061	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 12 - Temperature	1062	31062	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 13 - Temperature	1063	31063	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 14 - Temperature	1064	31064	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 15 - Temperature	1065	31065	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 16 - Temperature	1066	31066	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 17 - Temperature	1067	31067	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 18 - Temperature	1068	31068	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 19 - Temperature	1069	31069	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 20 - Temperature	1070	31070	4	0 °F (-18 °C)	-40 to 185 °F (-40 to 85 °C)	Inputs	All
Wireless Device 1 - Humidity	1071	31071	4	0 %	0 to 100 %	Inputs	All
Wireless Device 2 - Humidity	1072	31072	4	0 %	0 to 100 %	Inputs	All
Wireless Device 3 - Humidity	1073	31073	4	0 %	0 to 100 %	Inputs	All
Wireless Device 4 - Humidity	1074	31074	4	0 %	0 to 100 %	Inputs	All
Wireless Device 5 - Humidity	1075	31075	4	0 %	0 to 100 %	Inputs	All
Wireless Device 6 - Humidity	1076	31076	4	0 %	0 to 100 %	Inputs	All
Wireless Device 7 - Humidity	1077	31077	4	0 %	0 to 100 %	Inputs	All
Wireless Device 8 - Humidity	1078	31078	4	0 %	0 to 100 %	Inputs	All
Wireless Device 9 - Humidity	1079	31079	4	0 %	0 to 100 %	Inputs	All
Wireless Device 10 - Humidity	1080	31080	4	0 %	0 to 100 %	Inputs	All
Wireless Device 11 - Humidity	1081	31081	4	0 %	0 to 100 %	Inputs	All
Wireless Device 12 - Humidity	1082	31082	4	0 %	0 to 100 %	Inputs	All
Wireless Device 13 - Humidity	1083	31083	4	0 %	0 to 100 %	Inputs	All
Wireless Device 14 - Humidity	1084	31084	4	0 %	0 to 100 %	Inputs	All
Wireless Device 15 - Humidity	1085	31085	4	0 %	0 to 100 %	Inputs	All
Wireless Device 16 - Humidity	1086	31086	4	0 %	0 to 100 %	Inputs	All
Wireless Device 17 - Humidity	1087	31087	4	0 %	0 to 100 %	Inputs	All
Wireless Device 18 - Humidity	1088	31088	4	0 %	0 to 100 %	Inputs	All
Wireless Device 19 - Humidity	1089	31089	4	0 %	0 to 100 %	Inputs	All
Wireless Device 20 - Humidity	1090	31090	4	0 %	0 to 100 %	Inputs	All
Wireless Device 1 - CO2	1091	31091	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 2 - CO2	1092	31092	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 3 - CO2	1093	31093	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 4 - CO2	1094	31094	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 5 - CO2	1095	31095	4	0 ppm	0 to 5000 ppm	Environment	All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Wireless Device 6 - CO2	1096	31096	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 7 - CO2	1097	31097	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 8 - CO2	1098	31098	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 9 - CO2	1099	31099	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 10 - CO2	1100	31100	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 11 - CO2	1101	31101	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 12 - CO2	1102	31102	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 13 - CO2	1103	31103	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 14 - CO2	1104	31104	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 15 - CO2	1105	31105	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 16 - CO2	1106	31106	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 17 - CO2	1107	31107	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 18 - CO2	1108	31108	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 19 - CO2	1109	31109	4	0 ppm	0 to 5000 ppm	Environment	All
Wireless Device 20 - CO2	1110	31110	4	0 ppm	0 to 5000 ppm	Environment	All
Thermistor 1	1135	31135	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Thermistor 2	1136	31136	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Thermistor 3	1137	31137	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Thermistor 4	1138	31138	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Thermistor 5	1139	31139	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
MCU Temperature	1140	31140	4	0 °F (-18 °C)	-40 to 180 °F (-40 to 82 °C)		All
Effective Occupancy	5001	35001	4	1=Occupied	1=Occupied, 2=Unoccupied, 3=Override, 4=Standby	Operating Status	All
ZigBee Network Status	5003	35003	4	1=Not det.	1=Not det., 2=Pwr on, 3=No NWK, 4=Joined, 5=Online		All
Weekday	5005	35005	4		1=Monday, 2=Tuesday, 3=Wed., 4=Thursday, 5=Friday, 6=Saturday, 7=Sunday	Occupancy Schedule	All
Program Status	5006	35006	4		1=Idle, 2=Loading, 3=Running, 4=Waiting, 5=Halted, 6=Unloading	Lua Status	All
Program Error	5007	35007	4		1=No error, 2=Yield, 3=Runtime, 4=Syntax, 5=Memory, 6=Double err	Lua Status	All
Wireless Device 1 - Status	5008	35008	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 2 - Status	5009	35009	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 3 - Status	5010	35010	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 4 - Status	5011	35011	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 5 - Status	5012	35012	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 6 - Status	5013	35013	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 7 - Status	5014	35014	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 8 - Status	5015	35015	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 9 - Status	5016	35016	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 10 - Status	5017	35017	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 1 - Battery	5018	35018	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 2 - Battery	5019	35019	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 3 - Battery	5020	35020	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 4 - Battery	5021	35021	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 5 - Battery	5022	35022	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 6 - Battery	5023	35023	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 7 - Battery	5024	35024	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 8 - Battery	5025	35025	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 9 - Battery	5026	35026	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 10 - Battery	5027	35027	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 1 - Communication Status	5028	35028	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 2 - Communication Status	5029	35029	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 3 - Communication Status	5030	35030	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 4 - Communication Status	5031	35031	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Wireless Device 5 - Communication Status	5032	35032	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 6 - Communication Status	5033	35033	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 7 - Communication Status	5034	35034	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 8 - Communication Status	5035	35035	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 9 - Communication Status	5036	35036	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 10 - Communication Status	5037	35037	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
CO2 Effective Source	5044	35044	4	1=None	1=None, 2=Internal, 3=Error, 4=Wired, 5=Wireless Sensor 1, 6=Wireless Sensor 2, 7=Wireless Sensor 3, 8=Wireless Sensor 4, 9=Wireless Sensor 5, 10=Wireless Sensor 6, 11=Wireless Sensor 7, 12=Wireless Sensor 8, 13=Wireless Sensor 9, 14=Wireless Sensor 10, 15=Wireless Sensor 11, 16=Wireless Sensor 12, 17=Wireless Sensor 13, 18=Wireless Sensor 14, 19=Wireless Sensor 15, 20=Wireless Sensor 16, 21=Wireless Sensor 17, 22=Wireless Sensor 18, 23=Wireless Sensor 19, 24=Wireless Sensor 20	Environment	All
Effective temperature sensor	5048	35048	4	1=Wired	1=Wired, 2=Internal, 3=Wireless Sensor 1, 4=Wireless Sensor 2, 5=Wireless Sensor 3, 6=Wireless Sensor 4, 7=Wireless Sensor 5, 8=Wireless Sensor 6, 9=Wireless Sensor 7, 10=Wireless Sensor 8, 11=Wireless Sensor 9, 12=Wireless Sensor 10, 13=Wireless Sensor 11, 14=Wireless Sensor 12, 15=Wireless Sensor 13, 16=Wireless Sensor 14, 17=Wireless Sensor 15, 18=Wireless Sensor 16, 19=Wireless Sensor 17, 20=Wireless Sensor 18, 21=Wireless Sensor 19, 22=Wireless Sensor 20	Environment	All
Effective relative humidity sensor	5049	35049	4	1=None	1=None, 2=Internal, 3=Wireless Sensor 1, 4=Wireless Sensor 2, 5=Wireless Sensor 3, 6=Wireless Sensor 4, 7=Wireless Sensor 5, 8=Wireless Sensor 6, 9=Wireless Sensor 7, 10=Wireless Sensor 8, 11=Wireless Sensor 9, 12=Wireless Sensor 10, 13=Wireless Sensor 11, 14=Wireless Sensor 12, 15=Wireless Sensor 13, 16=Wireless Sensor 14, 17=Wireless Sensor 15, 18=Wireless Sensor 16, 19=Wireless Sensor 17, 20=Wireless Sensor 18, 21=Wireless Sensor 19, 22=Wireless Sensor 20	Environment	All
Effective System Mode	5050	35050	4	1=Cool	1=Cool, 2=Heat	Operating Status	All
IP Status	5051	35051	4	1=Offline	1=Offline, 2=Initializing, 3=Ready, 4=Booting, 5=Resetting, 6=Fail, 7=Testing		All
Wi-Fi Network Status	5052	35052	4	1=Offline	1=Offline, 2=Associate, 3=Online, 4=Failure		All
SMTP Server Status	5054	35054	4	1=Unknown	1=Unknown, 2=Disabled, 3=Offline, 4=Online		All
Wireless Device 11 - Status	5057	35057	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 12 - Status	5058	35058	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 13 - Status	5059	35059	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 14 - Status	5060	35060	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 15 - Status	5061	35061	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 16 - Status	5062	35062	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 17 - Status	5063	35063	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 18 - Status	5064	35064	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 19 - Status	5065	35065	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 20 - Status	5066	35066	4	1=None	1=None, 2=Closed, 3=Opened, 4=No motion, 5=Motion, 6=Normal, 7=Leak		All
Wireless Device 11 - Battery	5067	35067	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 12 - Battery	5068	35068	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 13 - Battery	5069	35069	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 14 - Battery	5070	35070	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 15 - Battery	5071	35071	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 16 - Battery	5072	35072	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 17 - Battery	5073	35073	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 18 - Battery	5074	35074	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 19 - Battery	5075	35075	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 20 - Battery	5076	35076	4	1=None	1=None, 2=Normal, 3=Low		All
Wireless Device 11 - Communication Status	5077	35077	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 12 - Communication Status	5078	35078	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 13 - Communication Status	5079	35079	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 14 - Communication Status	5080	35080	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 15 - Communication Status	5081	35081	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 16 - Communication Status	5082	35082	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Wireless Device 17 - Communication Status	5083	35083	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 18 - Communication Status	5084	35084	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 19 - Communication Status	5085	35085	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Wireless Device 20 - Communication Status	5086	35086	4	1=Not paired	1=Not paired, 2=Online, 3=Invalid, 4=Offline		All
Time source	5107	35107	4	1=None	1=None, 2=Local, 3=BACnet, 4=NTP, 5=Cloud		All
Fan Speed Status	5108	35108	4	1=Off	1=Off, 2=Low, 3=Medium, 4=High	Operating Status	All
Wi-Fi Network Signal Strength	5109	35109	4	1=Poor	1=Poor, 2=Fair, 3=Good, 4=Excellent		All

4000+ Modbus Address Functions

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Temperature Scale	1	40001	3-6	1=°C	1=°C, 2=°F		All
Display Language	2	40002	3-6	1=English	1=English, 2=French, 3=Spanish, 4=Chinese, 5=Russian, 6=Arabic, 7=Danish, 8=Italian, 9=German, 10=Indonesian, 11=Polish, 12=Swedish, 13=Norwegian, 14=Finnish, 15=Hungarian, 16=Turkish, 17=Dutch, 18=Czech, 19=Portuguese, 20=Bulgarian, 21=Slovak, 22=Japanese, 23=Hebrew	Preferences (main)	All
Fan Mode	3	40003	3-6	3=Smart	1=On, 2=Auto, 3=Smart, 4=Low, 5=Medium, 6=High	Home	3500
Fan Mode	3	40003	3-6	3=Smart	1=On, 2=Auto, 3=Smart	Home	6500
System Mode	4	40004	3-6	4=Heat	1=Off, 2=Auto, 3=Cool, 4=Heat	Home	All
Default Setpoints	6	40006	3-6	1=Disabled	1=Disabled, 2=Enabled	Setpoint Configuration	All
UI1 Configuration	8	40008	3-6	1=None	1=None, 2=Rem NSB, 3=Motion NO, 4=Motion NC, 5=Window, 6=Fan lock	Inputs	All
UI2 Configuration	9	40009	3-6	1=None	1=None, 2=Door dry, 3=Override, 4=Filter, 5=Service	Inputs	All
Dehumidification Enabled	12	40012	3-6	1=Disabled	1=Disabled, 2=Enabled	Dehumidifier	All
Fan Sequence	16	40016	3-6	5=Speeds-Smart	1=Auto, 2=Smart, 3=Auto-Smart, 4=Speeds-Auto, 5=Speeds-Smart, 6=Speeds-Auto-Smart	Fan	3500
Setpoint Function	17	40017	3-6	2=Attach SP	1=Dual SP, 2=Attach SP	Setpoint Configuration	All
Fan Control in Heating Mode	19	40019	3-6	1=Enabled	1=Enabled, 2=Forced Off-Auto/Smart, 3=Forced Off-All Modes	Fan	3500
Fan Control in Heating Mode	19	40019	3-6	2=On	1=Off, 2=On	Rooftop	6500
Sequence of Operation	20	40020	3-6	2=Heating only	1=Cooling only, 2=Heating only, 3=Reheat Only, 4=Cooling/Heating, 5=Cooling/Reheat, 6=Heating/Reheat, 7=Cooling/Heating/Reheat	Fan Coil Unit	3500
Occupancy Command	22	40022	3-6	2=Occupied	1=Loc occ., 2=Occupied, 3=Unocc.	Occupancy Configuration	All
Network Units	23	40023	3-6	2=Imperial	1=SI, 2=Imperial	Preferences (main)	All
Time Format	27	40027	3-6	1=12 Hour (AM-PM)	1=12 Hour (AM-PM), 2=24 Hour	Preferences (setup)	All
Standby Mode Configuration	28	40028	3-6	1=Absolute	1=Absolute, 2=Offset	Setpoint Configuration	All
Color Theme	29	40029	3-6	2=Dark	1=Light, 2=Dark	Preferences (main)	All
Main Display	30	40030	3-6	1=Temp.	1=Temp., 2=Setpoint		All
Use Standby Screen	32	40032	3-6	1=Disabled	1=Disabled, 2=Custom Image	Display	All
Valve 1 Type	34	40034	3-6	2=Floating	1=On/Off, 2=Floating, 3=0-10V Direct Acting, 4=0-10V Reverse Acting	Fan Coil Unit	3500
Reheat Time Base	35	40035	3-6	1=On/Off (4 CPH)	1=On/Off (4 CPH), 2=PWM (10s Duty Cycle)	Fan Coil Unit	3500
Auxiliary Output	36	40036	3-6	1=Reheat (Normally Open)	1=Reheat (Normally Open), 2=Occupancy (Normally Open), 3=Occupancy (Normally Closed), 4=Aux Fan (Normally Open), 5=Aux Fan (Normally Closed), 6=Reheat (Normally Closed)	Fan Coil Unit	3500
BO1 Auxiliary Output Configuration	36	40036	3-6	1=NO	1=NO, 2=NC		6500
UI3 Configuration	39	40039	3-6	1=None	1=None, 2=CO2, 3=COC/NH, 4=COC/NC, 5=COS	Inputs	3500
UI3 Configuration	39	40039	3-6	1=None	1=None, 2=CO2	Inputs	6500
DO6-AO1 Configuration	41	40041	3-6	2=Binary RC	1=Analog, 2=Binary RC, 3=Binary RH	Terminals	3500
DO6-AO1 Configuration	41	40041	3-6	3=Binary RH	1=Analog, 2=Binary RC, 3=Binary RH	Terminals	6500
DO7-AO2 Configuration	42	40042	3-6	2=Binary RC	1=Analog, 2=Binary RC	Terminals	3500
DO7-AO2 Configuration	42	40042	3-6	1=Analog	1=Analog, 2=Binary RC	Terminals	6500
DO8-AO3 Configuration	43	40043	3-6	2=Binary RC	1=Analog, 2=Binary RC	Terminals	3500
DO8-AO3 Configuration	43	40043	3-6	1=Analog	1=Analog, 2=Binary RC	Terminals	6500
DO9-AO4 Configuration	44	40044	3-6	2=Binary RC	1=Analog, 2=Binary RC	Terminals	All
Frost Protection	45	40045	3-6	1=Off	1=Off, 2=On	Rooftop	6500

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Mechanical Cooling Allowed	50	40050	3-6	1=Off	1=Off, 2=On	Economizer	6500
Enable Smart Recovery	51	40051	3-6	1=Off	1=Off, 2=On	Occupancy Configuration	All
Economizer Configuration	53	40053	3-6	1=Off	1=Off, 2=On	Economizer	6500
French	56	40056	3-6	2=Enabled	1=Disabled, 2=Enabled	Language Selection	All
Spanish	57	40057	3-6	2=Enabled	1=Disabled, 2=Enabled	Language Selection	All
Chinese	58	40058	3-6	2=Enabled	1=Disabled, 2=Enabled	Language Selection	All
Russian	59	40059	3-6	2=Enabled	1=Disabled, 2=Enabled	Language Selection	All
Month	60	40060	3-6		1=Jan., 2=Feb., 3=Mar., 4=Apr., 5=May, 6=June, 7=July, 8=Aug., 9=Sept., 10=Oct., 11=Nov., 12=Dec.	Date and Time	All
Fan Delay	61	40061	3-6	2=On	1=Off, 2=On	Rooftop	6500
Wireless Device 1 - Function	66	40066	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 2 - Function	67	40067	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 3 - Function	68	40068	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 4 - Function	69	40069	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 5 - Function	70	40070	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 6 - Function	71	40071	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 7 - Function	72	40072	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 8 - Function	73	40073	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 9 - Function	74	40074	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 10 - Function	75	40075	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Occupancy Source	77	40077	3-6	1=Motion	1=Motion, 2=Schedule, 3=Motion during Schedule, 4=Motion or Schedule		All
Control Status	79	40079	3	1=Off	1=Off, 2=Cool, 3=Heat		All
Arabic	83	40083	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Czech	85	40085	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Danish	86	40086	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Dutch	87	40087	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Finnish	88	40088	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
German	89	40089	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Hungarian	90	40090	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Indonesian	91	40091	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Italian	92	40092	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Norwegian	93	40093	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Polish	94	40094	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Portuguese	95	40095	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Slovak	96	40096	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Swedish	97	40097	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Turkish	98	40098	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Comfort or economy mode	99	40099	3-6	1=Comfort	1=Comfort, 2=Economy		6500
Reversing valve operation	100	40100	3-6	1=O	1=O, 2=B		6500
Compressor - auxiliary interlock	101	40101	3-6	1=Off	1=Off, 2=On		6500
Application	102	40102	3-6	3=	1=FCU	HVAC Configuration	3500
Application	102	40102	3-6	1=Rooftop Unit	1=Rooftop Unit, 2=Heat Pump	HVAC Configuration	6500
Modbus Baud Rate	105	40105	3-6		1=4800, 2=9600, 3=19200, 4=38400, 5=57600	Modbus	All
Modbus Parity Bit	106	40106	3-6		1=None, 2=Odd, 3=Even	Modbus	All
Schedule Type	107	40107	3-6	1=7 days	1=7 days, 2=5+2 days, 3=5+1+1 day	Occupancy Schedule	All
UI1 Type	109	40109	3	2=Binary	1=Therm., 2=Binary, 3=Voltage		All
UI2 Type	110	40110	3	2=Binary	1=Therm., 2=Binary, 3=Voltage		All
UI3 Type	111	40111	3	1=Therm.	1=Therm., 2=Binary, 3=Voltage		3500
UI3 Type	111	40111	3	3=Voltage	1=Therm., 2=Binary, 3=Voltage		6500
UI4 Type	112	40112	3	1=Therm.	1=Therm., 2=Binary, 3=Voltage		All
UI5 Type	113	40113	3	1=Therm.	1=Therm., 2=Binary, 3=Voltage		All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
UI6 Type	114	40114	3	1=Therm.	1=Therm., 2=Binary, 3=Voltage		All
UI7 Type	115	40115	3	3=Voltage	1=Therm., 2=Binary, 3=Voltage		All
UI8 Type	116	40116	3	3=Voltage	1=Therm., 2=Binary, 3=Voltage		All
CO2 Autocalibration	119	40119	3-6	2=Enabled	1=Disabled, 2=Enabled		All
Relative humidity sensor	121	40121	3-6	2=Internal	1=None, 2=Internal, 3=Wireless Sensor 1, 4=Wireless Sensor 2, 5=Wireless Sensor 3, 6=Wireless Sensor 4, 7=Wireless Sensor 5, 8=Wireless Sensor 6, 9=Wireless Sensor 7, 10=Wireless Sensor 8, 11=Wireless Sensor 9, 12=Wireless Sensor 10, 13=Wireless Sensor 11, 14=Wireless Sensor 12, 15=Wireless Sensor 13, 16=Wireless Sensor 14, 17=Wireless Sensor 15, 18=Wireless Sensor 16, 19=Wireless Sensor 17, 20=Wireless Sensor 18, 21=Wireless Sensor 19, 22=Wireless Sensor 20	Inputs	All
Room Temperature Sensor	122	40122	3-6	1=Wired	1=Wired, 2=Internal, 3=Wireless Sensor 1, 4=Wireless Sensor 2, 5=Wireless Sensor 3, 6=Wireless Sensor 4, 7=Wireless Sensor 5, 8=Wireless Sensor 6, 9=Wireless Sensor 7, 10=Wireless Sensor 8, 11=Wireless Sensor 9, 12=Wireless Sensor 10, 13=Wireless Sensor 11, 14=Wireless Sensor 12, 15=Wireless Sensor 13, 16=Wireless Sensor 14, 17=Wireless Sensor 15, 18=Wireless Sensor 16, 19=Wireless Sensor 17, 20=Wireless Sensor 18, 21=Wireless Sensor 19, 22=Wireless Sensor 20	Inputs	All
Temperature Alarm Enabled	123	40123	3-6	1=Off	1=Off, 2=On		All
ADR Permission	124	40124	3-6	1=Disabled	1=Disabled, 2=Enabled	ADR	All
Fan Type	128	40128	3-6	3=3 Speed (L-M-H)	1=1 Speed (H), 2=2 Speed (L-H), 3=3 Speed (L-M-H), 4=ECM	Fan	3500
Japanese	129	40129	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Hebrew	130	40130	3-6	1=Disabled	1=Disabled, 2=Enabled	Language Selection	All
Valve 2 Type	133	40133	3-6	2=Floating	1=On/Off, 2=Floating, 3=0-10V Direct Acting, 4=0-10V Reverse Acting		3500
Wireless Device 11 - Function	138	40138	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 12 - Function	139	40139	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 13 - Function	140	40140	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 14 - Function	141	40141	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 15 - Function	142	40142	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 16 - Function	143	40143	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 17 - Function	144	40144	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 18 - Function	145	40145	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 19 - Function	146	40146	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
Wireless Device 20 - Function	147	40147	3-6	6=Remove	1=None, 2=Window, 3=Door, 4=Motion, 5=Env. data, 6=Remove, 7=Water, 8=Refrig., 9=Freezer		All
CO2 source	148	40148	3-6	2=Local	1=None, 2=Local, 3=Wireless Sensor 1, 4=Wireless Sensor 2, 5=Wireless Sensor 3, 6=Wireless Sensor 4, 7=Wireless Sensor 5, 8=Wireless Sensor 6, 9=Wireless Sensor 7, 10=Wireless Sensor 8, 11=Wireless Sensor 9, 12=Wireless Sensor 10, 13=Wireless Sensor 11, 14=Wireless Sensor 12, 15=Wireless Sensor 13, 16=Wireless Sensor 14, 17=Wireless Sensor 15, 18=Wireless Sensor 16, 19=Wireless Sensor 17, 20=Wireless Sensor 18, 21=Wireless Sensor 19, 22=Wireless Sensor 20	Environment	All
Enable Static IP	153	40153	3	1=Dynamic	1=Dynamic, 2=Static		All
Enable WIFI	154	40154	3	1=Disabled	1=Disabled, 2=Enabled		All
Hidden WIFI	155	40155	3	1=Disabled	1=Disabled, 2=Enabled		All
Notification Type	156	40156	3-6	1=Disabled	1=Disabled, 2=Critical, 3=Warning, 4=Ok, 5=Informative		All
Notification Display Type	157	40157	3-6	3=All	1=Disabled, 2=Custom Only, 3=All	Display	All
Occupancy Sensor	158	40158	3-6	4=High	1=Off, 2=Low, 3=Medium, 4=High	Occupancy Configuration	All
Proximity Sensor	159	40159	3-6	4=High	1=Off, 2=Low, 3=Medium, 4=High		All
Custom Standby Text Color	160	40160	3-6	1=White	1=White, 2=Black		All
HMI Setpoint	162	40162	3-6	2=Slider	1=None, 2=Slider, 3=Buttons (Attached SP Only)	Display	All
Button 1	164	40164	3-6	2=System Mode	1=Disabled, 2=System Mode, 3=Fan Mode	Display	All
Button 2	165	40165	3-6	3=Fan Mode	1=Disabled, 2=System Mode, 3=Fan Mode	Display	All
Info Item 1	168	40168	3-6	3=Humidity	1=Disabled, 2=Outdoor Air Temperature, 3=Humidity, 4=CO2 Level	Display	All
Info Item 2	169	40169	3-6	4=CO2 Level	1=Disabled, 2=Outdoor Air Temperature, 3=Humidity, 4=CO2 Level	Display	All
Info Item 3	170	40170	3-6	2=Outdoor Air Temperature	1=Disabled, 2=Outdoor Air Temperature, 3=Humidity, 4=CO2 Level	Display	All
Occupied Cool Setpoint	4001	44001	3-6	75 °F (24 °C)	54 to 100 °F (12 to 38 °C)	Setpoints	All
Occupied Heat Setpoint	4002	44002	3-6	72 °F (22 °C)	40 to 90 °F (4 to 32 °C)	Setpoints	All
Unoccupied Cool Setpoint	4003	44003	3-6	80 °F (27 °C)	54 to 100 °F (12 to 38 °C)	Setpoints	All
Unoccupied Heat Setpoint	4004	44004	3-6	62 °F (17 °C)	40 to 90 °F (4 to 32 °C)	Setpoints	All
Maximum Heating Setpoint Limit	4005	44005	3-6	90 °F (32 °C)	40 to 90 °F (4 to 32 °C)	Setpoints	All
Minimum Cooling Setpoint Limit	4006	44006	3-6	54 °F (12 °C)	54 to 100 °F (12 to 38 °C)	Setpoints	All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Calibrate Room Temperature Sensor	4007	44007	3-6	0 °F Delta (0 °C)	-5 to 5 °F Delta (-3 to 3 °C)	Inputs	All
Standby Cool Setpoint	4009	44009	3-6	78 °F (26 °C)	54 to 100 °F (12 to 38 °C)	Setpoints	All
Standby Heat Setpoint	4010	44010	3-6	69 °F (21 °C)	40 to 90 °F (4 to 32 °C)	Setpoints	All
Dehumidification Max Cooling Limit	4011	44011	3-6	100 %	20 to 100 %	Dehumidifier	3500
Dehumidification Setpoint	4012	44012	3-6	50 %	30 to 95 %	Dehumidifier	All
Calibrate Humidity Sensor	4013	44013	3-6	0 %	-15 to 15 %	Inputs	All
Dehumidification Hysteresis	4015	44015	3-6	5 %	2 to 20 %	Dehumidifier	All
COM Address	4018	44018	3-6	254	0 to 254	BACnet	All
Model Number	4019	44019	3		20 to 61	Device Info	All
Minimum Deadband	4020	44020	3-6	3 °F Delta (2 °C)	1.8 to 5 °F Delta (1 to 3 °C)	Setpoint Configuration	All
Heating CPH	4021	44021	3-6	4	3 to 8		All
Cooling CPH	4022	44022	3-6	4	3 to 8		3500
Cooling CPH	4022	44022	3-6	4	3 to 4		6500
Number of Pipes	4025	44025	3-6	2	0 to 4	Fan Coil Unit	3500
Unoccupied Time	4026	44026	3-6	0 h	0 to 24 h	Occupancy Configuration	All
Temporary Occupancy Time	4027	44027	3-6	2 h	0 to 24 h	Occupancy Configuration	All
Standby Time	4028	44028	3-6	0.5 h	0.5 to 24 h	Occupancy Configuration	All
Proportional Band	4029	44029	3-6	3 °F Delta (2 °C)	3 to 10 °F Delta (2 to 6 °C)	Fan Coil Unit	All
Cooling Demand Limit	4030	44030	3-6	100 %	0 to 100 %	System Status	All
Heating Demand Limit	4031	44031	3-6	100 %	0 to 100 %	System Status	All
Low Backlight	4033	44033	3-6	60 %	0 to 100 %	Display	All
Night Backlight	4034	44034	3-6	5 %	0 to 100 %	Display	All
Purge Sample Period	4036	44036	3-6	2 h	0 to 4 h	Fan Coil Unit	3500
Purge Open	4037	44037	3-6	2 m	1 to 3 m	Fan Coil Unit	3500
Standby Temperature Differential	4038	44038	3-6	4 °F Delta (2 °C)	1 to 5 °F Delta (1 to 3 °C)		All
Default Cooling Setpoint	4042	44042	3-6	75 °F (24 °C)	54 to 100 °F (12 to 38 °C)		All
Default Heating Setpoint	4043	44043	3-6	72 °F (22 °C)	40 to 90 °F (4 to 32 °C)		All
Floating Actuator Time	4045	44045	3-6	1.5 m	0.5 to 9 m	Fan Coil Unit	3500
Anti Short Cycle Time	4047	44047	3-6	2 m	0 to 5 m	Rooftop	6500
Number of Heating Stages	4048	44048	3-6	2	0 to 2	Rooftop	6500
Number of Cooling Stages	4049	44049	3-6	2	1 to 2	Rooftop	6500
Power-up Delay	4050	44050	3-6	10	10 to 120	Rooftop	6500
Calibrate Outside Temperature Sensor	4051	44051	3-6	0 °F Delta (0 °C)	-5 to 5 °F Delta (-3 to 3 °C)	Inputs	All
Heating Lockout from Outside Air Temperature	4052	44052	3-6	120 °F (49 °C)	-15 to 120 °F (-26 to 49 °C)	Rooftop	6500
Cooling Lockout	4053	44053	3-6	-40 °F (-40 °C)	-40 to 95 °F (-40 to 35 °C)	Rooftop	6500
Supply Air Temperature Setpoint	4054	44054	3-6	55 °F (13 °C)	50 to 90 °F (10 to 32 °C)	Economizer	6500
Changeover Setpoint	4055	44055	3-6	55 °F (13 °C)	14 to 70 °F (-10 to 21 °C)	Economizer	6500
Economizer Minimum Position	4056	44056	3-6	0 %	0 to 99 %	Economizer	6500
Economizer Maximum Position	4057	44057	3-6	100 %	1 to 100 %	Economizer	6500
Occupied 1	4059	44059	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4060	44060	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4061	44061	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4062	44062	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4063	44063	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4064	44064	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4065	44065	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4066	44066	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4067	44067	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4068	44068	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4069	44069	3-6		0 to 1440	Occupancy Schedule	All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Unoccupied 3	4070	44070	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4071	44071	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4072	44072	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4073	44073	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4074	44074	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4075	44075	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4076	44076	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4077	44077	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4078	44078	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4079	44079	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4080	44080	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4081	44081	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4082	44082	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4083	44083	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4084	44084	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4085	44085	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4086	44086	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4087	44087	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4088	44088	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4089	44089	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4090	44090	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4091	44091	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4092	44092	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4093	44093	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4094	44094	3-6		0 to 1440	Occupancy Schedule	All
Occupied 1	4095	44095	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 1	4096	44096	3-6		0 to 1440	Occupancy Schedule	All
Occupied 2	4097	44097	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 2	4098	44098	3-6		0 to 1440	Occupancy Schedule	All
Occupied 3	4099	44099	3-6		0 to 1440	Occupancy Schedule	All
Unoccupied 3	4100	44100	3-6		0 to 1440	Occupancy Schedule	All
Fresh Air Range Upper Limit	4101	44101	3-6	0	0 to 20000		6500
Minimum Supply Heat	4102	44102	3-6	64 °F (18 °C)	50 to 72 °F (10 to 22 °C)		6500
Supply Heat Lockout	4103	44103	3-6	32 °F (0 °C)	-15 to 120 °F (-26 to 49 °C)		6500
Supply Temperature High Limit	4104	44104	3-6	120 °F (49 °C)	70 to 150 °F (21 to 66 °C)	Rooftop	6500
Supply Temperature Low Limit	4105	44105	3-6	45 °F (7 °C)	35 to 65 °F (2 to 18 °C)	Rooftop	6500
Minimum Fresh Air	4106	44106	3-6	0	0 to 20000		6500
Maximum Fresh Air	4107	44107	3-6	0	0 to 20000		6500
Minimum CO2	4108	44108	3-6	800 ppm	0 to 4800 ppm		6500
Maximum CO2	4109	44109	3-6	1200 ppm	200 to 5000 ppm		6500
Time	4110	44110	3-6		0 to 1439	Date and Time	All
Year	4111	44111	3-6		2000 to 2090	Date and Time	All
Day	4112	44112	3-6		1 to 31	Date and Time	All
Lua Parameter A (AV25)	4117	44117	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter B (AV26)	4118	44118	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter C (AV27)	4119	44119	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter D (AV28)	4120	44120	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter E (AV29)	4121	44121	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter F (AV30)	4122	44122	3-6	0	-32768 to 32767	Lua Variables	All
Hardware Revision	4123	44123	3		40 to 41		All

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
High balance point	4132	44132	3-6	90 °F (32 °C)	34 to 90 °F (1 to 32 °C)		6500
Low balance point	4133	44133	3-6	-12 °F (-24 °C)	-40 to 30 °F (-40 to -1 °C)		6500
Ambient Low Temperature Threshold	4143	44143	3-6	40 °F (4 °C)	32 to 50 °F (0 to 10 °C)		All
Temperature Alarm Hysteresis	4144	44144	3-6	2 °F Delta (1 °C)	0 to 10 °F Delta (0 to 6 °C)		All
ADR Setpoint Offset - Load Shedding	4145	44145	3-6	4 °F Delta (2 °C)	1 to 10 °F Delta (1 to 6 °C)	ADR	All
Lua Parameter G (AV31)	4146	44146	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter H (AV32)	4147	44147	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter I (AV33)	4148	44148	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter J (AV34)	4149	44149	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter K (AV35)	4150	44150	3-6	0	-32768 to 32767	Lua Variables	All
Lua Parameter L (AV36)	4151	44151	3-6	0	-32768 to 32767	Lua Variables	All
ECM Fan Low Voltage	4152	44152	3-6	2.2 v	0 to 9.8 v		3500
ECM Fan Medium Voltage	4153	44153	3-6	6 v	0.1 to 9.9 v		3500
ECM Fan High Voltage	4154	44154	3-6	8.6 v	0.2 to 10 v		3500
Ambient High Temperature Threshold	4175	44175	3-6	86 °F (30 °C)	32 to 122 °F (0 to 50 °C)		All
Refrigeration High Temperature Threshold	4176	44176	3-6	40 °F (4 °C)	32 to 60 °F (0 to 16 °C)		All
Refrigeration Low Temperature Threshold	4177	44177	3-6	32 °F (0 °C)	32 to 50 °F (0 to 10 °C)		All
Freezer High Temperature Threshold	4178	44178	3-6	0 °F (-18 °C)	-40 to 32 °F (-40 to 0 °C)		All
Minimum Occupied Heating Setpoint Limit	4186	44186	3-6	40 °F (4 °C)	40 to 90 °F (4 to 32 °C)		All
Maximum Occupied Cooling Setpoint Limit	4187	44187	3-6	100 °F (38 °C)	54 to 100 °F (12 to 38 °C)		All
Inactivity Time	4188	44188	3-6	3 m	1 to 10 m	Display	All
Backlight Brightness	4189	44189	3-6	60 %	0 to 100 %		All
ADR Setpoint Offset - Pricing	4193	44193	3-6	4 °F Delta (2 °C)	1 to 10 °F Delta (1 to 6 °C)	ADR	All
Temperature compensation matrix	4194	44194	3-6	0 °F (-18 °C)	-100 to 100 °F (-73 to 38 °C)		All
PI Heating Demand	8001	48001	3	0 %	0 to 100 %	System Status	All
PI Cooling Demand	8002	48002	3	0 %	0 to 100 %	System Status	All
Economizer Demand	8004	48004	3	0 %	0 to 100 %	System Status	6500
Analog Output Heat Demand	8005	48005	3	0 %	0 to 100 %		6500
AO1 Voltage	9001	49001	3	0 v	0 to 10 v		All
AO2 Voltage	9002	49002	3	0 v	0 to 10 v		All
AO3 Voltage	9003	49003	3	0 v	0 to 10 v		All
AO4 Voltage	9004	49004	3	0 v	0 to 10 v		All

5000+ Modbus Address Functions

Object Name	Modbus			Default Value	Range Value	Room Controller	
	Register	Address	Function Code			Screen Name	Type
Filter Alarm	5001	5001	1	1=Off	1=Off, 2=On	Alarms	All
Service Alarm	5002	5002	1	1=Off	1=Off, 2=On	Alarms	All
Window Alarm	5003	5003	1	1=Off	1=Off, 2=On	Alarms	All
PIR Local Motion	5004	5004	1	1=No motion	1=No motion, 2=Motion	Operating Status	All
Dehumidification Status	5005	5005	1	1=Off	1=Off, 2=On	System Status	All
Low Battery Alarm	5006	5006	1	1=Off	1=Off, 2=On	Alarms	All
Window Contact Installed	5007	5007	1	1=No	1=No, 2=Yes	Environment	All
Window Contact Status	5008	5008	1	1=Closed	1=Closed, 2=Opened	Operating Status	All
Door Contact Installed	5009	5009	1	1=No	1=No, 2=Yes	Environment	All
Door Contact Status	5010	5010	1	1=Closed	1=Closed, 2=Opened	Operating Status	All
Fan Lock Alarm	5013	5013	1	1=Off	1=Off, 2=On	Alarms	6500
Smart Recovery Status	5014	5014	1	1=Off	1=Off, 2=On	System Status	All
Exception Status	5015	5015	1	1=Off	1=Off, 2=On		All
CO2 Alarm	5016	5016	1	1=Off	1=Off, 2=On	Alarms	6500
Low Fresh Air Alarm	5017	5017	1	1=Off	1=Off, 2=On	Alarms	6500
Frost Protection Alarm	5018	5018	1	1=Off	1=Off, 2=On	Alarms	6500
ZigBee PIR Sensor Installed	5019	5019	1	1=Off	1=Off, 2=On		All
ZigBee Sensor Motion	5020	5020	1	1=No motion	1=No motion, 2=Motion		All
Clock Alarm	5021	5021	1	1=Off	1=Off, 2=On	Alarms	All
Wireless Sensor Communication Alarm	5023	5023	1	1=Off	1=Off, 2=On	Alarms	All
Water Leak	5024	5024	1	1=Off	1=Off, 2=On	Alarms	All
Water Leak Sensor Installed	5025	5025	1	1=No	1=No, 2=Yes	Environment	All
Water leak sensor status	5026	5026	1	1=Normal	1=Normal, 2=Leak	Operating Status	All
Low Temperature	5027	5027	1	1=Off	1=Off, 2=On	Rooftop	All
ADR Utility Signal - Load Shedding	5028	5028	1-5	1=Off	1=Off, 2=On	ADR	All
ADR Status - Load Shedding	5029	5029	1	1=Off	1=Off, 2=On	ADR	All
ADR Override - Load Shedding	5030	5030	1-5	1=Off	1=Off, 2=On	ADR	All
High Temperature	5033	5033	1	1=Off	1=Off, 2=On	Rooftop	All
Purge Status	5034	5034	1	1=Off	1=Off, 2=On	Operating Status	All
PIR Local Proximity	5035	5035	1	1=No proximity	1=No proximity, 2=Proximity		All
Activity Status	5036	5036	1-5	1=Inactive	1=Inactive, 2=Active		All
ADR Utility Signal - Pricing	5037	5037	1-5	1=Off	1=Off, 2=On	ADR	All
ADR Status - Pricing	5038	5038	1	1=Off	1=Off, 2=On	ADR	All
ADR Override - Pricing	5039	5039	1-5	1=Off	1=Off, 2=On	ADR	All