

Modbus Integration

Integration for Modbus Functionality for VTR8300 Series

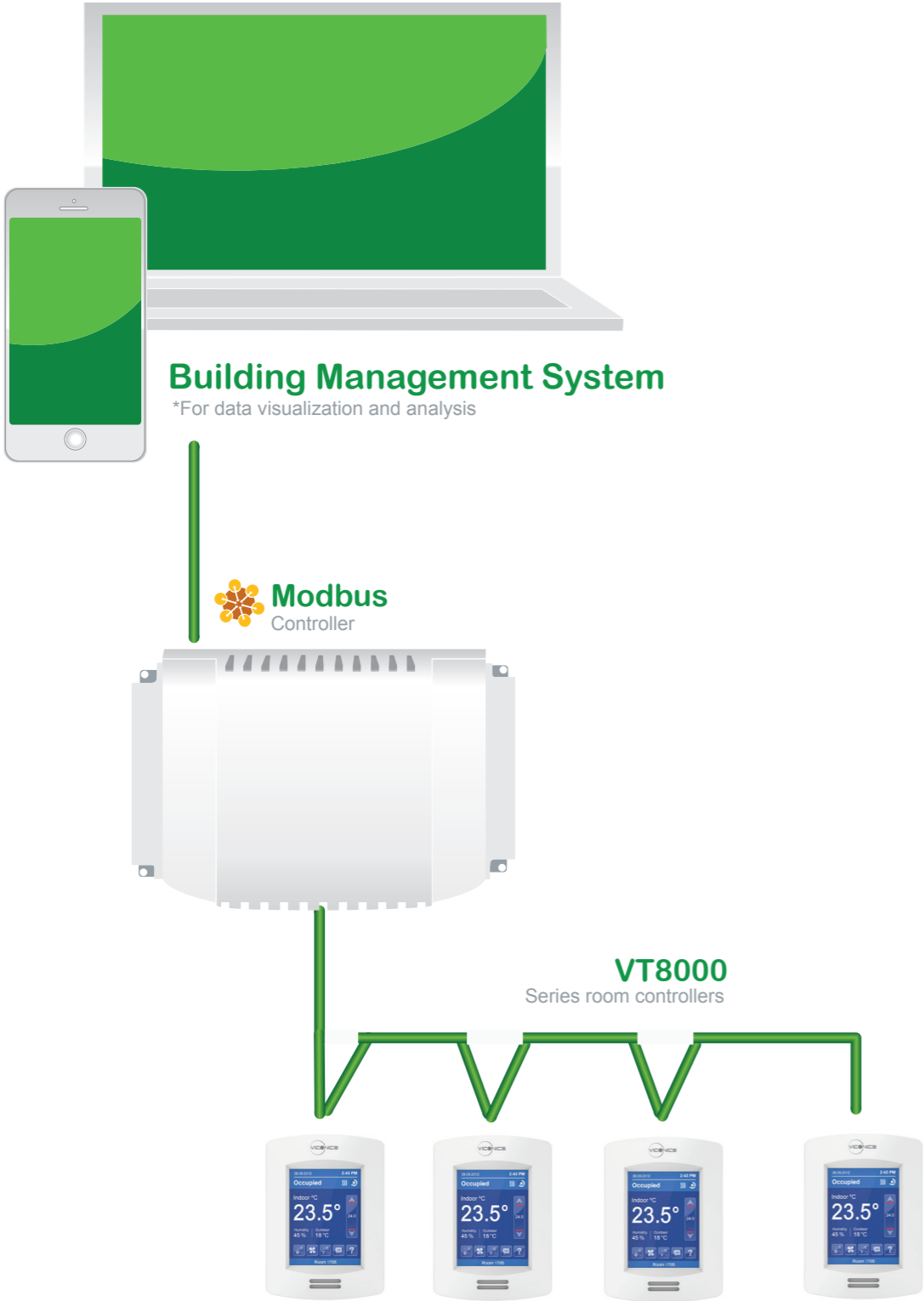


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INTRODUCTION

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.

VTR8300 SERIES MODBUS SPECIFICATIONS

The VTR8300 Series 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 VTR8300 Series 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

1/1 Modbus network

COM address	254
Network units	SI
Baud rate	19200
Parity	None

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- Modbus ID is the same as already defined in COM address for BACnet & ZigBee
- Network units can be changed to SI or Imperial
- Only the RTU mode is used
- 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
Comm address Room Controller networking address Default value: 254 Range: 0 to 254	Communication Address Default value of 254 disables Modbus communication for the Room Controller.
Network units Default value: Imperial	Measurement Units Imperial: network units shown as Imperial units. SI: network units shown as International Metric units.
Baud rate Default value: Auto	Baud Rate Auto: automatically detects baud rate. Other choices: (115200, 76800, 57600, 38400, 19200, and 9600).
Parity Default value: None	Parity Parity checking of the data character frame (Even, Odd, or no parity (None)).

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 Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Cooling Output	1	1	1	0	1	0=Off, 1=On
Heating Output	2	2	1	0	1	0=Off, 1=On
High Speed Fan Output	3	3	1	0	1	0=Off, 1=On
Medium Speed Fan Output	4	4	1	0	1	0=Off, 1=On
Low Speed Fan Output	5	5	1	0	1	0=Off, 1=On

1000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
BI1 Binary Input	1	10001	2	0	1	0=Activated, 1=Not activ.
BI2 Binary Input	2	10002	2	0	1	0=Activated, 1=Not activ.
RUI1 Binary Input	3	10003	2	0	1	0=Activated, 1=Not activ.
RBI2 Binary Input	4	10004	2	0	1	0=Activated, 1=Not activ.

3000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Room Temperature	1	30001	4	-40	122	Fahrenheit
Outdoor Temperature	2	30002	4	-40	150	Fahrenheit
UI22 Supply Temperature	3	30003	4	-40	122	Fahrenheit
Room Humidity	4	30004	4	0	100	%RH
UI19 Changeover Temperature	5	30005	4	-40	150	Fahrenheit
CO ₂ Level	7	30007	4	0	5000	ppm
Light Sensor Level	1002	31002	4	0	30000	---
Wireless Device 1 - Address	1011	31011	4	-32768	32767	---
Wireless Device 2 - Address	1012	31012	4	-32768	32767	---
Wireless Device 3 - Address	1013	31013	4	-32768	32767	---
Wireless Device 4 - Address	1014	31014	4	-32768	32767	---
Wireless Device 5 - Address	1015	31015	4	-32768	32767	---
Wireless Device 6 - Address	1016	31016	4	-32768	32767	---
Wireless Device 7 - Address	1017	31017	4	-32768	32767	---
Wireless Device 8 - Address	1018	31018	4	-32768	32767	---
Wireless Device 9 - Address	1019	31019	4	-32768	32767	---
Wireless Device 10 - Address	1020	31020	4	-32768	32767	---
Wireless IO 1 IEEE Address	1021	31021	4	-32768	32767	---
Wireless IO 2 IEEE Address	1022	31022	4	-32768	32767	---
Wireless IO 3 IEEE Address	1023	31023	4	-32768	32767	---
Paired Wireless IO	1024	31024	4	0	3	---

3000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Wireless Green Power - Address	1025	31025	4	-32768	32767	---
Wireless Device 1 - Temperature	1026	31026	4	-40	122	Fahrenheit
Wireless Device 2 - Temperature	1027	31027	4	-40	122	Fahrenheit
Wireless Device 3 - Temperature	1028	31028	4	-40	122	Fahrenheit
Wireless Device 4 - Temperature	1029	31029	4	-40	122	Fahrenheit
Wireless Device 5 - Temperature	1030	31030	4	-40	122	Fahrenheit
Wireless Device 6 - Temperature	1031	31031	4	-40	122	Fahrenheit
Wireless Device 7 - Temperature	1032	31032	4	-40	122	Fahrenheit
Wireless Device 8 - Temperature	1033	31033	4	-40	122	Fahrenheit
Wireless Device 9 - Temperature	1034	31034	4	-40	122	Fahrenheit
Wireless Device 10 - Temperature	1035	31035	4	-40	122	Fahrenheit
Wireless IO Temperature	1036	31036	4	-40	185	
Wireless Green Power - Temperature	1037	31037	4	-40	185	Fahrenheit
Remote relative humidity	1038	31038	4	0	100	%RH
Paired ZigBee Devices	1041	31041	4	0	11	---
Effective Occupancy	5001	35001	4	0	3	0=Occupied, 1=Unoccupied, 2=Override, 3=Standby
ZigBee Network Status	5003	35003	4	0	4	0=Not det., 1=Pwr on, 2=No NWK, 3=Joined, 4=Online
Weekday	5005	35005	4	0	6	0=Monday, 1=Tuesday, 2=Wednesday, 3=Thursday, 4=Friday, 5=Saturday, 6=Sunday
Program Status	5006	35006	4	0	5	0=Idle, 1=Loading, 2=Running, 3=Waiting, 4=Halted, 5=Unloading
Program Error	5007	35007	4	0	5	0=No error, 1=Yield, 2=Runtime, 3=Syntax, 4=Memory, 5=Double err

3000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Wireless Device 1 - Status	5008	35008	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 2 - Status	5009	35009	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 3 - Status	5010	35010	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 4 - Status	5011	35011	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 5 - Status	5012	35012	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 6 - Status	5013	35013	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 7 - Status	5014	35014	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 8 - Status	5015	35015	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 9 - Status	5016	35016	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 10 - Status	5017	35017	4	0	6	0=None, 1=Closed, 2=Opened, 3=No motion, 4=Motion, 5=Normal, 6=Leak
Wireless Device 1 - Battery	5018	35018	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 2 - Battery	5019	35019	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 3 - Battery	5020	35020	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 4 - Battery	5021	35021	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 5 - Battery	5022	35022	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 6 - Battery	5023	35023	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 7 - Battery	5024	35024	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 8 - Battery	5025	35025	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 9 - Battery	5026	35026	4	0	2	0=None, 1=Normal, 2=Low
Wireless Device 10 - Battery	5027	35027	4	0	2	0=None, 1=Normal, 2=Low

3000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Wireless Device 1 - Communication Status	5028	35028	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 2 - Communication Status	5029	35029	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 3 - Communication Status	5030	35030	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 4 - Communication Status	5031	35031	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 5 - Communication Status	5032	35032	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 6 - Communication Status	5033	35033	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 7 - Communication Status	5034	35034	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 8 - Communication Status	5035	35035	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 9 - Communication Status	5036	35036	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless Device 10 - Communication Status	5037	35037	4	0	3	0=Not paired, 1=Online, 2=Invalid, 3=Offline
Wireless IO 1 Status	5038	35038	4	0	2	0=Offline, 1=Online, 2=Busy
Wireless IO 2 Status	5039	35039	4	0	2	0=Offline, 1=Online, 2=Busy
Wireless IO 3 Status	5040	35040	4	0	2	0=Offline, 1=Online, 2=Busy
Wireless IO 1 Remove	5041	35041	4	0	1	0=No, 1=Yes
Wireless IO 2 Remove	5042	35042	4	0	1	0=No, 1=Yes
Wireless IO 3 Remove	5043	35043	4	0	1	0=No, 1=Yes
Wireless Green Power - Communication Status	5045	35045	4	0	4	0=Not paired, 1=Online, 2=Invalid, 3=Offline, 4=Paired
Wireless Green Power - Battery	5046	35046	4	0	2	0=None, 1=Normal, 2=Low
Wireless Green Power - Remove	5047	35047	4	0	1	0=No, 1=Yes
Effective temperature sensor	5048	35048	4	0	13	0=Wired, 1=Internal, 2=WL IO, 3= WL 1, 4=WL 2, 5=WL 3, 6=WL 4, 7=WL 5, 8=WL 6, 9=WL 7, 10=WL 8, 11=WL 9, 12=WL 10, 13=WL GP
Effective relative humidity sensor	5049	35049	4	0	12	0=None, 1=Internal, 2=WL 1, 3= WL 2, 4=WL 3, 5=WL 4, 6=WL 5, 7=WL 6, 8=WL 7, 9=WL 8, 10=WL 9, 11=WL 10, 12=WL GP

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Temperature Scale	1	40001	3,6	0	1	0= °C, 1=°F
Display Language	2	40002	3,6	0	22	0=English, 1=French, 2=Spanish, 3=Chinese, 4=Russian, 5=Arabic, 6=Bulgarian, 7=Czech, 8=Danish, 9=Dutch, 10=Finnish, 11=German, 12=Hungarian, 13=Indonesian, 14=Italian, 15=Norwegian, 16=Polish, 17=Portuguese, 18=Slovak, 19=Swedish, 20=Turkish. 21=Japanese 22=Hebrew
Fan Mode	3	40003	3,6	0	4	0=Low, 1=Med, 2=High, 3=Auto, 4=On
System Mode	4	40004	3,6	0	3	0=Off, 1=Auto, 2=Cool, 3=Heat
RB12 Configuration	5	40005	3,6	0	2	0=None, 1=Filter, 2=Service
Auto Mode Enable	6	40006	3,6	0	1	0=Disabled, 1=Enabled
Heating Valve	7	40007	3,6	0	1	0=NO, 1=NC
BI1 Configuration	8	40008	3,6	0	4	0=None, 1=Rem NSB, 2=Motion NO, 3=Motion, NC, 4=Window
BI2 Configuration	9	40009	3,6	0	2	0=None, 1=Door dry, 2=Override
Room Humidity Display	10	40010	3,6	0	1	0=Disabled, 1=Enabled
Cooling Valve	11	40011	3,6	0	1	0=NO, 1=NC
Dehumidification Lockout	12	40012	3,6	0	1	0=Disabled, 1=Enabled
RUI1 Configuration	13	40013	3,6	0	5	0=None, 1=Filter, 2=Service, 3=COC/NH, 4=COC/NC, 5=COS
Pulsed Heating	15	40015	3,6	0	2	0=Off, 1=On, 2=Occ out
Fan Sequence	16	40016	3,6	0	4	0=L-M-H, 1=L-H, 2=L-M-H-A, 3=L-H-A, 4=On-Auto
Setpoint Function	17	40017	3,6	0	1	0=Dual SP, 1=Attach SP
Auto Mode Fan Function	18	40018	3,6	0	1	0=AS, 1=AS/AD
Fan Control in Heating Mode	19	40019	3,6	0	2	0=On, 1=Off-Auto, 2=Off-all
Sequence of Operation	20	40020	3,6	0	3	0=Cool only, 1=Heat only, 2=Cool/Heat, 3=Heat-Rht, 4=Reheat
Occupancy Command	22	40022	3,6	0	2	0=Loc. occ., 1=Occupied, 2=Unocc.
Network Units	23	40023	3,6	0	1	0=SI, 1=Imperial
No Activity Sleep Mode Time	26	40026	3,6	0	1	0=Disabled, 1=Enabled
Time Format	27	40027	3,6	0	1	0=AM-PM, 1=24-Hours

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Standby Mode Configuration	28	40028	3,6	0	1	0=Absolute, 1=Offset
HMI Color	29	40029	3,6	0	4	0=White, 1=Green, 2=Blue, 3=Grey, 4=Dark grey
Main Display	30	40030	3,6	0	1	0=Temp., 1=Setpoint
Long Message Background Colour	31	40031	3,6	0	6	0=White, 1=Green, 2=Blue, 3=Grey, 4=Dark grey, 5=Default, 6=Red
Use Standby Screen	32	40032	3,6	0	3	0=No, 1=Yes, 2=Occ. only, 3=Screen sav
Enable Smart Recovery	51	40051	3,6	0	1	0=Off, 1=On
Schedule Menu	54	40054	3,6	0	3	0=Disabled, 1=Enabled, 2=Dis.no.clk, 3=En.no.clk
French	56	40056	3,6	0	1	0=Disabled, 1=Enabled
Spanish	57	40057	3,6	0	1	0=Disabled, 1=Enabled
Chinese	58	40058	3,6	0	1	0=Disabled, 1=Enabled
Russian	59	40059	3,6	0	1	0=Disabled, 1=Enabled
Month	60	40060	3,6	0	11	0=Jan., 1=Feb., 2=Mar., 3=Apr., 4=May, 5=June, 6=July, 7=Aug., 8=Sept., 9=Oct., 10=Nov., 11=Dec.

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Wireless Device 1 - Function	66	40066	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 2 - Function	67	40067	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 3 - Function	68	40068	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 4 - Function	69	40069	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 5 - Function	70	40070	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 6 - Function	71	40071	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 7 - Function	72	40072	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 8 - Function	73	40073	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 9 - Function	74	40074	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Wireless Device 10 - Function	75	40075	3,6	0	6	0=None, 1=Window, 2=Door, 3=Motion, 4=Status, 5=Remove, 6=Water
Occupancy Source	77	40077	3,6	0	1	0=Motion, 1=Schedule
Mode Button	78	40078	3,6	0	1	0=Disabled, 1=Enabled
Control Status	79	40079	3	0	2	0=Off, 1=Cool, 2=Heat
Custom button icon	81	40081	3,6	0	16	0=Default Button, 1=No Button, 2=System Mode Heat/Cool, 3=System Mode On/Off, 4=Fan Mode, 5=Override Button, 6=Units Button, 7=Help Button, 8=Language Button, 9=Schedule Button, 10=Lighting Button, 11=Blind Button, 12=Lamp Button, 13=Energy Button, 14=make Room Button, 15=Setting Button, 16=Timer Button
Custom button behavior	82	40082	3,6	0	11	0=Default function, 1=No function, 2=System mode function, 3=Fan function, 4=Override function, 5=Schedule function, 6=Units function, 7=Help function, 8=Language function, 9=Configuration function, 10=Custom function, 11=Standby function,
Arabic	83	40083	3,6	0	1	0=Disabled, 1=Enabled
Czech	85	40085	3,6	0	1	0=Disabled, 1=Enabled
Danish	86	40086	3,6	0	1	0=Disabled, 1=Enabled
Dutch	87	40087	3,6	0	1	0=Disabled, 1=Enabled
Finnish	88	40088	3,6	0	1	0=Disabled, 1=Enabled
German	89	40089	3,6	0	1	0=Disabled, 1=Enabled

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Hungarian	90	40090	3,6	0	1	0=Disabled, 1=Enabled
Indonesian	91	40091	3,6	0	1	0=Disabled, 1=Enabled
Italian	92	40092	3,6	0	1	0=Disabled, 1=Enabled
Norwegian	93	40093	3,6	0	1	0=Disabled, 1=Enabled
Polish	94	40094	3,6	0	1	0=Disabled, 1=Enabled
Portuguese	95	40095	3,6	0	1	0=Disabled, 1=Enabled
Slovak	96	40096	3,6	0	1	0=Disabled, 1=Enabled
Swedish	97	40097	3,6	0	1	0=Disabled, 1=Enabled
Turkish	98	40098	3,6	0	1	0=Disabled, 1=Enabled
Modbus Baud Rate	105	40105	3,6	0	4	0=4800, 1=9600, 2=19200, 3=38400, 4=57600
Modbus Parity Bit	106	40106	3,6	0	2	0=None, 1=Odd, 2=Even
Schedule Type	107	40107	3,6	0	2	0=7 days, 1= 5+2 days, 2=5+1+1 days
Room Temperature Sensor	116	40116	3,6	0	13	0=Wired, 1=Internal, 2= WL IO, 3=WL 1, 4=WL 2, 5=WL 3, 6=WL 4, 7=WL 5, 8=WL 6, 9=WL 7, 10=WL 8, 11=WL 9, 12=WL 10, 13=WL GP
CO ₂ Display	118	40118	3,6	0	1	0=Disabled, 1=Enabled
CO ₂ Auto calibration	119	40119	3,6	0	1	0=Disabled, 1=Enabled
Lock Screen	120	40120	3,6	0	1	0=No, 1=Yes
Relative humidity sensor	121	40121	3,6	0	12	0=None, 1=Internal, 2=WL 1, 3=WL 2, 4=WL 3, 5= WL 4, 6= WL 5, 7= WL 6, 8= WL 7, 9= WL 8, 10= WL 9, 11= WL 10, 12= WL GP
Temperature Alarm Enabled	123	40123	3,6	0	1	0=Off, 1=On
ADR Permission	124	40124	3,6	0	1	0=Off, 1=On
Wireless Device GP - Function	125	40125	3,6	0	2	0=Remove, 1=None, 2=T
Fan Type	128	40128	3,6	0	1	0=3 speed, 1=ECM
Japanese	129	40129	3,6	0	1	0= Disabled 1=Enabled
Hebrew	130	40130	3,6	0	1	0= Disabled 1=Enabled

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Occupied Cool Setpoint	4001	44001	3,6	54	100	°F
Occupied Heat Setpoint	4002	44002	3,6	40	90	°F
Unoccupied Cool Setpoint	4003	44003	3,6	54	100	°F
Unoccupied Heat Setpoint	4004	44004	3,6	40	90	°F
Heating Setpoint Limit	4005	44005	3,6	40	90	°F
Cooling Setpoint Limit	4006	44006	3,6	54	100	°F
Calibrate Room Temperature Sensor	4007	44007	3,6	-5	5	°F
Standby Cool Setpoint	4009	44009	3,6	54	100	°F
Standby Heat Setpoint	4010	44010	3,6	40	90	°F
Dehumidification Max Cooling Limit	4011	44011	3,6	20	100	%RH
Dehumidification Setpoint	4012	44012	3,6	30	95	%RH
Calibrate Humidity Sensor	4013	44013	3,6	-15	15	%RH
Dehumidification Hysteresis	4015	44015	3,6	2	20	%RH
Main Password	4017	44017	3,6	0	9999	---
COM Address	4018	44018	3,6	0	254	---
Model Number	4019	44019	3	143	146	---
Minimum Deadband	4020	44020	3,6	2	5	°F
Heating CPH	4021	44021	3,6	3	8	---
Cooling CPH	4022	44022	3,6	3	8	---

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Number of Pipes	4025	44025	3,6	2	4	---
Unoccupied Time	4026	44026	3,6	0	24	Hours
Temporary Occupancy Time	4027	44027	3,6	0	24	Hours
Standby Time	4028	44028	3,6	5	24	Hours
Proportional Band	4029	44029	3,6	3	10	---
Cooling Demand Limit	4030	44030	3,6	0	100	%
Heating Demand Limit	4031	44031	3,6	0	100	%
Low Backlight	4033	44033	3,6	0	100	%
Night Backlight	4034	44034	3,6	0	100	%
Purge Sample Period	4036	44036	3,6	0	4	Hours
Purge Open	4037	44037	3,6	1	3	Minutes
Standby Temperature Differential	4038	44038	3,6	1	5	°F
User Password	4039	44039	3,6	0	9999	---
User HMI	4042	44042	3,6	0	12	---
Default Heating Setpoint	4043	44043	3,6	65	80	°F
Occupied 1	4059	44059	3,6	0	1440	---
Unoccupied 1	4060	44060	3,6	0	1440	---
Occupied 2	4061	44061	3,6	0	1440	---
Unoccupied 2	4062	44062	3,6	0	1440	---

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Occupied 3	4063	44063	3,6	0	1440	---
Unoccupied 3	4064	44064	3,6	0	1440	---
Occupied 1	4065	44065	3,6	0	1440	---
Unoccupied 1	4066	44066	3,6	0	1440	---
Occupied 2	4067	44067	3,6	0	1440	---
Unoccupied 2	4068	44068	3,6	0	1440	---
Occupied 3	4069	44069	3,6	0	1440	---
Unoccupied 3	4070	44070	3,6	0	1440	---
Occupied 1	4071	44071	3,6	0	1440	---
Unoccupied 1	4072	44072	3,6	0	1440	---
Occupied 2	4073	44073	3,6	0	1440	---
Unoccupied 2	4074	44074	3,6	0	1440	---
Occupied 3	4075	44075	3,6	0	1440	---
Unoccupied 3	4076	44076	3,6	0	1440	---
Occupied 1	4077	44077	3,6	0	1440	---
Unoccupied 1	4078	44078	3,6	0	1440	---
Occupied 2	4079	44079	3,6	0	1440	---
Unoccupied 2	4080	44080	3,6	0	1440	---
Occupied 3	4081	44081	3,6	0	1440	---
Unoccupied 3	4082	44082	3,6	0	1440	---

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Occupied 1	4083	44083	3,6	0	1440	---
Unoccupied 1	4084	44084	3,6	0	1440	---
Occupied 2	4085	44085	3,6	0	1440	---
Unoccupied 2	4086	44086	3,6	0	1440	---
Occupied 3	4087	44087	3,6	0	1440	---
Unoccupied 3	4088	44088	3,6	0	1440	---
Occupied 1	4089	44089	3,6	0	1440	---
Unoccupied 1	4090	44090	3,6	0	1440	---
Occupied 2	4091	44091	3,6	0	1440	---
Unoccupied 2	4092	44092	3,6	0	1440	---
Occupied 3	4093	44093	3,6	0	1440	---
Unoccupied 3	4094	44094	3,6	0	1440	---
Occupied 1	4095	44095	3,6	0	1440	---
Unoccupied 1	4096	44096	3,6	0	1440	---
Occupied 2	4097	44097	3,6	0	1440	---
Unoccupied 2	4098	44098	3,6	0	1440	---
Occupied 3	4099	44099	3,6	0	1440	---
Unoccupied 3	4100	44100	3,6	0	1440	---
Time	4110	44110	3,6	0	1439	---
Year	4111	44111	3,6	2000	2100	---
Day	4112	44112	3,6	1	31	---

4000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Lua Parameter A (AV25)	4117	44117	3,6	-32768	32767	---
Lua Parameter B (AV26)	4118	44118	3,6	-32768	32767	---
Lua Parameter C (AV27)	4119	44119	3,6	-32768	32767	---
Lua Parameter D (AV28)	4120	44120	3,6	-32768	32767	---
Lua Parameter E (AV29)	4121	44121	3,6	-32768	32767	---
Lua Parameter F (AV30)	4122	44122	3,6	-32768	32767	---
Hardware Revision	4123	44123	3	1	5	---
Keyboard Value	4126	44126	3,6	0	35	---
Input Source	4139	44139	3,6	0	3	---
Temperature Alarm Threshold	4143	44143	3,6	32	45	°F
Temperature Alarm Hysteresis	4144	44144	3,6	0	10	°F
Load Shedding Offset	4145	44145	3,6	4	10	°F
ECM Fan Low Voltage	4152	44152	3,6	20	40	Unit= Voltage Factor = 0.1
ECM Fan Medium Voltage	4153	44153	3,6	41	70	Unit= Voltage Factor = 0.1
ECM Fan High Voltage	4154	44154	3,6	71	100	Unit= Voltage Factor = 0.1
PI Heating Demand	8001	48001	3	0	100	%
PI Cooling Demand	8002	48002	3	0	100	%
Pulsed Heating Demand	8001	49003	3	0	100	Voltage
UO12 Analog Output	9002	49002	3	0	10	Voltage

5000+ MODBUS ADDRESS FUNCTIONS

Object Name	Modbus Register	Modbus Address	Function Code	Low Limit	High Limit	Description ***
Filter Alarm	5001	5001	1	0	1	0=Off, 1=On
Service Alarm	5002	5002	1	0	1	0=Off, 1=On
Window Alarm	5003	5003	1	0	1	0=Off, 1=On
PIR Local Motion	5004	5004	1	0	1	0=No motion, 1=Motion
Dehumidification Status	5005	5005	1	0	1	0=Off, 1=On
Low Battery Alarm	5006	5006	1,5	0	1	0=Off, 1=On
Window Contact Installed	5007	5007	1,5	0	1	0=No, 1=Yes
Window Contact Status	5008	5008	1,5	0	1	0=Closed, 1=Open
Door Contact Installed	5009	5009	1,5	0	1	0=No, 1=Yes
Door Contact Status	5010	5010	1,5	0	1	0=Closed, 1=Open
Display Long Screen Message	5011	5011	1,5	0	1	0=Off, 1=On
Force High Backlight	5012	5012	1,5	0	1	0=Off, 1=On
Smart Recovery Status	5014	5014	1	0	1	0=Off, 1=On
Exception Status	5015	5015	1	0	1	0=Off, 1=On
ZigBee PIR Sensor Installed	5019	5019	1,5	0	1	0=Off, 1=On
ZigBee Sensor Motion	5020	5020	1,5	0	1	0=No motion, 1=Motion
Clock Alarm	5021	5021	1	0	1	0=Off, 1=On
Water Leak	5024	5024	1,5	0	1	0=Off, 1=On
Water Leak Sensor Installed	5025	5025	1,5	0	1	0=No, 1=Yes
Water leak Sensor Status	5026	5026	1,5	0	1	0=Normal, 1=Leak
Low Temperature	5027	5027	1,5	0	1	0=Off, 1=On
Load Shedding Demand	5028	5028	1,5	0	1	0=Off, 1=On
Load Shedding Status	5029	5029	1,5	0	1	0=Off, 1=On
Load Shedding Override	5030	5030	1,5	0	1	0=Off, 1=On