



Modbus Address Mapping Table

Version 1.0.0 June 2020

iWSN-1510X、iWSN-1511X



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Important Information

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1. iWSN-2200 Series Modbus Address Mapping Table

[Note 1]: The length of the data that can be polled to iWSN-2200 at one time is up to 72 words (Uint16/int16).

PLC address (Base1)	Protocol address (Base0)	Function code	Property	Data type	Description	Remarks
40001 30001	0 (0x0000)	03, 04	R	Uint16	The firmware version of iWSN-2200.	The value divided by 10 is the version. Ex: 11/10=1.1=version 1.1.
40002 30002	1 (0x0001)	03, 04	R	Uint16	The module name of iWSN-2200	Value ranges 0~65535 ° Value 2(0x02): iWSN-2200-R1 ° Value 2200(0x0898): iWSN-2200 or iWSN-2200-E ° Other values: reserved.
40003 30003	2 (0x0002)	03, 04, 06	R, W	Uint16	The temperature unit of iWSN-2200 °	Value 0x0000: Celsius (°C). Value 0x0001: Fahrenheit (°F). Other values: reserved.
40004 30004	3 (0x0003)	03, 04	R	Uint16	The wireless linking status of iWSN sensor, node ID 31 to 16.	Bit15~bit0 corresponds to node ID 31 to 16. 1: Good Linking °

					[Note] About wireless disconnection check value please refer to PLC address 40007~40008.	0: Disconnecting link.
40005 30005	4 (0x0004)	03, 04	R	Uint16	The wireless linking status of iWSN sensor, node ID 15 to 1. [Note] About wireless disconnection check value please refer to PLC address 40007~40008.	Bit15~bit1 corresponds to node ID 15 to 1. Bit0: fix 1. 1: Good Linking ° 0: Disconnecting link.
40006 30006	5 (0x0005)	03, 04	R	Uint16	The count value of the time synchronization command received.	[High byte] Reserved, fix 0.
		06	W			[Low byte] Value ranges 0~255 °
					Reboot iWSN-2200.	0x0001: Reboot ° Other values: reserved.
40007 30007	6 (0x0006)	03, 04, 06	R, W	Uint16	[High word] iWSN sensor wireless disconnection check	Value ranges 1~4294967295 (0x00000001~0xFFFFFFFF), unit: times.

					value. The iWSN-2200 will follow the RF transmission duty cycle of iWSN sensor to check whether the RF package be receiving, if iWSN-2200 receive RF packages loss counter over than this value, then iWSN-2200 will judge to wireless disconnection.	[Read] Default 8640 (0x000021C0) 。 [Write] After writing, the reboot takes effect.
40008 30008	7 (0x0007)	03, 04, 06	R, W	Uint16	[Low word] iWSN sensor wireless disconnection check value. The iWSN-2200 will follow the RF transmission duty cycle of iWSN sensor to check whether the RF package be receiving, if iWSN-2200 receive RF packages loss counter	

					over than this value, then iWSN-2200 will judge to wireless disconnection.	
40009 30009	8 (0x0008)	03, 04, 06	R, W	Uint16	The threshold with low battery power alarm of iWSN sensor. If the battery power of iWSN sensor lower than this value, then the data of battery power will add low battery alarm.	<div>[High byte] Reserved, fix 0.</div> <div>[Low byte] Value range 1~100 (0x01~0x64), unit: Percent (%). [Read] Default 20 (0x14) ° [Write] After writing, the reboot takes effect.</div>
40010 30010	9 (0x0009)	03,04, 06	R, W	Uint16	Relay status. [Note 1] Only for iWSN-2200-R1 to use. [Note 2] The command 06 can only write open, not close.	<div>0 : Open (Open circuit) °</div> <div>1 : Close (Short circuit) °</div>
40011 30011	10 (0x000A)	03, 04, 16	R, W	Uint16	The time of iWSN-2200. [Note 1] External timing	Hour, value range 0~23 °

40012 30012	11 (0x000B)	03, 04, 16	R, W	Uint16	correction is required. The correction method is Modbus master timing transmission station number 32 (0x20), command code 16 (0x10), time data packet with address 10~13, iWSN-2200 will only receive and will not respond. [Note 2] Because iWSN-2200 only supports 31 sensors at most, there will be no module response from station number 32, so station number 32 is used as a broadcast command.	Minute, value range 0~59 °
40013 30013	12 (0x000C)	03, 04, 16	R, W	Uint16		Second, value range 0~59 °
40014 30014	13 (0x000D)	03,04, 16	R, W	Uint16		Millisecond, value range 0~999 °
40015~ 40100	14~99 (0x000E~	-	-	-	-	Reserved.

30015~ 30100	0x0063)					
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2. iWSN Sensor Modbus Address Mapping Table

[Note 1]: The length of the data that can be polled to iWSN-2200 at one time is up to 72 words (Uint16/int16).

[Note 2]: The high byte of protocol address is node ID, and the low byte of protocol address is address mapping. The range of address mapping table in iWSN sensor node ID 1 to 31 as bellow.

iWSN sensor Node ID	The range of address mapping (Hexadecimal)	The range of address mapping (Decimal , Base 0)	The range of address mapping (Decimal , Base 1)
1	0x0141~0x016C	321~364	40322~40365 30322~30365
2	0x0241~0x026C	577~620	40578~40621 30578~30621
...
30	0x1E41~0x1E6C	7745~7788	47746~47789 37746~37789
31	0x1F41~0x1F6C	8001~8044	48002~48045 38002~38045

For example, iWSN sensor node ID 1:

PLC address (Base1)	Protocol address (Base0)	Function code	Property	Data type	Description	Remarks
40322~40327 30322~30327	321~326 (0x0141~0x0146)	-	-	-	Reserved.	-
40328 30328	327 (0x0147)	03, 04	R	Uint16	Wireless packet reception time.	Hour, value range 0~23 °
40329 30329	328 (0x0148)	03, 04	R	Uint16		Minute, value range 0~59 °
40330 30330	329 (0x0149)	03, 04	R	Uint16		Second, value range 0~59 °
40331 30331	330 (0x014A)	-	-	-	Reserved.	-
40332 30332	331 (0x014B)	03, 04	R	Uint16	[High byte] Automatic response time period of iWSN sensor.	(Bit7~Bit6) 00: Bit0~Bit5 mean the unit is second. 01: Bit0~Bit5 mean the unit is minute. 10: Bit0~Bit5 mean the unit is hour. 11: Reserved.

						(Bit5~Bit0) Refer the unit of Bit7 and Bit6 to define the time scale. Value 1 to 63: Mean 1~63 unit of time. Value 0: Reserved.
					[Low byte] The receiving signal strength of iWSN-2200.	Value ranges 0~255. The higher the value, the better the signal.
40333 30333	332 (0x014C)	03, 04	R	Uint16	[High byte] The firmware version of iWSN sensor.	Value ranges 10~255. Ex: value 10 = v1.00, value 254 = v25.40.
					[Low byte] The serial number of wireless package.	Value ranges 0~15.
40334 30334	333 (0x014D)	03, 04	R	Uint16	[High byte] The module code of iWSN sensor.	Value ranges 0~255. Please refer to module code table .
					[Low byte]	Value ranges 0~255.

					The module code of extension module.	Please refer to module code table .
40335 30335	334 (0x014E)	03, 04	R	Uint16	The power percent of battery. [Note] The threshold please refer to PLC address 40009.	<div>[High byte]</div> Bit0: The power whether less than threshold (default is 20%). Value 1 = Yes, value 0 = No. Bit1~bit7: Reserved, fix 0.
						<div>[Low byte]</div> The value is mean percent (%).
40336~40340 30336~30340	335~339 (0x014F~0x0153)	03, 04	R	Uint16	Reserved.	-
40341 30341	340 (0x0154)	03, 04	R	Uint16	The temperature of thermistor. [Note] For iWSN-1511X using.	The value divided by 10 is $^{\circ}\text{C}$, and the measurement range is $0^{\circ}\text{C} \sim +80^{\circ}\text{C}$.
40342 30342	341 (0x0155)	03, 04	R	Uint16	CO2 concentration. [Note] Use with expansion module iWSN-012.	The value is ppm, and measuring range: 400 ppm to 60000 ppm.

40343 30343	342 (0x0156)	03, 04	R	Uint16	TVOC concentration. [Note] Use with expansion module iWSN-012.	The value is ppb, and measuring range: 0 ppb to 60000 ppb.
40344 30344	343 (0x0157)	03, 04	R	Uint16	Environment temperature. [Note] Use with expansion module iWSN-010.	The value divided by 100 is °C, and the measurement range is -20°C ~+60 °C.
40345 30345	344 (0x0158)	03, 04	R	Uint16	Environment humidity. [Note] Use with expansion module iWSN-010.	The value divided by 100 is %, and the measurement range is 10%~95%.
40346 30346	345 (0x0159)	03, 04	R	Uint16	CO concentration. [Note] Use with expansion module iWSN-101.	The value is ppm, and measuring range: 0~1000 ppm.

40347 30347	346 (0x015A)	03, 04	R	Uint16	Vibration MEAN X. [Note] Use with expansion module iWSN-203.	The value divided by 100 is g, and the measurement range is 0~8g.
					Vibration MEAN. [Note] Use with expansion module iWSN-201.	
40348 30348	347 (0x015B)	03, 04	R	Uint16	Vibration MEAN Y. [Note] Use with expansion module iWSN-203.	
					Vibration RMS. [Note] Use with expansion module iWSN-201.	
40349 30349	348 (0x015C)	03, 04	R	Uint16	Vibration MEAN Z. [Note] Use with expansion module iWSN-203.	

					Vibration MAX. [Note] Use with expansion module iWSN-201.	
40350 30350	349 (0x015D)	03, 04	R	Uint16	Vibration RMS X. [Note] Use with expansion module iWSN-203.	The value divided by 100 is g, and the measurement range is 0~8g.
40351 30351	350 (0x015E)	03, 04	R	Uint16	Vibration RMS Y. [Note] Use with expansion module iWSN-203.	
40352 30352	351 (0x015F)	03, 04	R	Uint16	Vibration RMS Z. [Note] Use with expansion module iWSN-203.	
40353 30353	352 (0x0160)	03, 04	R	Uint16	Vibration MAX X. [Note] Use with expansion module iWSN-203.	The value divided by 100 is g, and the measurement range is 0~8g.

40354 30354	353 (0x0161)	03, 04	R	Uint16	Vibration MAX Y. [Note] Use with expansion module iWSN-203.	
40355 30355	354 (0x0162)	03, 04	R	Uint16	Vibration MAX Z. [Note] Use with expansion module iWSN-203.	
40356 30356	355 (0x0163)	03, 04	R	Uint16	Vibration VECT. [Note] Use with expansion module iWSN-203.	The value divided by 100 is g, and the measurement range is 0~8g.
40357~40365 30357~30365	356~364 (0x0164~0x016C)	-	-	-	Reserved.	-

3. iWSN Sensor Module Code and Expansion Module Code

Module Code	Module Name	Type	Power Supply	Charging Method	Can be expanded?
0 (0x00)	iWSN-1110X	SCT x 1	Rechargeable Battery	CT Charging	Yes
1 (0x01)	iWSN-1120X	SCT x 1 RCT x 1			
2 (0x02)	iWSN-1010X	SCT x 1	DC+10~+30V	-	
100 (0x64)	iWSN-1131	SCT x 3, Thermistor x 1	Rechargeable Battery	CT Charging	No
101 (0x65)	iWSN-1121-DI	SCT x 2 Thermistor x 1 DI dry contact x 1			
141 (0x8D)	iWSN-1510X	(Connect to expansion module)	Rechargeable Battery	CT Charging or DC+3V Charging	Yes
142 (0x8E)	iWSN-1511X	Thermistor x 1			
144 (0x8F)	iWSN-SOS-RB	Emergency Button x 1	Disposable battery	-	No
144 (0x90)	iWSN-SOS-PB	Emergency Button x 1			
145 (0x91)	iWSN-SOS-PB-IP65	Emergency Button x 1 (Waterproof Type)			

146 (0x92)	iWSN-SOS-PB-PT	Emergency Button x 1 (Portable Type)			
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Expansion Module Code	Module Name	Type	Support Module
0 (0x00)	iWSN-750P	SCT x 5	iWSN-11xxX
32 (0x20)	iWSN-757P	SCT x 5 Thermistor x 7	
33 (0x21)	iWSN-010	Temperature and Humidity x 1	iWSN-15xxX
34 (0x22)	iWSN-012	TVOC/CO2 x 1	
35 (0x23)	iWSN-101	CO x 1	
36 (0x24)	iWSN-901	IR (Single Point) x 1	
37 (0x25)	iWSN-964	IR (Array) x 1	
38 (0x26)	iWSN-201	Vibration (single axis) x 1	
39 (0x27)	iWSN-203	Vibration (three axes) x 1	
255 (0xFF)	No expansion module	-	-

	connected		
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