



Modbus Address Mapping Table

Version 1.0.0 June 2020

iWSN-1110X、iWSN-1120X、iWSN-1121-DI、iWSN-1131 Series



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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. [Note] About wireless disconnection check value	Bit15~bit0 corresponds to node ID 31 to 16. 1: Good Linking 。 0: Disconnecting link.

					please refer to PLC address 40007~40008.	
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.
						[Low byte] Value ranges 0~255 °
		06	W		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. The iWSN-2200 will follow the RF transmission duty cycle of iWSN sensor	Value ranges 1~4294967295 (0x00000001~0xFFFFFFFF), unit: times. [Read] Default 8640 (0x000021C0) ° [Write] After writing, the reboot takes effect.

					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.	
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	8	03, 04,	R, W	Uint16	The threshold with low	[High byte]

30009	(0x0008)	06			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.	Reserved, fix 0.
						[Low byte] Value range 1~100 (0x01~0x64), unit: Percent (%). [Read] Default 20 (0x14) ° [Write] After writing, the reboot takes effect.
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.	0 : Open (Open circuit) ° 1 : Close (Short circuit) °
40011 30011	10 (0x000A)	03, 04, 16	R, W	Uint16	The time of iWSN-2200. [Note 1] External timing correction is required. The correction method is Modbus master timing transmission station number 32 (0x20),	Hour, value range 0~23 °
40012 30012	11 (0x000B)	03, 04, 16	R, W	Uint16		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	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.	Millisecond, value range 0~999 °
40015~ 40100 30015~ 30100	14~99 (0x000E~ 0x0063)	-	-	-	-	Reserved.

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)	03, 04	R	Uint16	The CT current of channel 0 to channel 6.	The value divided by 10 is amps (A).
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)	03, 04	R	Uint16	The status of CT °	Bit8~bit0 corresponds to channel 8 to 0. Value 0 is mean the channel is good. Value 1 is mean the channel is bad. Ex: 4162 (0x1042) = 0000 0000 0100 0010 mean channel 1 and 6 are bad, other channels are good.

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] The module code of extension module.	Value ranges 0~255. 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.	[High byte] Bit0: The power whether less than threshold (default is 20%). Value 1 = Yes, value 0 = No. Bit1~bit7: Reserved, fix 0.
						[Low byte] The value is mean percent (%).
40336 30336	335 (0x014F)	03, 04	R	Uint16	The channel numbers of CT.	Value ranges 0~6.
40337 30337	336 (0x0150)	03, 04	R	Uint16	CT types.	Bit5~bit0 corresponds to channel 5 to 0. Value 0: Spilt CT of current type with 3000:1. Value 1: Rogowski coil of voltage type with 1000A:124.8mVac.

40338 30338	337 (0x0151)	03, 04	R	Uint16	The numbers of temperature channel.	Value ranges 0~7.
40339 30339	338 (0x0152)	03, 04	R	Uint16	The status of temperature channel.	Bit6~bit0 corresponds to channel 6 to 0. Value 0: measuring status is good. Value 1: measuring status is bad.
40340 30340	339 (0x0153)	03, 04	R	Uint16	The alarm of temperature channel.	Bit6~bit0 corresponds to channel 6 to 0. Value 0: No alarm. Value 1: Temperature continuous rise alarm.
40341~40347 30341~30347	340~346 (0x0154~0x015A)	03, 04	R	Int16	The temperature of channel 0 to channel 6. [Note] Temperature unit be refer to PLC address 40003.	The value divided by 10 is temperature, ex: 250 = 25.0 Celsius (°C).
40348 30348	347 (0x015B)	03, 04	R	Uint16	The numbers of DI channel.	Value ranges 0~16.

40349 30349	348 (0x015C)	03, 04	R	Uint16	DI status, DI 15 to DI 0.	Bit15~bit0 corresponds to DI 15 to 0. Value 0: Low voltage level. Value 1: High voltage level.
40350~40358 30350~30358	349~357 (0x015D~0x0165)	03, 04, 06, 16	R, W	Int16	CT current offset value of channel 0~channel 8. (The offset unit is 0.1 amps and the range is -3276.8 amps to 3276.7 amps.)	Value 1 (0x0001) mean +0.1 amps. Value -1 (0xFFFF) mean -0.1 amps.
40359~40365 30359~30365	358~364 (0x0166~0x016C)	03, 04, 06, 16	R, W	Int16	Temperature offset value of channel 0~channel 6. (The offset unit is 0.1 and the range is -3276.8 to 3276.7) [Note] Temperature unit be refer to PLC address 40003.	Value 1 (0x0001) mean +0.1. Value -1 (0xFFFF) mean -0.1.

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 (0x90)	iWSN-SOS-PB	Emergency Button x 1	Disposable battery	-	No
145 (0x91)	iWSN-SOS-PB-IP65	Emergency Button x 1 (Waterproof Type)			
146 (0x92)	iWSN-SOS-PB-PT	Emergency Button x 1 (Portable Type)			

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	-	-