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Category	■FAQ □ SOP	**Related OS**	N/A
Abstract	What is the Modbus Address definition for WISE-4210		
Keyword	WISE-4210, WISE-2210, WISE-2211, Modbus, SUB-G		
Related Product	WISE-4210, S214, S231, S250, S251, WISE-2210, WISE-2211		

■ Problem Description:

This document explains the Modbus address definition for WISE-4210.

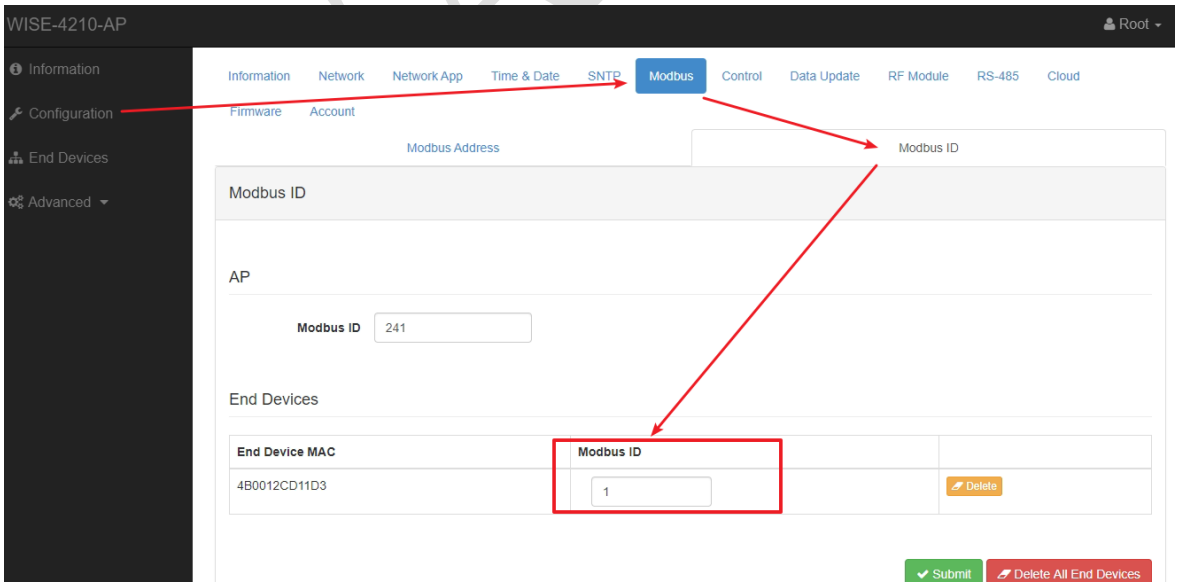
■ Solution:

Modbus TCP Polling is a common method for user to acquire data. For WISE-4210-AP, the data is collected from different WISE-4210 end-nodes. Each of end-node will be assigned one Modbus ID. In this hands-on, we will show you how to arrange node's Modbus ID and get the data via Modbus TCP. There are two individual table for different operation mode, **Push mode** and **Downlink mode**. **Please refer to the specific table accordingly**.

1. Arrange the Modbus ID from each node.

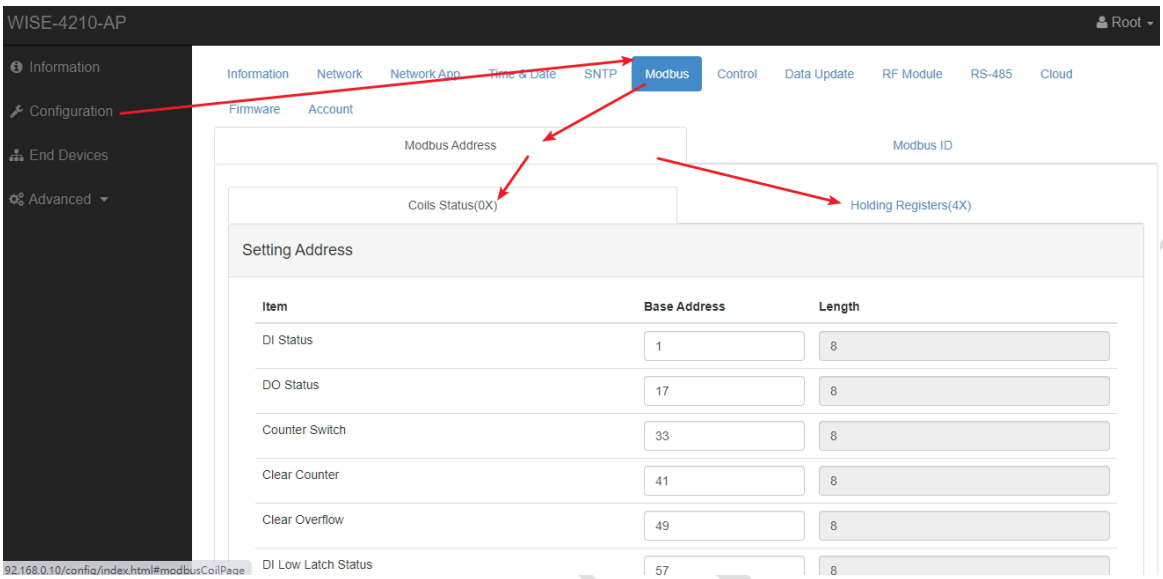
✓ Node's Modbus ID is automatically assigned from 1 to 255 according to the sequence.

✓ Modbus ID could also be assigned manually.



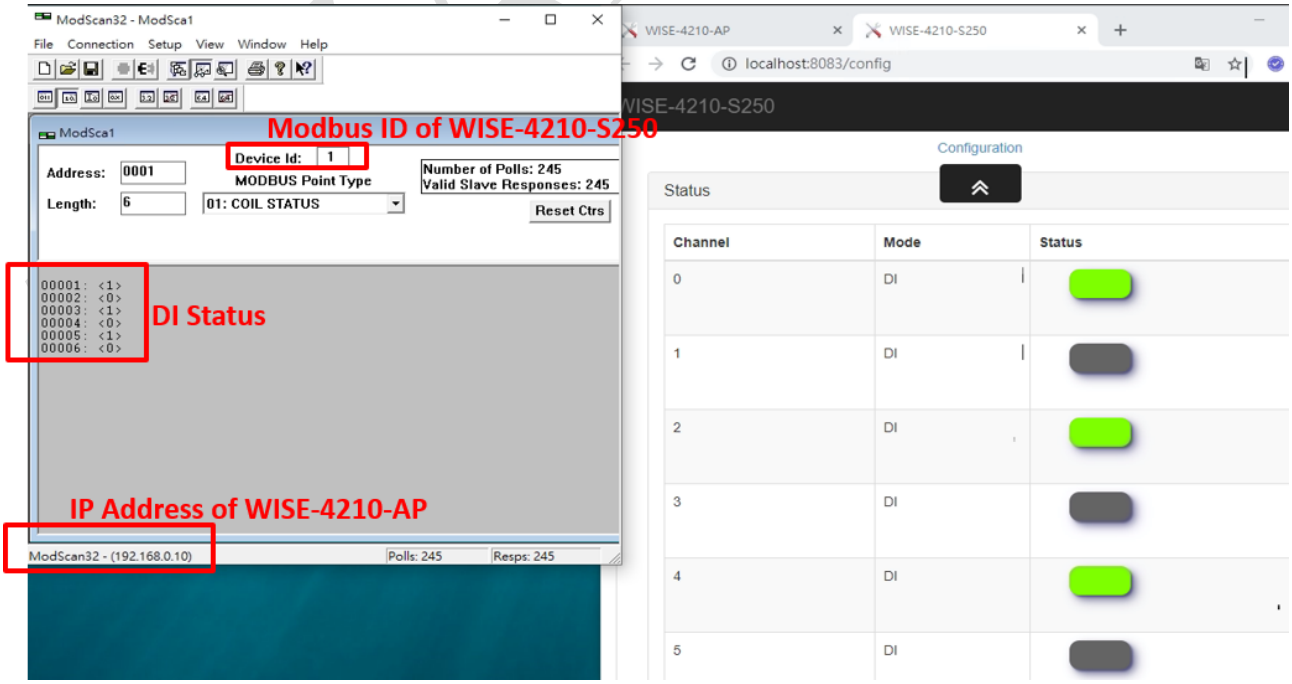
2. Check each node's Modbus address

- ✓ Modbus address could be found in the webpage of WISE-4210-AP.
- ✓ For example: DI Status:00001~00008, Sensor Value(S231):40501~40508
- ✓ Please notice that for WISE-4210-AP (Default ID:241), only RTC, Datalog Status and Module name is available to be read.



3. Read Modbus value by 3rd party application

- ✓ The user need to polling WISE-4210-AP's IP address and WISE-4210-Endnode's Modbus ID and corresponding IO Modbus address to get correct value.



Complete Modbus Table for WISE-4210 (Push Mode)

WISE-4210-AP							
AI	8		DI	8		Relay	8
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00001	0	DI Value	Read	40017~40018	0	Counter Value	Read
00002	1		Read	40019~40020	1		Read
00003	2		Read	40021~40022	2		Read
00004	3		Read	40023~40024	3		Read
00005	4		Read	40025~40026	4		Read
00006	5		Read	40027~40028	5		Read
00007	6		Read	40029~40030	6		Read
00008	7		Read	40031~40032	7		Read
00033	0	Counter Start(1)/ Stop(0)	Read	40033~40034	0	Frequency Value	Read
00034	1		Read	40035~40036	1		Read
00035	2		Read	40037~40038	2		Read
00036	3		Read	40039~40040	3		Read
00037	4		Read	40041~40042	4		Read
00038	5		Read	40043~40044	5		Read
00039	6		Read	40045~40046	6		Read
00040	7		Read	40047~40048	7		Read
00049	0	Clear Overflow	Read	40211		Module Name 1	Read
00050	1		Read	40212		Module Name 2	Read
00051	2		Read	40213		Module Name 3	Read
00052	3		Read	40214		Reserved for Module Name	Read
00053	4		Read				
00054	5		Read				
00055	6		Read				
00056	7		Read				
00057	0	DI L2H Latch Status	Read	40301	All	DI Value	Read
00058	1		Read				
00059	2		Read				
00060	3		Read				
00061	4		Read				
00062	5		Read				
00063	6		Read				
00064	7		Read				
00065	0	DI H2L Latch Status	Read				
00066	1		Read				
00067	2		Read				
00068	3		Read				
00069	4		Read				
00070	5		Read				
00071	6		Read				
00072	7		Read				

Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00017	0	DO Value	Read	40049~40050	0	Set Absolute Pulse	Read
00018	1		Read	40051~40052	1		Read
00019	2		Read	40053~40054	2		Read
00020	3		Read	40055~40056	3		Read
00021	4		Read	40057~40058	4		Read
00022	5		Read	40059~40060	5		Read
00023	6		Read	40061~40062	6		Read
00024	7		Read	40063~40064	7		Read
				40065~40066	0	Set Incremental Pulse	R/W
				40067~40068	1		R/W
				40069~40070	2		R/W
				40071~40072	3		R/W
				40073~40074	4		R/W
				40075~40076	5		R/W
				40077~40078	6		R/W
				40079~40080	7		R/W
				40303	All	DO Value	Read
Address 0X	**Ch**	**Description**	**Attribute**	**Address 4X**	**Ch**	**Description**	**Attribute**
00121	0	Open-Circuit Flag (Burnout)	Read	40001	0	AI Value	Read
00122	1		Read	40002	1		Read
00123	2		Read	40003	2		Read
00124	3		Read	40004	3		Read
00125	4		Read	40005	4		Read
00126	5		Read	40006	5		Read
00127	6		Read	40007	6		Read
00128	7		Read	40008	7		Read
00129	Average Ch 0~7		Read	40009	Average Ch 0~7		Read
00131	0	High Alarm Flag	Read	40091~40092	0	AI Status (*1)	Read
00132	1		Read	40093~40094	1		Read
00133	2		Read	40095~40096	2		Read
00134	3		Read	40097~40098	3		Read
00135	4		Read	40099~40100	4		Read
00136	5		Read	40101~40102	5		Read
00137	6		Read	40103~40104	6		Read
00138	7		Read	40105~40106	7		Read
00139	Average Ch 0~7						

00141	0	Low Alarm Flag	Read	**40111**	0	Historical Max. AI Value	Read
00142	1		Read	**40112**	1		Read
00143	2		Read	**40113**	2		Read
00144	3		Read	**40114**	3		Read
00145	4		Read	**40115**	4		Read
00146	5		Read	**40116**	5		Read
00147	6		Read	**40117**	6		Read
00148	7		Read	**40118**	7		Read
00149	Average Ch 0~7		Read	**40119**	Average Ch 0~7		Read
				40121	0	Historical Min. AI Value	Read
				40122	1		Read
				40123	2		Read
				40124	3		Read
				40125	4		Read
				40126	5		Read
				40127	6		Read
				40128	7		Read
				40129	Average Ch 0~7		Read
				40131~40132	0	AI Floating Value (IEEE754)	Read
				40133~40134	1		Read
				40135~40136	2		Read
				40137~40138	3		Read
				40139~40140	4		Read
				40141~40142	5		Read
				40143~40144	6		Read
				40145~40146	7		Read
				40147~40148	Average Ch 0~7		Read
				40151~40152	0	Historical Max. AI Floating Value (IEEE754)	Read
				40153~40154	1		Read
				40155~40156	2		Read
				40157~40158	3		Read
				40159~40160	4		Read
				40161~40162	5		Read
				40163~40164	6		Read
				40165~40166	7		Read
				40167~40168	Average Ch 0~7		Read

				40171~40172	0	Historical Min. AI Floating Value (IEEE754)	Read
				40173~40174	1		Read
				40175~40176	2		Read
				40177~40178	3		Read
				40179~40180	4		Read
				40181~40182	5		Read
				40183~40184	6		Read
				40185~40186	7		Read
				40187~40188	Average Ch 0~7		Read
				40191	0	AI value after scaling	Read
				40192	1		Read
				40193	2		Read
				40194	3		Read
				40195	4		Read
				40196	5		Read
				40197	6		Read
				40198	7		Read
				40199	Average Ch 0~7		Read
				40201	0	Type Code (The type codes of channels for average value can't be changed.)	Read
				40202	1		Read
				40203	2		Read
				40204	3		Read
				40205	4		Read
				40206	5		Read
				40207	6		Read
				40208	7		Read
				40209	Average Ch 0~7		Read
				40231~40232	0	Physical AI Floating Value (IEEE754)	Read
				40233~40234	1		Read
				40235~40236	2		Read
				40237~40238	3		Read
				40239~40240	4		Read
				40241~40242	5		Read
				40243~40244	6		Read
				40245~40246	7		Read
				40247~40248	Average Ch 0~7		Read

Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00231	0	Sensor High Alarm Flag	Read	**40501**	0	Sensor Value 1 (*2)	Read
00232	1		Read	**40502**	1		Read
00233	2		Read	**40503**	2		Read
00234	3		Read	**40504**	3		Read
00235	4		Read	**40505**	4		Read
00236	5		Read	**40506**	5		Read
00237	6		Read	**40507**	6		Read
00238	7		Read	**40508**	7		Read
00241	0	Sensor Low Alarm Flag	Read	**40521**	0	Historical Max. Sensor Value (*2)	Read
00242	1		Read	**40522**	1		Read
00243	2		Read	**40523**	2		Read
00244	3		Read	**40524**	3		Read
00245	4		Read	**40525**	4		Read
00246	5		Read	**40526**	5		Read
00247	6		Read	**40527**	6		Read
00248	7		Read	**40528**	7		Read
				40541	0	Historical Min. Sensor Value (*2)	Read
				40542	1		Read
				40543	2		Read
				40544	3		Read
				40545	4		Read
				40546	5		Read
				40547	6		Read
				40548	7		Read
				40621	0	Type Code	Read
				40622	1		Read
				40623	2		Read
				40624	3		Read
				40625	4		Read
				40626	5		Read
				40627	6		Read
				40628	7		Read
				40631~40632	0	Sensor Status (*1)	Read
				40633~40634	1		Read
				40635~40636	2		Read
				40637~40638	3		Read
				40639~40640	4		Read
				40641~40642	5		Read
				40643~40644	6		Read
				40645~40646	7		Read

				40701	0	Sensor Value 2	Read
				40702	1		Read
				40703	2		Read
				40704	3		Read
				40705	4		Read
				40706	5		Read
				40707	6		Read
				40708	7		Read
				40721	0	Sensor Value 3	Read
				40722	1		Read
				40723	2		Read
				40724	3		Read
				40725	4		Read
				40726	5		Read
				40727	6		Read
				40728	7		Read
				40741	0	Sensor Value 4	Read
				40742	1		Read
				40743	2		Read
				40744	3		Read
				40745	4		Read
				40746	5		Read
				40747	6		Read
				40748	7		Read
				40761	0	Sensor Value 5	Read
				40762	1		Read
				40763	2		Read
				40764	3		Read
				40765	4		Read
				40766	5		Read
				40767	6		Read
				40768	7		Read
				40781	0	Sensor Value 6	Read
				40782	1		Read
				40783	2		Read
				40784	3		Read
				40785	4		Read
				40786	5		Read
				40787	6		Read
				40788	7		Read
				40801	0	Sensor Value 7	Read
				40802	1		Read
				40803	2		Read
				40804	3		Read
				40805	4		Read
				40806	5		Read
				40807	6		Read
				40808	7		Read

Modbus RTU							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
01001 ~ 01032	0~31	Expansion bit value	R/W	41001 ~ 41032	0~31	Expansion word value	R/W
				41101 ~ 41132	0~31	Expansion bit error code	R/W
				41201 ~ 41432	0~31	Expansion word error code	R/W

Miscellaneous							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
5001		RTC Battery Low	Read	45003		Main Battery Voltage	Read
5002		(Main) Battery Low Event	Read	45004		Battery Level (0 ~ 100 %)	Read
				45006		Power source (*4)	Read
				45011~45012		Timestamp	Read
				45301		RSSI (unit: - dBm)	Read
				45302		SNR (unit: dB)	Read
				45311~45314		Device EUI	Read

Addresses for Internal Use							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
				65501		Module Name 1	Read
				65502		Module Name 2	Read
				65503		Module Name 3	Read
				65504		Reserved for Module Name	Read

*1 AI/Sensor Status: (1st Register at Low Address)		
Bit Order	Description	I/O Type
0	Fail to provide AI value or sensor data	AI, AO Sensor
1	Over Range	AI
2	Under Range	AI
3	Open Circuit (Burnout)	AI
4~5	Reserved	
7	ADC initializing/Error	AI
8	Reserved	
9	Zero/Span Calibration Error	AI, AO
10~15	Reserved	

*2 Data format defined by sensor		
Sensor code	Sensor value	Data
0x0500	Temperature	signed short in tenth
0x0501	Humidity	signed short in tenth

*3 Data Logger Status	
Bit Order	Description
0	Built-in logging is out of memory for IO log. (No space left)
1	Built-in memory errors.
2	**Built-in logging is out of memory for System log. (No space left)**
3	**Cloud upload fail**
4	**Cloud push fail**
2~15	Reserved

*4 Power source	
Bit Order	Description
0	Line power
1	Battery
2~15	Reserved

*5 RSSI value
Positive value only
If the value is 56 -> -56

*6 Battery status	
0	No error
1	Low battery
2	Run out of battery
3	No battery installed

Complete Modbus Table for WISE-4210 (Downlink Mode)

WISE-4210-AP							
AI	8		DI	8		Relay	8
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00001	0	DI Value	Read	40017~40018	0	Counter Value	Read
00002	1		Read	40019~40020	1		Read
00003	2		Read	40021~40022	2		Read
00004	3		Read	40023~40024	3		Read
00005	4		Read	40025~40026	4		Read
00006	5		Read	40027~40028	5		Read
00007	6		Read	40029~40030	6		Read
00008	7		Read	40031~40032	7		Read
00033	0	Counter Start(1)/ Stop(0)	R/W	40033~40034	0	Frequency Value	Read
00034	1		R/W	40035~40036	1		Read
00035	2		R/W	40037~40038	2		Read
00036	3		R/W	40039~40040	3		Read
00037	4		R/W	40041~40042	4		Read
00038	5		R/W	40043~40044	5		Read
00039	6		R/W	40045~40046	6		Read
00040	7		R/W	40047~40048	7		Read
00041	0	Clear Counter(1)	Write	40211		Module Name 1	Read
00042	1		Write	40212		Module Name 2	Read
00043	2		Write	40213		Module Name 3	Read
00044	3		Write	40214		Reserved for Module Name	Read
00045	4		Write				
00046	5		Write	40301	All	DI Value	Read
00047	6		Write				
00048	7		Write				

00049	0	Clear Overflow	R/W				
00050	1		R/W				
00051	2		R/W				
00052	3		R/W				
00053	4		R/W				
00054	5		R/W				
00055	6		R/W				
00056	7		R/W				
00057	0	DI L2H Latch Status	R/W				
00058	1		R/W				
00059	2		R/W				
00060	3		R/W				
00061	4		R/W				
00062	5		R/W				
00063	6		R/W				
00064	7		R/W				
00065	0	DI H2L Latch Status	R/W				
00066	1		R/W				
00067	2		R/W				
00068	3		R/W				
00069	4		R/W				
00070	5		R/W				
00071	6		R/W				
00072	7		R/W				

Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00017	0	DO Value	R/W	40049~40050	0	Pulse Output Low Level Width	R/W
00018	1		R/W	40051~40052	1		R/W
00019	2		R/W	40053~40054	2		R/W
00020	3		R/W	40055~40056	3		R/W
00021	4		R/W	40057~40058	4		R/W
00022	5		R/W	40059~40060	5		R/W
00023	6		R/W	40061~40062	6		R/W
00024	7		R/W	40063~40064	7		R/W
				40065~40066	0	Pulse Output High Level Width	R/W
				40067~40068	1		R/W
				40069~40070	2		R/W
				40071~40072	3		R/W
				40073~40074	4		R/W
				40075~40076	5		R/W
				40077~40078	6		R/W
				40079~40080	7		R/W
				40081~40082	0	Set Absolute Pulse	R/W
				40083~40084	1		R/W
				40085~40086	2		R/W
				40087~40088	3		R/W
				40089~40090	4		R/W
				40091~40092	5		R/W
				40093~40094	6		R/W
				40095~40096	7		R/W
				40097~40098	0	Set Incremental Pulse	R/W
				40099~40100	1		R/W
				40101~40102	2		R/W
				40103~40104	3		R/W
				40105~40106	4		R/W
				40107~40108	5		R/W
				40109~40110	6		R/W
				40111~40112	7		R/W
				40303	All	DO Value	R/W

Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00101	0	Reset Historical Max. AI Value	Write	40001	0	AI Value	Read
00102	1		Write	40002	1		Read
00103	2		Write	40003	2		Read
00104	3		Write	40004	3		Read
00105	4		Write	40005	4		Read
00106	5		Write	40006	5		Read
00107	6		Write	40007	6		Read
00108	7		Write	40008	7		Read
00109	Average Ch 0~7		Write	40009	Average Ch 0~7		Read
00111	0	Reset Historical Min. AI Value	Write	40131~40132	0	AI Floating Value (IEEE754)	Read
00112	1		Write	40133~40134	1		Read
00113	2		Write	40135~40136	2		Read
00114	3		Write	40137~40138	3		Read
00115	4		Write	40139~40140	4		Read
00116	5		Write	40141~40142	5		Read
00117	6		Write	40143~40144	6		Read
00118	7		Write	40145~40146	7		Read
00119	Average Ch 0~7		Write	40147~40148	Average Ch 0~7		Read
00121	0	Open-Circuit Flag (Burnout)	Read	40151~40152	0	Historical Max. AI Floating Value (IEEE754)	Read
00122	1		Read	40153~40154	1		Read
00123	2		Read	40155~40156	2		Read
00124	3		Read	40157~40158	3		Read
00125	4		Read	40159~40160	4		Read
00126	5		Read	40161~40162	5		Read
00127	6		Read	40163~40164	6		Read
00128	7		Read	40165~40166	7		Read
00129	Average Ch 0~7		Read	40167~40168	Average Ch 0~7		Read
00131	0	High Alarm Flag	Read	40171~40172	0	Historical Min. AI Floating Value (IEEE754)	Read
00132	1		Read	40173~40174	1		Read
00133	2		Read	40175~40176	2		Read
00134	3		Read	40177~40178	3		Read
00135	4		Read	40179~40180	4		Read
00136	5		Read	40181~40182	5		Read
00137	6		Read	40183~40184	6		Read
00138	7		Read	40185~40186	7		Read
00139	Average Ch 0~7		Read	40187~40188	Average Ch 0~7		Read

				40201	0	Type Code (The type codes of channels for average value can't be changed.)	R/W
				40202	1		R/W
				40203	2		R/W
				40204	3		R/W
				40205	4		R/W
				40206	5		R/W
				40207	6		R/W
				40208	7		R/W
				40209	Average Ch 0~7		R/W
				40221	All	AI Channel Enable	R/W
				40231~40232	0	Physical AI Floating Value (IEEE754)	Read
				40233~40234	1		Read
				40235~40236	2		Read
				40237~40238	3		Read
				40239~40240	4		Read
				40241~40242	5		Read
				40243~40244	6		Read
				40245~40246	7		Read
				40247~40248	Average Ch 0~7		Read

				40251~40252	0	*AI Status	Read
				40253~40254	1		Read
				40255~40256	2		Read
				40257~40258	3		Read
				40259~40260	4		Read
				40261~40262	5		Read
				40263~40264	6		Read
				40265~40266	7		Read
				40271	0	Historical Max. AI Value	Read
				40272	1		Read
				40273	2		Read
				40274	3		Read
				40275	4		Read
				40276	5		Read
				40277	6		Read
				40278	7		Read
				40279	Average Ch 0~7		Read

				40281	0	Historical Min. AI Value	Read
				40282	1		Read
				40283	2		Read
				40284	3		Read
				40285	4		Read
				40286	5		Read
				40287	6		Read
				40288	7		Read
				40289	Average Ch 0~7		Read

Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
00201	0	Reset Historical Max. Sensor Value	Write	40501	0	**Sensor Value	Read
00202	1		Write	40502	1		Read
00203	2		Write	40503	2		Read
00204	3		Write	40504	3		Read
00205	4		Write	40505	4		Read
00206	5		Write	40506	5		Read
00207	6		Write	40507	6		Read
00208	7		Write	40508	7		Read
00211	0	Reset Historical Min. Sensor Value	Write	40521	0	**Historical Max. Sensor Value	Read
00212	1		Write	40522	1		Read
00213	2		Write	40523	2		Read
00214	3		Write	40524	3		Read
00215	4		Write	40525	4		Read
00216	5		Write	40526	5		Read
00217	6		Write	40527	6		Read
00218	7		Write	40528	7		Read
00231	0	Sensor High Alarm Flag	Read	40541	0	**Historical Min. Sensor Value	Read
00232	1		Read	40542	1		Read
00233	2		Read	40543	2		Read
00234	3		Read	40544	3		Read
00235	4		Read	40545	4		Read
00236	5		Read	40546	5		Read
00237	6		Read	40547	6		Read
00238	7		Read	40548	7		Read

00241	0	Sensor Low Alarm Flag	Read
00242	1		Read
00243	2		Read
00244	3		Read
00245	4		Read
00246	5		Read
00247	6		Read
00248	7		Read

40621	0	Type Code	R/W
40622	1		R/W
40623	2		R/W
40624	3		R/W
40625	4		R/W
40626	5		R/W
40627	6		R/W
40628	7		R/W
40631~40632	0	*Sensor Status	Read
40633~40634	1		Read
40635~40636	2		Read
40637~40638	3		Read
40639~40640	4		Read
40641~40642	5		Read
40643~40644	6		Read
40645~40646	7		Read

Modbus RTU							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
01001 ~ 01032	0~31	Expansion bit value	R/W	41001 ~ 41032	0~31	Expansion word value	R/W
				41101 ~ 41132	0~31	Expansion bit error code	R/W
				41201 ~ 41432	0~31	Expansion word error code	R/W

Miscellaneous							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
5001		RTC Battery Low	Read	45101		Data Logger Status	Read
				45302		RSSI	Read

Addresses for Internal Use							
Address 0X	Ch	Description	Attribute	Address 4X	Ch	Description	Attribute
				65501		Module Name 1	Read
				65502		Module Name 2	Read
				65503		Module Name 3	Read
				65504		Reserved for Module Name	Read

**Data format defined by sensor		
Sensor code	Sensor value	Data
0x0500	Temperature	signed short in tenth
0x0501	Humidity	signed short in tenth

*AI/Sensor Status: (1st Register at Low Address)		
Bit Order	Description	I/O Type
0	Fail to provide AI value	AI, AO
1	Over Range	AI
2	Under Range	AI
3	Open Circuit (Burnout)	AI
4~5	Reserved	
7	ADC initializing/Error	AI
8	Reserved	
9	Zero/Span Calibration Error	AI, AO
10~15	Reserved	

*AI Status: (2nd Register at High Address)		
Bit Order	Description	I/O Type
0	DI triggered to Safety Value	AO
1	DI triggered to Startup Value	AO
2~15	Reserved	AO