

# Adding New Modbus Register

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## Adding outdoor unit functions

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- 1 To add functions to registers starting from register 5, sequentially write new communication MessageSet IDs to registers starting from register 6001 (address 6000) using command 16 (Write multiple holding registers).
- 2 When the writing is completed, you can use the added functions in registration order starting from register 5. For example, if you write MessageSet ID 0x8238 to address 6000 and MessageSet ID 0x8204 to address 6001 using command 16, and then read/write values to/from registers 5 and 6, messages 0x8238 and 0x8204 are sent to the unit.

## Adding indoor unit functions

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- 1 To add functions to registers starting from register 33, sequentially write new communication MessageSet IDs to registers starting from register 7001 (address 7000) using command 16 (Write multiple holding registers).
- 2 When the writing is completed, you can use the added functions in registration order starting from register 33. For example, if you write MessageSet ID 0x411E to address 7000 and MessageSet ID 0x42D7 to address 7001 using command 16, and then read/write values to/from registers 33 and 34, messages 0x411E and 0x42D7 are sent to the unit.



### NOTE

- If there are multiple functions to add, they must be written all at once using command 16 (Write multiple holding registers).



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Table 3. New Modbus register table

Register No.	Modbus PDU address	Signal description	Signal values	Modbus r		
				MessageSet ID	Indoor	HE/HT/EHS
5	4	Running compressor frequency	Current operating frequency of compressor (0 to xxx Hz)	0x8238	-	R
6	5	outside temperature sensor	Temperature sensor for outdoor inlet air Celsius value x10 (-41°C to 100°C)	0x8204	-	R
(50 + (IU[0..47]*50)) + 33	(50 + (IU[0..47]*50)) + 32	2 zone cooling/heating on/off	0: Zone 2 operation off 1: Zone 2 operation on	0x411E	-	R/W
(50 + (IU[0..47]*50)) + 34	(50 + (IU[0..47]*50)) + 33	2 Zone Water-out set temperature	Set temperature for Zone 2 water-out Celsius value x10 • Cooling: 5°C to 25°C • Heating: 15°C to 65°C	0x42D7	-	R/W
(50 + (IU[0..47]*50)) + 35	(50 + (IU[0..47]*50)) + 34	2 Zone room set temperature	Set temperature for Zone 2 indoor room Celsius value x10 (-41°C to 100°C) • Cooling: 18°C to 30°C • Heating: 16°C to 30°C	0x42D6	-	R/W
(50 + (IU[0..47]*50)) + 36	(50 + (IU[0..47]*50)) + 35	Booster Heater(Immersion Heater) on/off	0: Booster Heater operation Off 1: Booster Heater operation On	0x4087	-	R
(50 + (IU[0..47]*50)) + 37	(50 + (IU[0..47]*50)) + 36	Backup Heater (tank integrated hydros) on/off	0: Backup Heater operation Off 1: Backup Heater step 1 operation On 2: Backup Heater step 2 operation On	0x406C	-	R
(50 + (IU[0..47]*50)) + 38	(50 + (IU[0..47]*50)) + 37	Water flow Value	Value x10 (0.0 to 80.0)	0x42E9	-	R
(50 + (IU[0..47]*50)) + 39	(50 + (IU[0..47]*50)) + 38	Compressor frequency ratio (FR control)	FR control 1. Byte 1 • 0: FR control not used • 1: FR control used 2. Byte 0 • Frequency ratio (50 to 150%)	0x42F1	-	R/W
(50 + (IU[0..47]*50)) + 40	(50 + (IU[0..47]*50)) + 39	3way valve position (DHW/ space-heating)	0: 3way valve positioned toward the room 1: 3way valve positioned toward the tank	0x4067	-	R