



Features

- NDIR, CO₂, Temp., Humidity measurement
- 268 * 128 mono graphic LCD
- Wall mount or Desktop stand (Use only bracket)
- Horizontal or vertical type display
- 1-CH PhotoMOS relay output
- 2-CH 4~20mA or 1~5V analog output
- RS485 modbus RTU output
- Wi-Fi (Modbus TCP Protocol)

Applications

- Industrial HVAC & BMS system
- IAQ(Indoor Air Quality)
- Gas leak detection
- Agricultural
- Instrumentation
- Transportation

Cautions for safety

Please read cautions for safety carefully before use the product.

Cautions for safety shall be observed because such cautions are to use the product safely and correctly in order to prevent accident or danger in advance.

- When this product is used for controlling of device which may affect life or property (such as controlling of nuclear power, medical instrument, vehicle, railroad, aviation, burner, entertainment device or safety device), double safety devices must be installed before use.
- This product is not explosion proof and should not be used in combustible gas environments or explosion proof areas.
- Do not connect lines or check or repair when power is applied.
- For power connection, verify the terminal number before connection.
- Do not modify product by unauthorized person other than our service technician.
- Do not use this product at outdoor. Product life time may be shortened.
- In wire connection, tighten the terminal screw with sufficient torque.
- Use this product within its rated/performance range. Product life time may be shortened.
- Do not use a load that exceeds the rated switching capacity of the relay contacts.
It may cause insulation failure, contact melting and contact failure.
- Do not use water or organic solvents for cleaning. Use a dry, dry towel.
- Do not use in locations with flammable, explosive gas, direct sunlight, radiant heat, vibration or shock.
- Do not inflow dust or wire dregs into the unit.
- When connecting the sensor, check the polarity of the terminal and connect the wires correctly.

Warranty Information

The warranty statement for the purchaser of the product or license.

Warranty Terms

The warranty period for the product is one year, within which you can receive support for problems with the product itself.

The company shall not be responsible for product damage caused by the following cases:

- When used without considering the installation instructions and digital input / output rating specified in the product manual.
- When the product has an abnormality caused by external human factors or environmental factors in which the product is installed.

If a product problem is raised by the original purchaser within the warranty period, we will diagnose the product problem in the buyer's area or send the product to us for confirmation and support repair and replacement service. If the purchased product exceeds the warranty period or the product problem is not covered by the support conditions, the original purchaser shall bear the related costs for repair / replacement and delivery. The original purchaser for any claims, warranties, torts [including negligence and gross negligence] —in any case, with legal requirements and claims—with or without contract—unless the stated limitations on the fulfillment of the warranty terms do not violate current application law. Samsung shall not be liable for any consequential damages or losses arising from special, indirect, incidental, legal, or organizational arrangements for purchased products, including business disruption, loss of use, and revenue problems.

Warranty Terms and Conditions Restrictions

Except for the customer's requirement for non-compliance of warranty terms, we shall not be liable for any claims claimed by the original purchaser, its associates, agents, or contractors for any loss, damage, or expense incurred or incurred from the sale.

The above warranty conditions are the exclusive rights of the original purchaser. In addition to the warranty terms, the Company rejects the performance of any other warranty conditions, expressed or implied, including, but not limited to, modification of the product for a particular purpose, implied warranty conditions on the sale of the product, and warranty conditions without legal infringement.

The fulfillment of warranty conditions does not exactly follow the instructions for the operation and maintenance of the product, and does not apply to product problems caused by replacement, accident, misuse, abuse, or carelessness. Technical assistance provided by personnel and agents in the buyer's system design is a suggestion and not a recommendation. The buyer is responsible for determining the implementation of the proposal and should be tested by the buyer. It is the buyer's responsibility to determine the suitability of the product for its purpose and its use.

The terms and conditions set forth in the warranty terms apply in effect and the dealer, company or individual or employee has no right to amend, modify or extend the terms of the warranty for any reason.

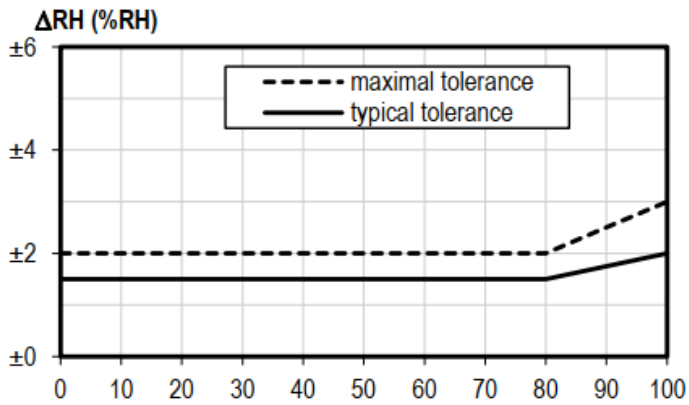
: Technical data

CO₂

Measurement	NDIR
CO ₂ Measurement range	400~10,000ppm
Accuracy	±(30ppm+3%MV) @400~10,000ppm
Repeatability	±10ppm @400~10,000ppm
Response time (t63)	20sec

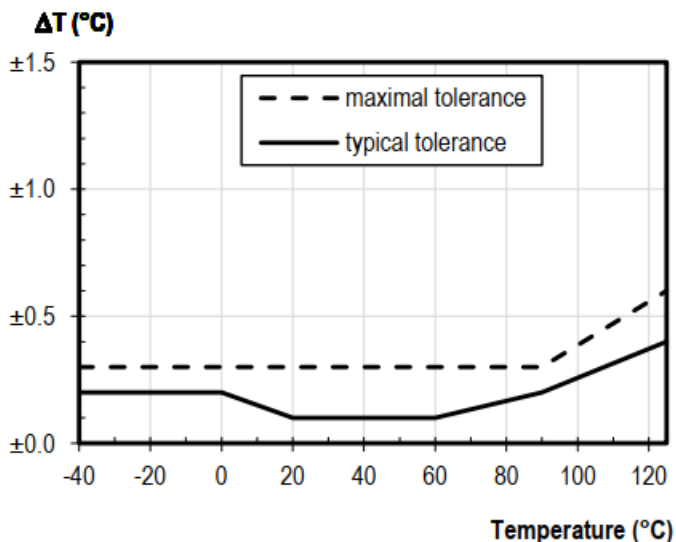
Relative Humidity

Measurement range	0 ... 100%RH
Humidity Accuracy	±2.0%RH (0 ... 80%RH)
Repeatability	±0.2%RH
Hysteresis	< ±1%RH
Humidity resolution	0.01%RH
Response time, t63	< 8sec
Long term drift	< 0.25%RH/year



Temperature

Temperature measuring range	-10 ... +60°C
Temperature accuracy	±0.3°C (-10 ... 60°C)
Repeatability	±0.2°C
Temperature resolution	0.015°C
Response time, t63	>2sec
Long term drift	< 0.05°C/year



Environment

Operating Temperature	0~50°C (Non condensed)
Operating Humidity	0~95%RH
Storage Temperature	-20 ... +70 °C

Mechanics

Housing	PC Plastic
Connection	M12 8Pin

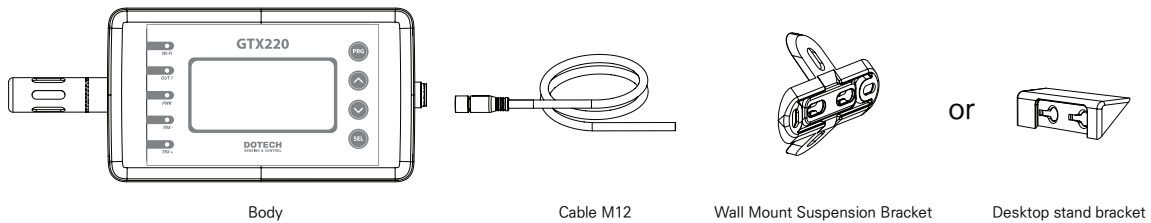
Inputs and Outputs

Power supply	12~24Vdc, ripple(p-p) not exceeding 10%
Permissible voltage fluctuation range	90% to 110% of power supply
Current consumption	Max 200mA @24Vdc
Display	268 * 128 mono graphic LCD
Control output	Output Type : PhotoMOS relay
	Load voltage : Below the AC/DC 24V Load current : Below the 300mA
Analog Output (Voltage)	Output Voltage : 1~5Vdc ±2.5% F.S.
	Linearity : Below the ±1% F.S.
	Resolving power : 1/2,000
	Output impedance : About 200Ω Response time : 50ms
Analog Output (Current)	Output Current : 4~20mA ±2.5% F.S.
	Linearity : Below the ±1% F.S.
	Resolving power : 1/2,000
	Output impedance : About 100kΩ Response time : 50ms
Communication output	RS485 modbus RTU

: Odering Guide

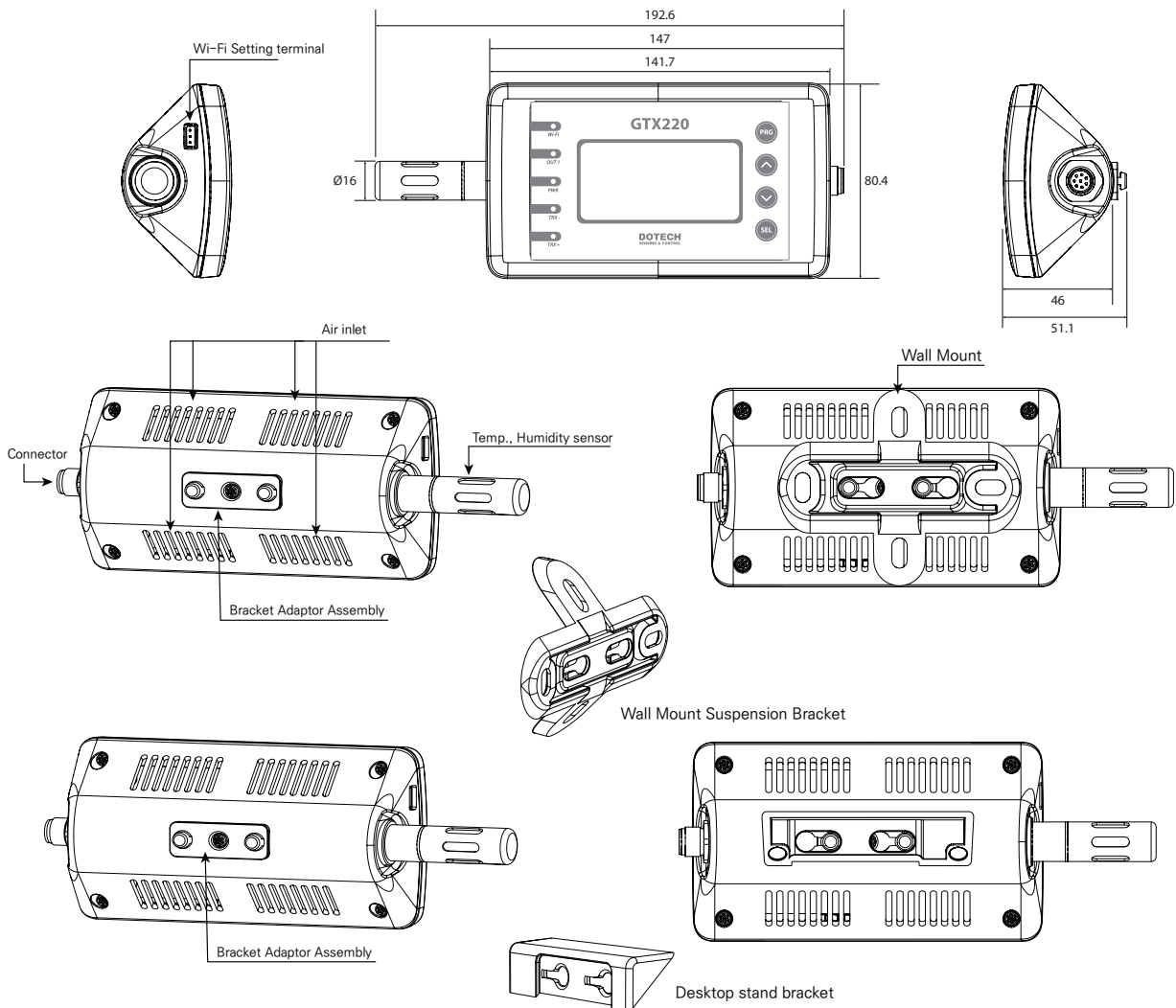
GTX220	-	①	②	-	③	④	Description
① Display		H					with LCD display and key – Horizontal type
		V					with LCD display and key – Vertical type
② Wi-Fi option			W				Wi-Fi option and RS485
			Nil				Not Used (use RS485)
③ Cable Type					83		M12 8Pin 3m
					85		M12 8Pin 5m
④ Bracket						W	Wall-mount suspension bracket
						D	Desktop stand bracket

: Components



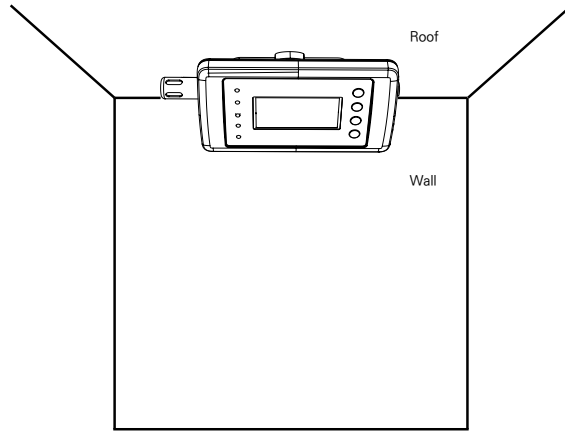
: Installation

Dimensions

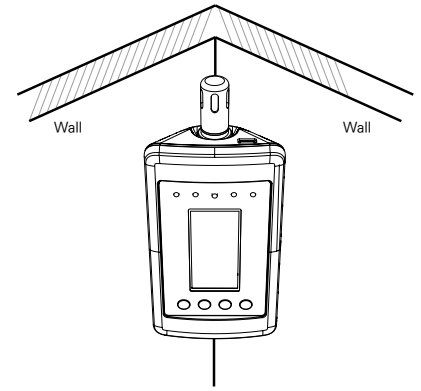


□ Wall Installation

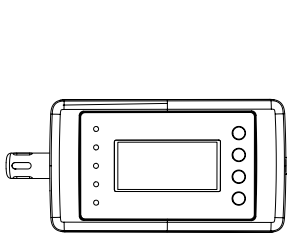
1. Fix to the wall the Wall Mount Suspension Bracket
2. And then connect the product at the Wall Mount Suspension Bracket



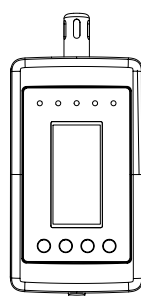
H-Type (Horizontal installation)



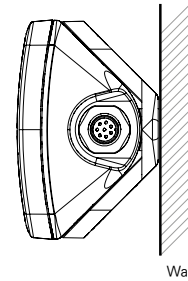
V-Type (verticality installation)



H-Type

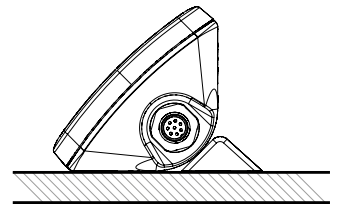
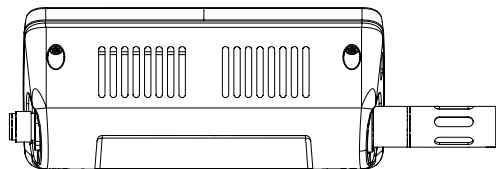
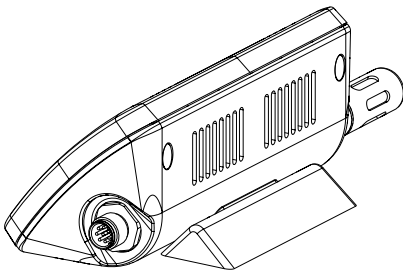


V-Type



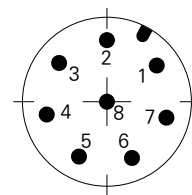
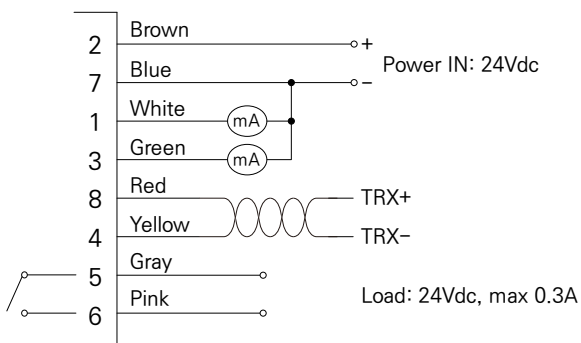
Wall

□ Desktop stand Type



※ Use the Desktop stand bracket and place it on a flat surface like a table.

□ Wiring



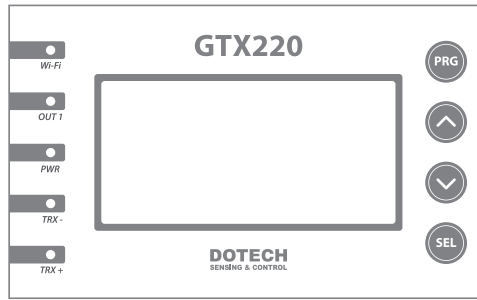
M12, 8Pin (A code)

Pin	Assignment	Cable color
1	A OUT 1+	White
2	+ VDC	Brown
3	A OUT 2+	Green
4	TRX-	Yellow
5	RY1_COM	Grey
6	RY1_NO	Pink
7	GND	Blue
8	TRX+	Red

: Configuration

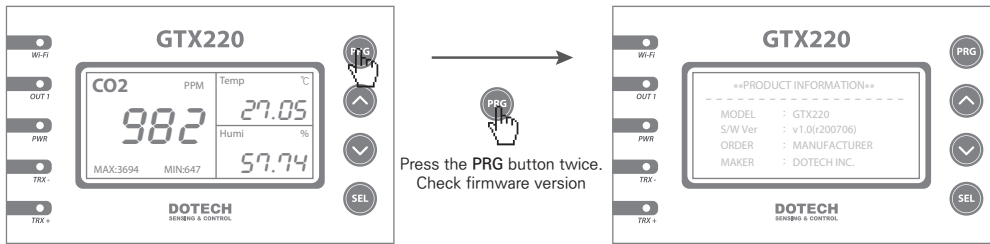
□ Configuration

	Name	Description
LED	Wi-Fi	light on when connected to a wireless router.
	OUT 1	light on when output ON
	PWR	light on when power is applied
	TRX +	Flashes when transmitting RS485 communications
	TRX -	

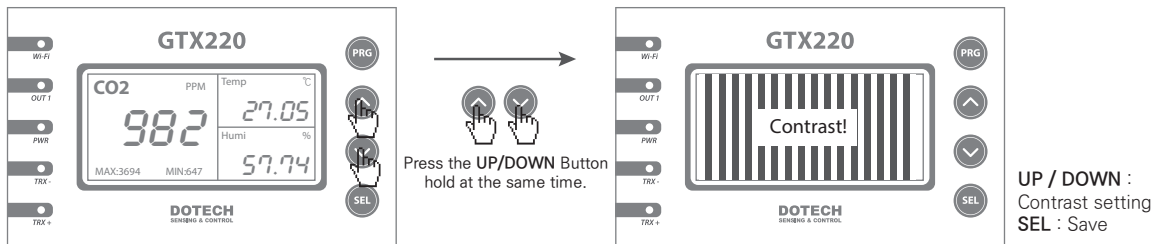


	Name	Description
Button	PRG	PRG
	UP	UP and Increase Value
	DOWN	Down and decrease Value
	SEL	SEL
	SEL	Select and Save, CO ₂ MIN /MAX Initialization (Press for 2 seconds while on the measurement screen.)

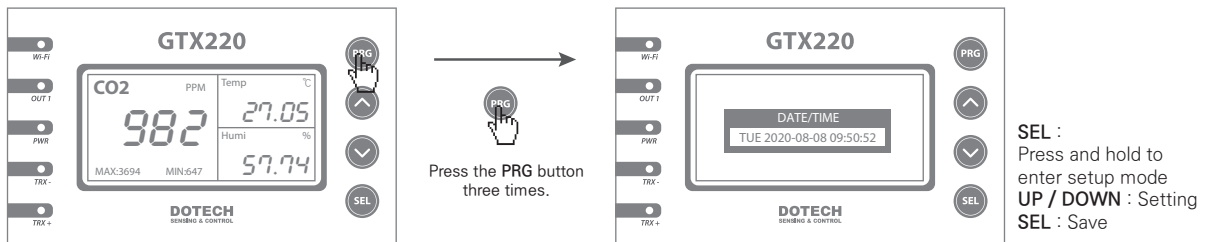
□ Check firmware version



□ Display Contrast setting

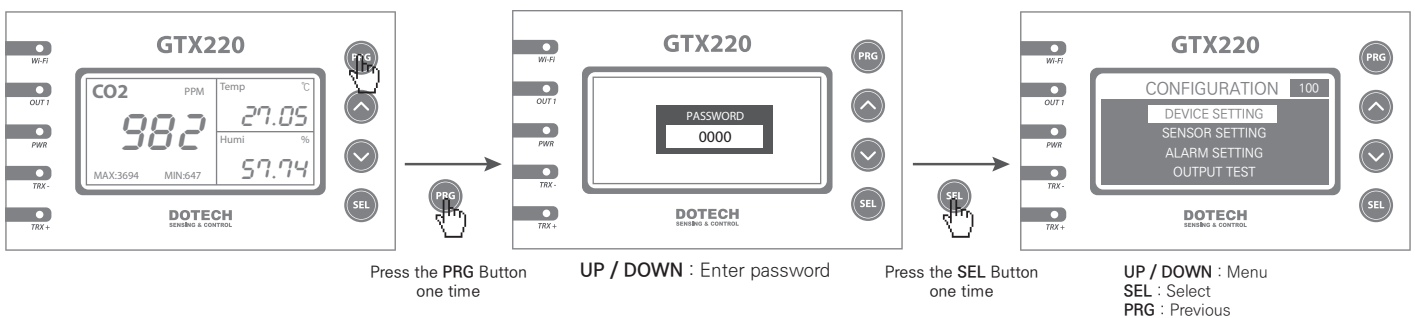


□ Date setting



: Parameters

□ Parameter setting



□ Parameter Table

Address	Menu	Data	Description	Unit	Step	Min.	Max.	Default
30001	Firmware version	INT16	-	-	0.1	-	-	-
30002	YEAR	INT16	Year	-	1	-	-	-
30003	MONTH	INT16	Month	-	-	-	-	-
30004	DATE	INT16	Date	-	1	1	255	-
30005	WEEKDAY	INT16	0 : Mon	-	1	0	6	-
			1 : Tue					
			2 : Wed					
			3 : Thu					
			4 : Fri					
			5 : Sat					
6 : Sun								
30006	HOURS	INT16	Hour	-	1	0	23	-
30007	MINUTES	INT16	Min.	-	1	0	59	-
30008	SECONDS	INT16	Sec.	-	1	0	59	-
30010	Alarm (SET : 1, RESET : 0)	INT16	BIT0 : the lower temp. limit	-	1	0	6	-
			BIT1 : the upper temp. limit					
			BIT2 : the lower humidity limit					
			BIT3 : the upper humidity limit					
			BIT4 : the lower CO ₂ limit					
			BIT5 : the upper CO ₂ limit					
30011	Measured value(temp.)	INT16	Display real-time measurement temp.(x100)	℃ ℉	0.01	-10.00 14.00	60.00 140.00	℃
30012	Measured value (humidity)	INT16	Display real-time measurement humidity(x100)	%RH	0.01	0.00	100.00	
30013	Measured value(CO ₂)	INT16	CO ₂	PPM	1	0	9999	
30014	Sensor error	INT16	0 : non error	-	1	0	3	-
			1 : temp. or humidity error					
			2 : CO ₂ error					
			3 : temp. or humidity or CO ₂ error					

Setting

Address	Menu	Data	Description	Unit	Step	Min.	Max.	Default
40004	Language	INT16	0 : English	-	Toggle	0	1	0
			1 : Korean					
40005	PASSWORD	INT16	Setting mode password	-	1	0	9999	0
40006	Button sound	INT16	0 : OFF	-	Toggle	0	1	1
			1 : ON					
40007	Alarm sound	INT16	0 : OFF	-	Toggle	0	1	1
			1 : ON					
40008	Communication ID	INT16	MODBUS ID	-	1	1	32	1
40009	Communication parity	INT16	0 : 4800	BPS	1	0	5	5
			1 : 9600					
			2 : 19200					
			3 : 38400					
			4 : 57600					
			5 : 115200					
40010	Communication parity bit	INT16	0 : NONE	-	1	0	2	0
			1 : EVEN					
			2 : ODD					
40012	LCD light	INT16	LCD setting(1: ON, 0: OFF)	-	Toggle	0	1	1

Sensor setting

Address	Menu	Data	Description	Unit	Step	Min.	Max.	Default
40018	Temp. Unit	INT16	Temp. Unit setting (0: Celsius, 1: Fahrenheit)	°C	Toggle	0	1	0
				°F				
40019	Temp. Offset	INT16	Temp. Offset(x100)	°C	0.01	-10.00	10.00	0.00
				°F				
40020	Humidity Offset	INT16	Humidity Offset(x100)	%RH	0.01	-10.00	10.00	0.00
40021	CO ₂	INT16	CO ₂ Offset	PPM	1	-100	1	1
40022	Sensor Measurement Cycle	INT16	MODBUS Temp. Humidity, CO ₂ sensor Measurement Cycle ID	Sec.	1	2	60	2

Output

Address	Menu	Data	Description	Unit	Step	Min.	Max.	Default
40026	Select Analog Output (CH1)	INT16	0 : current(4~20mA)	-	Toggle	0	1	0
			1 : Voltage(1~5V)					
40027	Select Analog Output (CH2)	INT16	0 : urrent(4~20mA)	-	Toggle	0	1	0
			1 : Voltage(1~5V)					
40028	Select Analog Output Source (CH1)	INT16	0 : non	-	Toggle	0	3	3
			1 : temp.					
			2 :					
			3 : CO ₂					
40029	Analog Output Lower Limit(CH1)	INT16	Analog ouput range setting (sensor measurement range)	-	1	-	-	-
40030	Analog Output Upper Limit(CH1)	INT16						
40031	Select Analog Output Source (CH2)	INT16	0 : non	-	Toggle	0	3	1
			1 : temp.					
			2 : humidity					
			3 : CO ₂					
40032	Analog Output Lower Limit(CH2)	INT16		-	1	-	-	-
40033	Analog Output Upper Limit(CH2)	INT16						

Alarm Setting

Address	Menu	Data	Description	Unit	Step	Min.	Max.	Default
40034	Select relay output source	INT16	0 : non	-	1	0	6	6
			1 : temp. lower limit					
			2 : temp. upper limit					
			3 : humidity lower limit					
			4 : humidity upper limit					
			5 : CO ₂ lower limit					
6 : CO ₂ upper limit								
40035	Temp. alarm lower limit	INT16	Alarm below set value(x100)	°C	0.1	-10.00	60.00	-5.00
				°F		14.00	140.00	23.00
40036	Temp. alarm upper limit	INT16	Alarm above set value(x100)	°C	0.1	-10.00	60.00	-5.00
				°F		14.00	140.00	122.00
40037	Humidity alarm lower limit	INT16	Alarm below set value(x100)	%RH	0.1	0	99.90	5.00
40038	Humidity alarm upper limit	INT16	Alarm above set value(x100)	%RH	0.1	0	99.90	90.00
40039	CO ₂ alarm lower limit	INT16	Alarm below set value	PPM	1	0	10000	200
40040	CO ₂ alarm upper limit	INT16	Alarm above set value	PPM	1	0	10000	5000
40041	Alarm Delay Time	INT16	-	Sec.	1	0	60	3
40042	Turn off alarm	INT16	0 : Auto	-	Toggle	0	1	0
			1 : Manual					