5 Digits Multi-Functions Micro-process Signal Isolated Transmitter

GMTA

FEATURES

- Accuracy: ±0.1% F.S. ±1 digit (DC / Potentiometer / Resistor / PT-100 / Load Cell)
  ±0.1% F.S. ±1 digit (AC)
- MeasuringAC, DC Voltage /AC, DC Current / Potentiometer / Resistor / PT-100 / Load Cell)
- High brightness 0.4" LED display range: -199999~999999; decimal point selectable
- Surge test ofAC 2000V / min between input, output and power
- Root square /Max. Hold / Data Hold / Reset / 1~2Alarms (Hi or Lo) programmable
- Analog output / RS-485 communication / analog output simulation function available
- High stability, non-flammable case (PC), high safety

ORDER INFORMATION : GMTA - Code1 Code2 Code3 - Code4 Code5

C1	Input Type
D	DC Signal
A	AC AVG
M	AC TRMS
P	3W Potentiometer
I	2W Resistor
T	RTD (PT-100)
L	Load Cell
2	2W Sensor
3	3W Sensor
4	4W Sensor

C2	Voltage(V)	C2	Current(A)	C2	Potentiometer	C2	Resistor	C2	RTD (PT-100)	C2	Load Cell
V1	0~50mV	A1	0~20uA	P1	500Ω~10KΩ	I1	0~10Ω	T1	-50~50℃	L1	1mV/V EX.5V
V2	0~5V	A2	0~200uA	P2	10KΩ~100KΩ	I2	0~100Ω	T2	0~50℃	L2	2mV/V EX.5V
V3	1~5V	A3	0~2mA	P3	100KΩ~1MΩ	I3	0~1KΩ	T3	0~100℃	L3	3mV/V EX.5V
V4	0~10V	A4	0~20mA	PO	Option	I4	0~10KΩ	T4	0~200℃	L4	1mV/V EX.10V
V5	0~36V	A5	0~200mA			I5	0~100KΩ	T5	0~400℃	L5	2mV/V EX.10V
V6	0~300V	A6	4~20mA			IO	Option	T6	0~600℃	L6	3mV/V EX.10V
V7	0~600V	A8	0~5 A					TO	Option	LO	Option
VO	Option	AO	Option								

C4	Output 1	C5	Output 2
A	4~20mA	N	None
V	0~10V	A	4~20mA
L	Loop Power 4~20 mAdc	V	0~10V
		L	Loop Power 4~20 mAdc
Y	RS485		
R	Relay	R	Relay
C	O.C	C	O.C
O	Option	O	Option

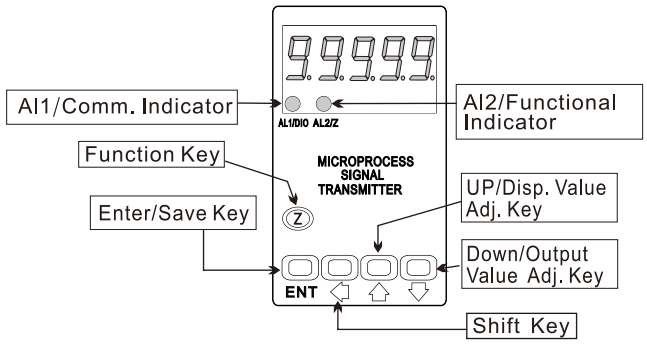
C2	Aux. Power
A	AC/DC 100~240V
D	AC/DC 22~60V

**1: 2 wire type offers excitation power DC24V for 2 wire (Loop Power) pressure, temperature, humidity sensors using.
2: 3.4 wire type offers excitation power DC24V for 3, 4 wire (Loop Power) pressure, temperature, humidity sensors using.

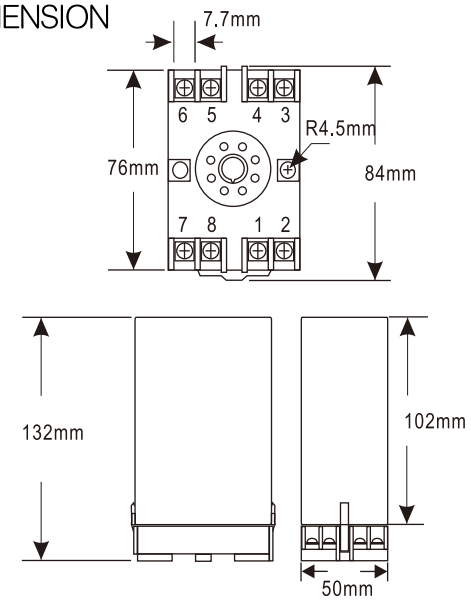
SPECIFICATION

Accuracy:	±0.1% F.S. (DC / Resistor / Potentiometer / PT-100 / Load Cell) ±0.2% F.S. (AC)
Display Screen:	High brightness red LED; 10.16mm (0.4")
Sampling Rate:	60 cycles/sec
Display Range:	-19999~99999
Zero Adjustment:	±9999
Span Adjustment:	±9999
Over Range Indication:	doFL / ioFL or -doFL / -ioFL
Polarity Indication:	Automatic with "-" indication
Parameters Setting:	Push buttons
Back Up Memory:	EEPROM
Analog Output Resolution:	15 bit
Output Response Time:	<250 msec (0~90%)
Output Capability:	Voltage Output: <20mA Current Output: <10V
Output Ripple:	≦±0.1%F.S.
Isolation:	Input / Output / Power / Case
Temperature Coefficient:	100ppm/℃ (0~60℃)
Operating Environment:	0~60℃; 20~90% RH (non-condensing)
Storage Environment:	-10~70℃; 20~90% RH (non-condensing)
Power Supply:	AC/DC 22~60, AC/DC 100~240
Surge Test:	2 KVac/min
Insulation Resistance:	>100MΩ with 500 Vdc
Input Impendence:	Voltage: >2V for 20KΩ/V ≦2V for >200MΩ Current: ≧0.2A at100mV <0.2A at1V
Installation:	Socket / Plug in

FRONTPANEL & KEYFUNCTIONS

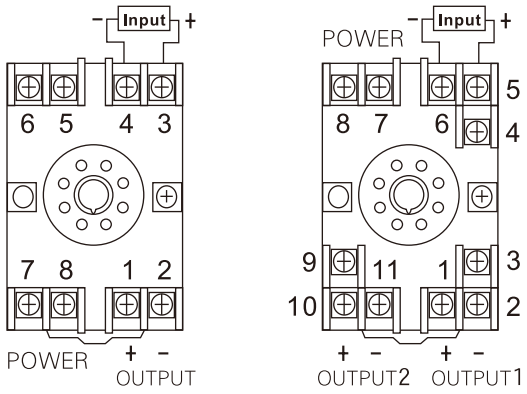


DIMENSION

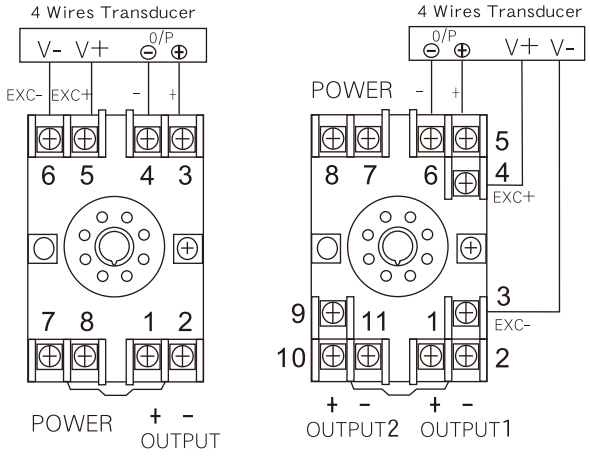


Wiring Diagram:

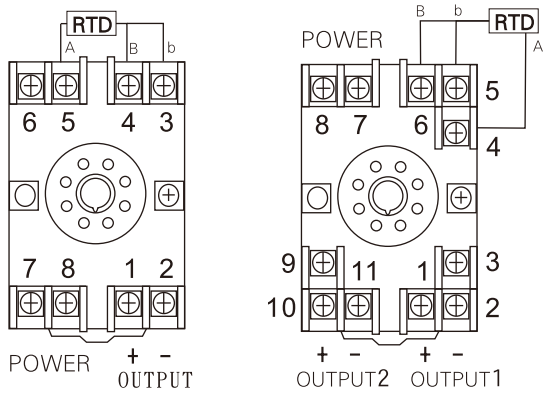
● AC/DC of Voltage, Current Measuring:



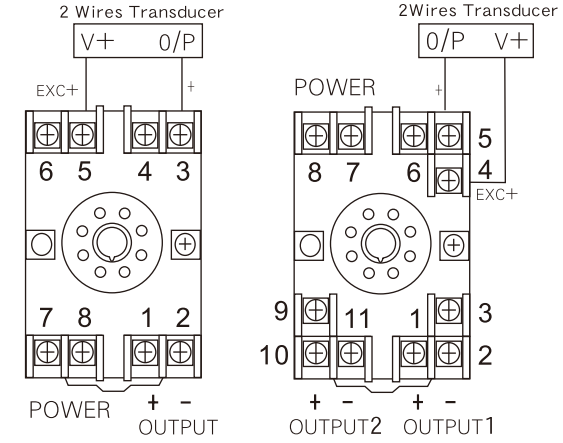
● 4 Wires Transducer/ Load cell:



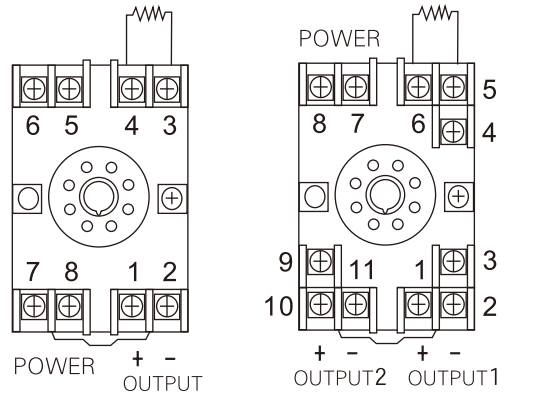
● Temperature Sensor (RTD):



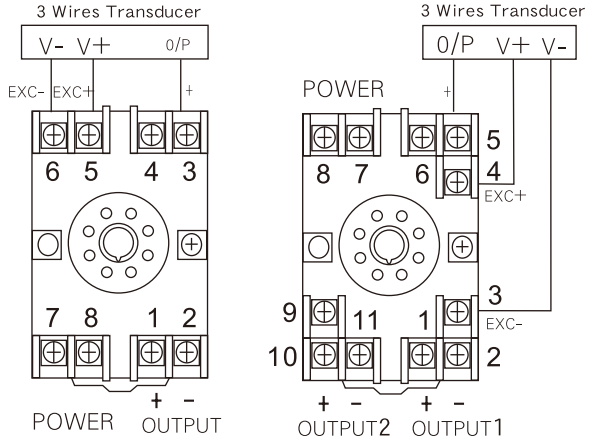
● 2 Wires Transducer:



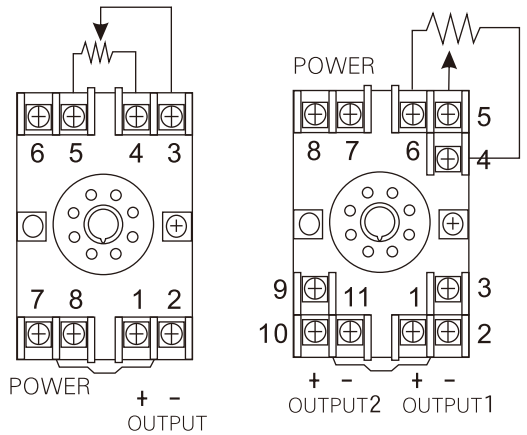
● 2 Wires Resistance meter :



● 3 Wires Transducer:



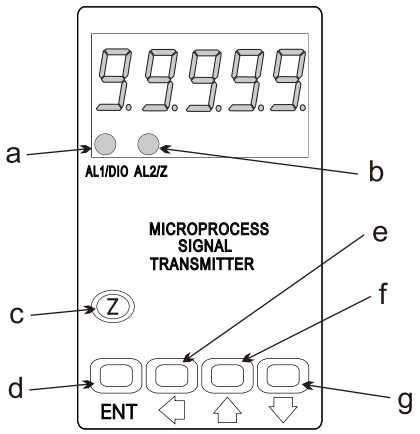
● 3 Wires Potentionmeter:



★**Please familiarize with the functions of the keys and indicators before operation.**

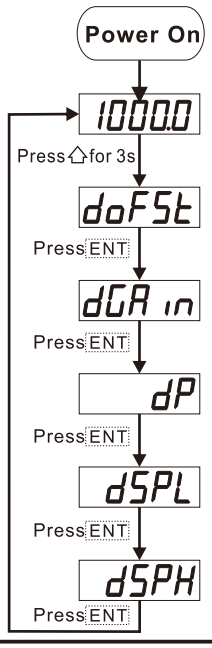
Description of Panel and Key

a. Indicator of alarm 1 or communications
b. Indicator of alarm 2 or activity of function key
c. Function key
d. Enter key
e. Shift key
f. Up key
g. Down key



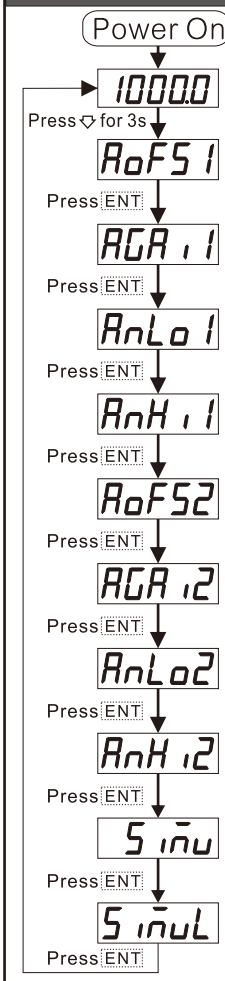
Key Name	Symbol	Descriptions
Function Key (Zero)	Ⓩ	In measurement status, press function key can active/inactive zero function.
Enter Key	ENT	In measurement status, press enter key to enter main setting page, In setting status, press enter key to save the parameter.
Shift Key	⇦	In setting page, press shift key to enter the setting status, In setting status , press shift key to shift the setting digit.
Up Key (Displya Setting)	⇧	In measurement status, press up key for 3 seconds to enter display value setting, In setting page, press up key to jump to last page. In setting status, press up key to add 1 for setting digit.
Down Key (Linear Output Setting)	⇩	In measurement status, press down key for 3 s to enter linear output value setting, In setting status, press up key to jump to next page. In setting status, press up key to minus1 for setting digit.
Leave Key	⇧+⇩	In any status, press up and down key to jump to measurement status.

Display Value Setting



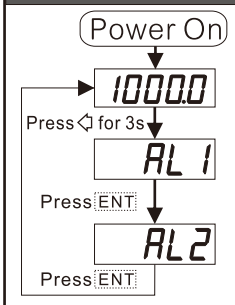
Name	Descriptions	Default
Measurement Status		
Display Value Offset Setting (doFSt)	Display Value will deduct this value. Setting range: -19999~99999	00000
Display Value Gain Setting (dGAin)	Display Value will be multiplied by this value. Setting range: 0.0001~9.9999	0 1.000
Decimal Point Setting (dP)	Set the position of decimal point to this setting. Setting range: -19999~99999	0
Display Value Low Scale Setting (dSPL)	Display Value will be this value when input the minimum signal. Setting range: -19999~99999	00000
Display Value High Scale Setting (dSPH)	Display Value will be this value when input the maximum signal. Setting range: -19999~99999	99999

Linear Output (A/O) Value Setting



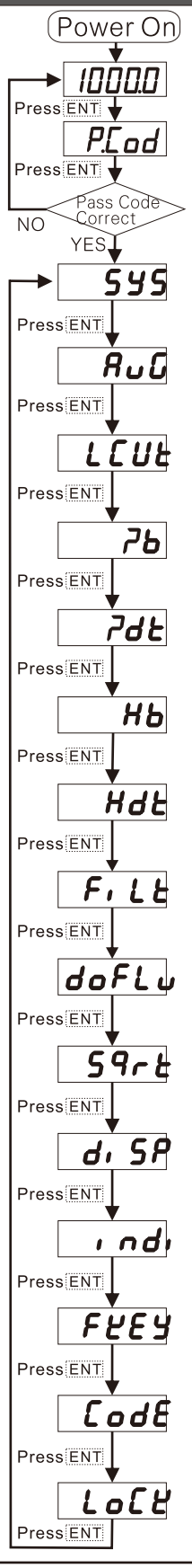
Name	Descriptions	Default
Measurement status		
A/O 1 Value Offset Setting (AoFS1)	Linear Output signal will shift with this value at zero point. Setting Range: -99999~99999	00000
A/O 1 Value Gain Setting (AGAi1)	Linear Output signal will shift with this value at span point. Setting Range: -99999~99999	00000
A/O 1 Value Low Scale Setting (AnLo1)	Linear Output signal will be the zero value when display value equal this value. Setting Range: -99999~99999	00000
A/O 1 Value High Scale Setting (AnHi1)	Linear Output signal will be the span value when display value equal this value. Setting Range: -99999~99999	99999
A/O 1 Value Offset Setting (AoFS1)	Linear Output signal will shift with this value at zero point. Setting Range: -99999~99999	00000
A/O 1 Value Gain Setting (AGAi1)	Linear Output signal will shift with this value at span point. Setting Range: -99999~99999	00000
A/O 1 Value Low Scale Setting (AnLo1)	Linear Output signal will be the zero value when display value equal this value. Setting Range: -99999~99999	00000
A/O 1 Value High Scale Setting (AnHi1)	Linear Output signal will be the span value when display value equal this value. Setting Range: -99999~99999	99999
A/O 1 Simulation Output Setting (SiMu)	Set this parameter to yes to enable the A/O 1 simulation output function. Setting Range: Yes, No	no
A/O 1 Simulation Value Setting (SiMuL)	Simulation linear output value will be this value according to AnLo1 and AnHi1 Value. Setting Range: 0~99999	00000

Alarm Output Setting



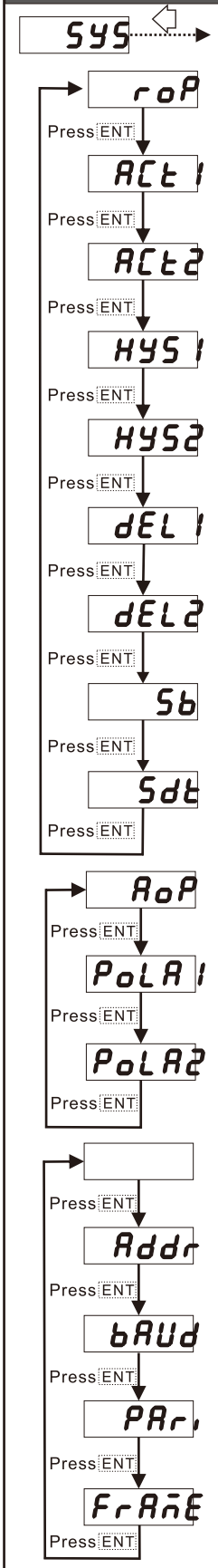
Name	Descriptions	Default
Measurement status		
Alarm Point 1 Setting (AI1)	Alarm Output when display value reach this value. Setting Range: -99999~99999	00000
Alarm Point 2 Setting (AI2)	Alarm Output when display value reach this value. Setting Range: -99999~99999	00000

System Setting



Name	Descriptions	Default
Measurement Status		
Pass Code (P.Cod)	If pass code set, the setting will be locked.	00000
	If pass code correct, it will enter setting page group, else, it will jump to measurement status.	
System Setting Group (SYS)		
Display Value Average Times Setting(AvG)	Average times can smooth the display value. Setting Range: 1~99	00010
Display Value Low Cut Setting (LCUt)	If display value lower than this value, display value will be zero. Setting Range: 0~9999	00000
Zero Band Setting (Zb)	Display value will be zero when variation value less than a tracking value, Zero Band Value = (Tracking Value/Maximum Display Value) X 1000 Setting Range: 0.000~9.999	00.000
Zero Tracking Time Setting (Zdt)	Zero band function will be executed after this setting time, Setting Range: 0~99 (s)	00000
Input Holding Band Setting (Hb)	Display value will be stable when variation value less than a tracking value, Holding Band Value = (Tracking Value/Maximum Display Value) X 1000 Setting Range: 0.000~9.999	00.000
Input Holding Tracking Time Setting (Hdt)	Holding band function will be executed after this setting time, Setting Range: 0~99 (s)	00000
Display Value Filter Setting (FiLt)	Display value will be changed when variation value equal this value. Setting Range: 1, 2, 5, 0(10)	1
Display Overflow Setting (doFLv)	Display value will be “doFLv” when display value exceed this value. Setting Range: 0~99999	99999
Display Value Roots Setting (Sqrt)	Set to yes to enable the root function, display value will be rooted to show. Setting Range: Yes, No	no
Display Value Setting (diSP)	Setting display value. Setting Range: RATE (input value), AI1 (alarm point 1), SIMUL (simulation value)	rAtE
Indication LED Setting (indi)	Setting indication LED. Setting Range: FKEY (function key status), AI2 (alarm 2 action status)	FtEY
Function Key Setting (FKEY)	Setting function of function key. Setting Range: AZ (zero display value), MAX (hold max display value), HD (hold display value)	AP
Pass Code Setting (CodE)	Setting pass code. Setting Range: 00000~19999	00000
Panel Key Lock Setting (LoCK)	set to yes to lock the panel key, just enter key can be used. Setting Range: Yes, No	no

Output Setting



Name	Descriptions	Default
Alarm Output Setting Group (roP)	Press shift key to select at “SYS” page.	
Alarm Output 1 Action Direction Setting(ACt1)	If setting Hi, alarm execute when display value is greater then alarm point, else, alarm execute when display value is less then alarm point. Setting Range: Hi, Lo	Hi
Alarm Output 2 Action Direction Setting(ACt2)		
Alarm Output 1 Hysteresis Setting(HyS1)	Alarm execute when display value reach alarm point + this value, Setting Range: 0~9999	00000
Alarm Output 2 Hysteresis Setting(HyS2)		
Alarm Output 1 Action Delay Setting(dEL1)	Alarm execute after this value. Setting Range: 0~99(s)	00000
Alarm Output 2 Action Delay Setting(dEL2)		
Alarm Output Start Band Setting(Sb)	Alarm execute when display value exceeds this value. Setting Range: -99~99	00000
Alarm Output Start Delay Time Setting(Sdt)	Alarm start to run after this value. Setting Range: 0~99(s)	00000
Linear Output Setting Group (AoP)	Press shift key to select at “SYS” page.	
Linear Output 1 Polarity Setting (PoLA1)	Set Yes to enable the polarity function of linear output Setting Range: Yes, No	no
Linear Output 2 Polarity Setting (PoLA2)		
Communication Setting Group (doP)	Press shift key to select at “SYS” page.	
Device Address Setting (Addr)	Setting device address. Setting Range: 0~255	00000
Baud Rate Setting (bAUd)	Setting baud rate Setting Range: 38400, 19200. 9600, 4800 (bps)	38400
Parity Setting (Pari)	Setting parity check, Setting Range: n82, n81, Even, Odd	n.8.2
Frame Setting (FrAmE)	Setting data frame, Setting Range: Yes (LSB to MSB), No (MSB to LSB)	no

Erro Screen

Display	Description	Display	Description
1oFL	Input singal over 120%	doFL	Input signal out of display range(99999)
-1oFL	input signal over -120%	-doFL	Input signal out of display range(-19999)
AdEr	input signal over 180% or circuit destruction	E-00	EEPROM Erro

Modbus RTU Mode Protocol Address Map

** Data Format16/32 Bit, Signed 8000~7FFF (-32768~32767), 800000007FFFFFFF (-2147483648~2147483647)

Modbus	Hex	Name	R/W	Descriptions
40001	0000	ID	R	Model Code of GMTA : 3DH
40002	0001	STATUS	R	Alarm output status, range: 0000~0001 (0~1) (Bit0:FUNC) 0: Off, 1: On
40003	0002			
40004	0003			
40005	0004	INDI	R/W	Indicator mode, range: 0000~0001 (0~1); 0: FUNC, 1: AL2
40006	0005	FKEY	R/W	Function key mode, range: 0000~0001 (0~1); 0: MAX, 1: Hd
40007	0006	SIMU	R/W	simulation output, range: 0000~0001 (0~1); 0: No, 1: YES
40008	0007	SQRT	R/W	Root function, range: 0000~0001 (0~1); 0: No, 1: YES
40009	0008	POLAR1	R/W	Output1 polarity, range: 0000~0001 (0~1); 0: No, 1: YES
40010	0009	POLAR2	R/W	Output2 polarity, range: 0000~0001 (0~1); 0: No, 1: YES
40011	000A	FILT	R/W	Display scale, range: 0000~0003 (0~3); 0: 0, 1: 1, 2: 2, 3: 5
40012	000B	DISP	R/W	Display mode, range: 0000~0002 (0~2); 0: RATE, 1: AL1, 2: SiMUL
40013	000C	FRAME	R/W	Communication Frame, range: 0000~0001 (0~1); 0: No, 1: YES
40014	000D	LOCK	R/W	Panel locked, range: 0000~0001 (0~1); 0: No, 1: YES
40015	000E	ACT1	R/W	Alarm 1 action direction, range: 0000~0001 (0~1); 0: Hi, 1: Lo
40016	000F	ACT2	R/W	Alarm 2 action direction, range: 0000~0001 (0~1); 0: Hi, 1: Lo
40017	0010	DP	R/W	Decimal places, range: 0000~0004 (0~4); 0: 0 , 1:1 , 2:2 , 3:3 , 4: 4
40018	0011	BAUD	R/W	Baue rate, range: 0000~0003 (0~3); 0: 38400, 1: 19200, 2: 9600, 3: 4800
40019	0012	PARI	R/W	Communication Parity, range: 0000~0003 (0~3); 0: n.8.2., 1: n.8.1., 2: EvEn, 3: odd
40020	0013	AVG	R/W	Average times, range: 0001~0063 (1~99)
40021	0014	ADDR	R/W	Communication address, range: 0000~00FF (0~255)
40022	0015	DEL1	R/W	Alarm 1 action delay time, range: 0000~0063 (0~99s)
40023	0016	DEL2	R/W	Alarm 2 action delay time, range: 0000~0063 (0~99s)
40024	0017	SB	R/W	Alarm 1 action delay range, range: FF9D~0063 (-99~99)
40025	0018	SDT	R/W	Alarm 2 action delay range, range: 0000~0063 (0~99)
40026	0019	ZDT	R/W	零點追蹤時間, range: 0000~0063 (0~99)
40027	001A	HDT	R/W	輸入值穩定追蹤時間, range: 0000~0063 (0~99)
40028	001B	LCUT	R/W	Low cut value, range: 0000~0317 (0~999)
40029	001C	ZB	R/W	零點追蹤輸入千分比, range: 0000~270F (0~9999)
40030	001D	HB	R/W	輸入值穩定千分比, range: 0000~270F (0~9999)
40031	001E	HYS1	R/W	警報1磁滯, range: 0000~270F (0~9999)
40032	001F	HYS2	R/W	警報2磁滯, range: 0000~270F (0~9999)
40033	0020	CODE	R/W	更改通關密碼, range: 0000~4E1F (0~19999)
40034	0021	AOFST1	R/W	類比輸出1值偏差, range: D8F1~270F (-9999~9999)
40035	0022	AGAIN1	R/W	類比輸出1值係數, range: D8F1~270F (-9999~9999)
40036	0023	AZERO1	R/W	類比輸出1最低類比輸出值調整, range: D8F1~270F (-9999~9999)
40037	0024	ASPAN1	R/W	類比輸出1最高類比輸出值調整, range: D8F1~270F (-9999~9999)
40038	0025	AOFST2	R/W	類比輸出2值偏差, range: D8F1~270F (-9999~9999)
40039	0026	AGAIN2	R/W	類比輸出2值係數, range: D8F1~270F (-9999~9999)
40040	0027	AZERO2	R/W	類比輸出2最低類比輸出值調整, range: D8F1~270F (-9999~9999)
40041	0028	ASPAN2	R/W	類比輸出2最高類比輸出值調整, range: D8F1~270F (-9999~9999)
40042	0029	ANLO1	R/W	類比輸出1最低類比輸出對應顯示值, range: FFFFB1E1~0001869F (-19999~99999) 高位元
40043	002A		R/W	類比輸出1最低類比輸出對應顯示值, range: FFFFB1E1~0001869F (-19999~99999) 低位元
40044	002B	ANHI1	R/W	類比輸出1最高類比輸出對應顯示值, range: FFFFB1E1~0001869F (-19999~99999) 高位元
40045	002C		R/W	類比輸出1最低類比輸出對應顯示值, range: FFFFB1E1~0001869F (-19999~99999) 低位元

Modbus	Hex	名稱	動作	說明
40046	002D	ANLO2	R/W	類比輸出2最高類比輸出對應顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40047	002E		R/W	類比輸出2最低類比輸出對應顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40048	002F	ANHI2	R/W	類比輸出2最高類比輸出對應顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40049	0030		R/W	類比輸出2最低類比輸出對應顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40050	0031	DSPL	R/W	最低顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40051	0032		R/W	最低顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40052	0033	DSPH	R/W	最高顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40053	0034		R/W	最高顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40054	0035	DOFST	R/W	顯示值偏差, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40055	0036		R/W	顯示值偏差, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40056	0037	DGAIN	R/W	顯示值係數, 修改範圍: 00000001~0001869F (1~99999) 高位元
40057	0038		R/W	顯示值係數, 修改範圍: 00000001~0001869F (1~99999) 低位元
40058	0039	DOFL	R/W	顯示值溢位, 修改範圍: 00000000~0001869F (0~99999) 高位元
40059	003A		R/W	顯示值溢位, 修改範圍: 00000000~0001869F (0~99999) 低位元
40060	003B	SIMUL	R/W	模擬輸出值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40061	003C		R/W	模擬輸出值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40062	003D	AI1	R/W	警報1, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40063	003E		R/W	警報1, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40064	003F	AI2	R/W	警報2, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40065	0040		R/W	警報2, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40066	0041	RATE	R	目前顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40067	0042		R	目前顯示值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元
40068	0043	FUNCV	R/W	功能鍵儲存值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 高位元
40069	0044		R/W	功能鍵儲存值, 修改範圍: FFFFB1E1~0001869F (-19999~99999) 低位元