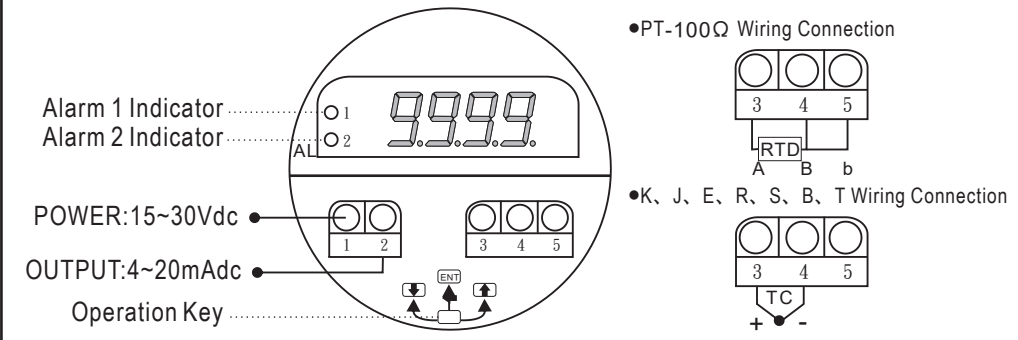


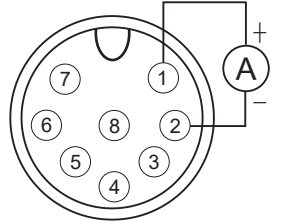
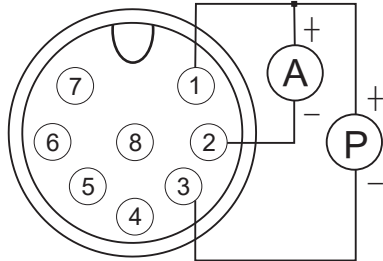
* Please understand key indicators & functions at the first operation.

FRONT PANEL, KEY FUNCTIONS & WIRING CONNECTION

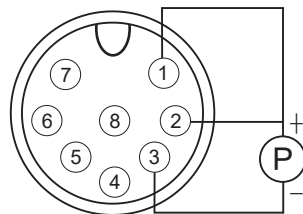


Wiring connection

Power wiring connection for analog output



Power wiring connection for RS-485



M12 Connector

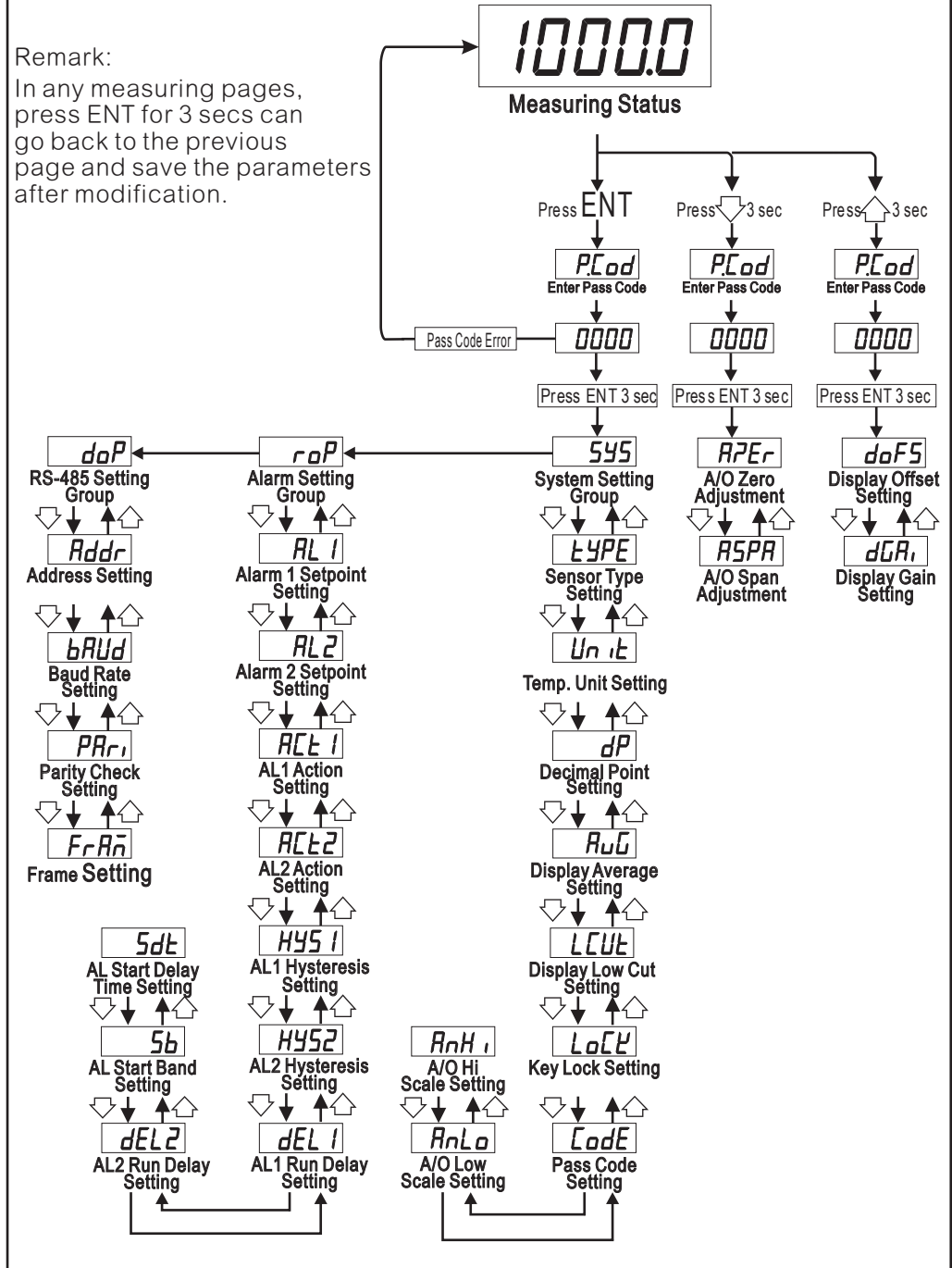
PIN	COLOR	DESCRIPTION
1	Brown	Power : 15~30V
2	Red	Output :4~20mA
3	White	Common
4	Blue	RX : D+
5	Green	TX : D-
6	Yellow	C1 / E1
7	Purple	C2 / E2
8	Black	Ecom / Ccom

Key Name	Symbol	Descriptions
Enter Key & Save Key	ENT	1. In the measuring status, press this key can enter to parameter pages. 2. In the parameter setting, press this key for 3 sec can save the value & go to next parameter.
Shift Key	←	1. In the parameter setting, press this key can move the cursor left.
Up Key & Display Value Adjusting Key	↑	1. In the measuring status, press this key for 3 sec can enter to display value adjustment of "ZERO" & "SPAN" 2. In the parameter setting, press this key can increase the digits.
Down Key & A/O Adjusting Key	↓	1. In the measuring status, press this key for 3 sec can enter to analog output adjustment. 2. In the parameter setting, press this key can decrease the digits.

PROGRAMMING MODE OPERATING PROCEDURES

Remark:

In any measuring pages, press ENT for 3 secs can go back to the previous page and save the parameters after modification.



SYSTEM (SYS) SETTING GROUP PROCEDURE

* While Pass Code is correct, Press ENT for 3 sec can select SYS Setting Group.

Display	Default	Name	Descriptions
TYPE	依訂製規格	Sensor Type Setting (TYPE)	1. Press ENT to enter this parameter, press ↑ or ↓ can modify the value range: K - J - E - R - S - B - T - PT100 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
Unit	°C	Temp. Unit Setting (Unit)	1. Press ENT to enter this parameter, press ↑ or ↓ can modify the value range: °C - °F 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
dP	0	Decimal Point Setting (dP)	1. Description: The display 100.0 changes to 100, please modify this value from '1' to '0', range:0, 1(digit) 2. Press ENT to enter this parameter, press ↑ or ↓ can modify the value 3. Press ENT for 3 SEC to save the parameter and go to the next parameter
AVG	10	Display Average Setting (AVG)	1. Description: The function is for unstable input signal. The value is large, the display is stable, the reaction will be slow. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 1~99 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
LCUT	0	Display Low Cut Setting (LCUT)	1. Example: if this value is 10, while the real display is under 10, the display screen will show 0. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
LoCK	no	Key Lock Setting (LoCK)	1. Description: If select YES, beside ENT, other keys will be locked Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: no(unlock), YES(lock) 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
Code	0000	Pass Code Setting (Code)	Description: (Don't forget the new pass code after modification) 1. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~9999 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
AnLo	0000	A/O Low Scale Setting (AnLo)	Example: 1. The display is 4.0 to output 4mA, this value must be 4.0. Press ENT to enter this parameter, Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~9999 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
AnHi	9999	A/O Hi Scale Setting (AnHi)	Example: 1. The display is 100.0 to output 20mA, this value must be 100.0. Press ENT to enter this parameter, Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~9999 2. Press ENT for 3 SEC to save the parameter and go to the next parameter

ALARM (roP) SETTING GROUP PROCEDURE

* While Pass Code is correct, Press ENT for 3 sec can select ROP Setting Group.

Display	Default	Name	Descriptions
AL1	500	Alarm 1 Setpoint Setting (Al1)	Example: 1. The alarm is on while the display is 50.0, the value must be set for 50.0 Press ENT to enter this parameter, Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~9999 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
AL2	500	Alarm 2 Setpoint Setting (Al2)	Example: 1. The alarm is on while the display is 50.0, the value must be set for 50.0 Press ENT to enter this parameter, Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~9999 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
Act1	Lo	AL1 Action Setting (Act1)	Description: Hi: Alarm on while the display higher than setpoint. Lo: Alarm on while the display lower than setpoint. Range: Hi (≥ Alarm setpoint), Lo (< Alarm setpoint) 1. Press ENT to enter this parameter, press ↑ or ↓ can modify the value. 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
Act2	Hi	AL2 Action Setting (Act2)	Description: Hi: Alarm on while the display higher than setpoint. Lo: Alarm on while the display lower than setpoint. Range: Hi (≥ Alarm setpoint), Lo (< Alarm setpoint) 1. Press ENT to enter this parameter, press ↑ or ↓ can modify the value. 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
HYS1	0000	AL1 Hysteresis Setting (HYS1)	Description: 1. If the Alarm actions is Hi, the display must lower than (Setpoint-HYS) value, the Alarm will be off. 2. If the Alarm actions is Lo, the display must lower than (Setpoint+HYS) value, the Alarm will be off.
HYS2	0000	AL2 Hysteresis Setting (HSY2)	Description: 1. If the Alarm actions is Hi, the display must lower than (Setpoint-HYS) value, the Alarm will be off. 2. If the Alarm actions is Lo, the display must lower than (Setpoint+HYS) value, the Alarm will be off. 3. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99 4. Press ENT for 3 SEC to save the parameter and go to the next parameter
dEL1	0000	AL1 Run Delay Setting (dEL1)	Description: 1. If the value is 5, while the display reaches the Alarm setpoint, Alarm will be on after 5 sec. 2. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99(sec) 3. Press ENT for 3 SEC to save the parameter and go to the next parameter
dEL2	0000	AL2 Run Delay Setting (dEL2)	Description: 1. If the value is 5, while the display reaches the Alarm setpoint, Alarm will be on after 5 sec. 2. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99(sec) 3. Press ENT for 3 SEC to save the parameter and go to the next parameter
Sb	0000	AL Start Band Setting (Sb)	Description: 1. If the value is 5, if the display is under 5, Alarm will not be ON. 2. If this value is 5, while the display reaches the Alarm start band range, the Alarm will be on after Sdt time. 3. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99(sec) 3. Press ENT for 3 SEC to save the parameter and go to the next parameter ※This function can prevent the wrong action by starting current
Sdt	0000	AL Start Delay Time Setting (Sdt)	Description: 1. While the display reach the Alarm start band range, the Alarm will be on after this time. (P.S. :This parameter must be use with Sb together) 3. Press ENT to enter this parameter. Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~99(sec) 3. Press ENT for 3 SEC to save the parameter and go to the next parameter

RS-485 (doP) SETTING GROUP PROCEDURE

* While Pass Code is correct, Press ENT for 3 sec can select RS-485 Setting Group.

Display	Default	Name	Descriptions
Addr	0	Address Setting (Addr)	1. Press ENT to enter this parameter, Press ENT again to move the digit. Press ↑ or ↓ can modify the value, range: 0~255 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
bAud	2400	Baud Rate Setting (bAud)	1. Press ENT to enter this parameter, Press ↑ or ↓ can modify the value, range: 96400,4800, 2400(bps) 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
PAri	n82	Parity Check Setting (PAri)	1. Press ENT to enter this parameter, Press ↑ or ↓ can modify the value, range: n.8.2., n.8.1., EvEn, odd 2. Press ENT for 3 SEC to save the parameter and go to the next parameter
FrAn	oFF	Frame Setting (FrAM)	1. Press ENT to enter this parameter, Press ↑ or ↓ can modify the value, range: on (Hi->> Lo), off (Lo->>Hi) 2. Press ENT for 3 SEC to save the parameter and go to the next parameter

A/O SETTING

* Press ↓ for 3 sec can enter to P.Cod page, if the pass code is correct, Press ENT for 3 sec can enter to DISPLAY SETTING.

Display	Default	Name	Descriptions
APer	0000	A/O Zero Adjustment (AZer)	1. Press ENT to enter this parameter, the digit will be flashed. 2. Press ENT again to move the digit, Press ↑ or ↓ can modify the value, Move the digit to the 3rd or 4th digit to increase the speed of adjustment. 3. Press ENT for 3 SEC to save the parameter and go to the next parameter
ASPA	0000	A/O Span Adjustment (ASPA)	

DISPLAY SETTING

* Press ↑ for 3 sec can enter to P.Cod page, if the pass code is correct, Press ENT for 3 sec can enter to DISPLAY SETTING.

Display	Default	Name	Descriptions
doFS	0000	Display Offset Setting (dOFS)	1. Press ENT to enter this parameter, the digit will be flashed. 2. Example: If the rating display is 24°C, but the actual is 26; modify the value to "2" can adjust the offset, Range:-1999~9999 3. Press ENT for 3 SEC to save the parameter and go to the next parameter
dGAi	1000	Display Gain Setting (dGAi)	1. Press ENT to enter this parameter, the digit will be flashed. 2. Example: Rating display 200°C, Actual display 199.8°C Rating display÷ Actual display=dGain 200÷199.8=1.001; dGain=1.001 3. Press ENT for 3 SEC to save the parameter and go to the next parameter

Error Code of Self-Diagnosis

Display	Descriptions
oPEn	Input signal or cold junction is disconnection.
doF	Input signal is over display range (Max 9999)
-doF	Input signal is under display range (Min -1999)
Err 7	EEPROM reading/writing suffers the interference (about 1 million times).

**Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.

Modbus RTU Mode Protocol Address Table

Data: 16Bit / 32Bit, +/- is 8000~7FFF (-32768~32767), 80000000~7FFFFFFF(-2147483648~2147483647)

Modbus	HEX	Name	Descriptions	Act
40001	0000	DISPLAY	Current display; range: F831~270F (-1999~9999)	R
40002	0001	ANLO	Analog output low scale setting; range: F831~270F (-1999~9999)	R/W
40003	0002	ANHI	Analog output hi scale setting; range: F831~270F (-1999~9999)	R/W
40004	0003	AL1	Alarm 1 setpoint setting; range: F831~270F (-1999~9999)	R/W
40005	0004	AL2	Alarm 2 setpoint setting; range: F831~270F (-1999~9999)	R/W
40006	0005	AVG	Display average setting; range: 0001~0063 (1~99)	R/W
40007	0006	LCUT	Display low cut setting; range: 0000~0063 (0~99)	R/W
40008	0007	HYS1	Alarm 1 hysteresis setting; range: 0000~03E7 (0~999)	R/W
40009	0008	HYS2	Alarm 2 hysteresis setting; range: 0000~03E7 (0~999)	R/W
40010	0009	DEL1	Alarm 1 act delay time setting; range: 0000~0063 (0~99)	R/W
40011	000A	DEL2	Alarm 2 act delay time setting; range: 0000~0063 (0~99)	R/W
40012	000B	SB	Alarm start band setting; range: FF9D~0063 (-99~99)	R/W
40013	000C	SDT	Alarm start delay time setting; range: 0000~0063 (0~99)	R/W
40014	000D	ADDR	Address setting; range: 0000~00FF (0~255)	R/W
40015	000E	TYPE	Sensor type setting: 0:K, 1:J, 2:E, 3:PT-100 Sensor type setting:0:T, 1:R, 2:S, 3:B	R/W
40016	000F	UNIT	Temperature unit setting; range:0000~0001 (0~1) 0:°C, 1:°F	R/W
40017	0010	ACT1	Alarm 1 act setting; range: 0000~0001 (0~1) 0:HI, 1:LO	R/W
40018	0011	ACT2	Alarm 2 act setting; range: 0000~0001 (0~1) 0:HI, 1:LO	R/W
40019	0012	BAUD	Baud rate setting; range: 0000~0002 (0~2) 0:2400, 1:4800, 2:9600	R/W
40020	0013	PARI	Parity setting; range: 0000~0003 (0~3), 0:N.8.2., 1:N.8.1., 2:EVEN, 3:ODD	R/W
40021	0014	FRAME	Frame setting; range 0000~0001(0~1) 0:NO, 1:YES	R/W
40022	0015	DP	Decimal point setting; range: 0000~0001 (0~1) 0:10 ⁰ , 1:10 ⁻¹	R/W