4 DIGITAL MICRO-PROCESS METER

GA4

FEATURES:

- Multiple Input/display selectable
- CE approval
- Max. Hold/ Data Hold/ Reset
- High stability, non-flammable case (PC), high safety
- 0.8" high brightness LED display range:-9999~9999,decimal point selectable
- Measuring AC, DC Voltage/AC, DC Current/Potentiometer/Resistor/PT-100/Load Cell
- Accuracy:±0.1% F.S.,±1 digit (DC /Potentiometer/Resistor/PT-100/Load Cell)
  ±0.2% F.S.,±1 digit (AC)
- Can buy waterproof one, can reach IP 65 grade

ORDER INFORMATION : GA4 - Code1 Code 2 Code 3 Code 4

Code 1	Input Type
D	DC
A	AC AVG
M	AC TRMS
P	3 Wire Potentiometer
I	2 Wire Resistor
T	RTD(Pt-100)
L	Load Cell
2	2 Wire Sensor
3	3 Wire Sensor
4	4 Wire Sensor
S01	Multiple Input
S02	Multiple Input
S03	Multiple Input

Code 2	Voltage (V)	Code 2	Current	Code 2	3 Wire Potentiometer	Code 2	2 Wire Resistor	Code 2	RTD (PT-100)	Code 2	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	-100~100℃	L2	2mV/V EX.5V
V3	1~5V	A3	0~2mA	P3	100KΩ~1MΩ	I3	0~1KΩ	T3	-200~200℃	L3	3mV/V EX.5V
V4	0~10V	A4	0~20mA	P0	Option	I4	0~10KΩ	T4	0~600℃	L4	1mV/V EX.10V
V5	0~36V	A5	0~200mA			I5	0~100KΩ	T0	Option	L5	2mV/V EX.10V
V6	0~300V	A6	4~20mA			I0	Option			L6	3mV/V EX.10V
V7	0~600V	A7	0~2A							L0	Option
V0	Option	A8	0~5A								
		A9	0~10A								
		A0	Option								

Code 4	Alarm Output
N	None
R1	1 Relay
R2	2 Relays

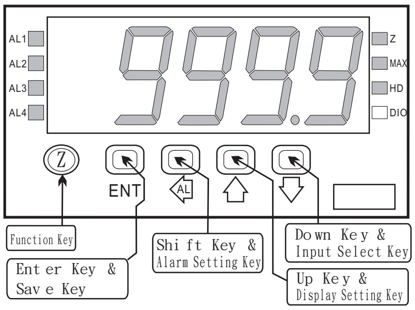
Code 3	Aux. Power
A	AC/DC100~240V
D	DC24~60V
O	110V/220V

※Note 1: S01 multiple input, input 1: 0~10V DC, input 2:4~20mA DC
2: S02 multiple input, input 1: 0~600V AC, input 2: 0~5A AC
3: S03 multiple input, input 1: 0~600V DC, input 2: 0~50mV DC
4: 2 wire type offers excitation power DC24V for 2wire(LOOP POWER) pressure, temperature, humidity sensors using.
5: Please specify the input signal and display value, inquiry sales persons for specia type.
6: Load Cell type of excitation power DC5V can have 2 load cell in parallel; DC10V only can offer 1 load cell to use

SPECIFICATION:

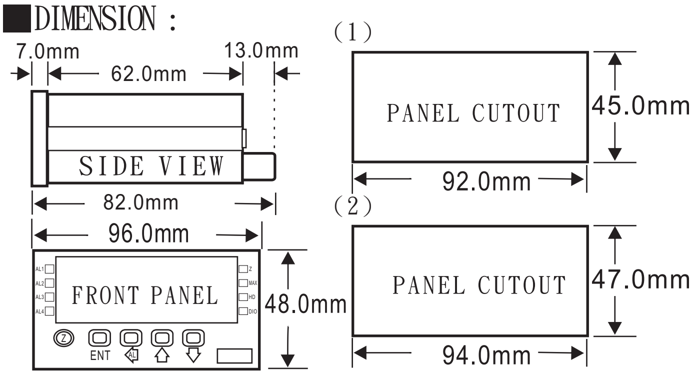
■Accuracy:	±0.1%F.S.±1 digit (DC/Potentiometer /Resistor/PT-100/Load Cell) ±0.2%F.S ±1 digit (AC)
■Display Screen:	High brightness red LED, 20.3mm (0.8")
■Sampling Time:	16 cycles/sec
■Display Range:	-9999~9999
■Zero Adjustment:	-9999~9999
■Over Range Indication:	doFL / ioFL or -doFL / -ioFL
■Polarity Indication:	Automatic with "-" indication
■Parameters Setting:	Push buttons
■Back Up Memory:	EEPROM
■Alarm Action:	"≧(Hi) on" or "<(Lo) on"
■Alarm Run Delay Time:	0~99 sec
■Relay Contact:	AC 277V/7A; DC 30V/7A
■Temperature Coefficient:	100ppm/℃ (0~60℃)
■Operating Temperature/Humidity:	0~60℃; 20~90% RH (non-condensing)
■Storage Temperature / Humidity:	-10~70℃; 20~90% RH (non-condensing)
■Power Supply:	AC 99~132 / 198~264 V
■Power Consumption:	6.5VA 2 RELAYS (non RELAY 3VA)
■Withstand Voltage:	2KVac / 1min (Input / Power)
■Input Impendence:	Voltage: >2V for 20KΩ/V ≦2V for 200MΩ Current: ≧0.2A at 100mV <0.2A at 1V
■Gross Weight:	< 0.3 Kg

FRONT PANEL & KEY FUNCTIONS :



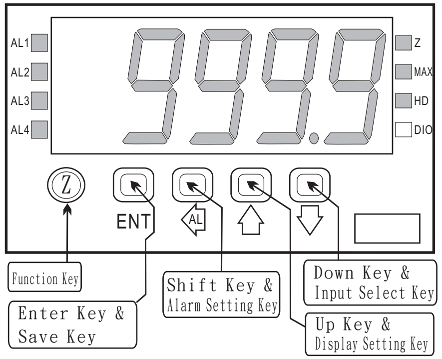
AL1: Alarm 1 Indicator
AL2: Alarm 2 Indicator
AL3: Input 1 Value Display
AL4: Input 2 Value Display
Z: Display Value Reset Indicator
MAX: Max. Hold Indicator
HD: Data Hold Indicator
DIO: No Function

DIMENSION :



※Note: PANEL CUTOUT (1) is standard size, PANEL CUTOUT (2) is attached waterproof cover

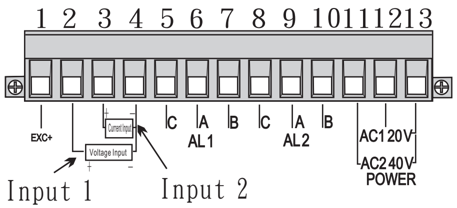
1.1 FRONT PANEL



- AL1: Alarm 1 Indicator
- AL2: Alarm 2 Indicator
- AL3: Input 1 Value Display
- AL4: Input 2 Value Display
- Z: Display Value Reset Indicator
- MAX: Max. Hold Indicator
- HD: Data Hold Indicator
- DIO: No Function

1.2 KEY FUNCTIONS

Z	Function Key	1. In the measuring status, press this key can enable the setting function.
ENT	EnterKey& SaveKey	1. In the measuring status, press this key can enter to parameter groups. 2. In the parameter setting, press this key can save the value & go to the next parameter.
⇦	ShiftKey& Alarm SettingKey	1. In the measuring status, press this key for 3 sec can enter to Alarm Setpoint Modification. 2. In the parameter page, press this key can enter to parameter setting. 3. In the parameter setting, press this key can move the cursor left.
⇧	Up Key & Display Group Setting Key	1. In the measuring status, press this key for 3 sec can enter to Display Group Setting. 2. In the parameter page, press this key can back to the last parameter page. 3. In the parameter setting, press this key can increase the digit
⇩	DownKey	1. In the measuring status, press this key for 3 sec can enter to A/O Group Setting. 2. In the parameter page, press this key can go to the next parameter page. 3. In the parameter setting, press this key can decrease the digit
⇧+⇩	Compound Key	1. In any status, press this key can back to measuring status.

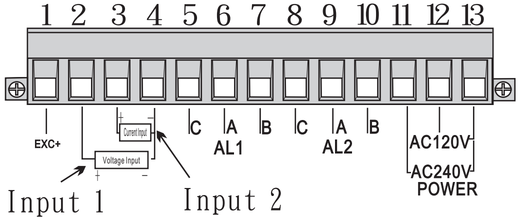


※Note: 1. EXC+≧15V(20mA)
2. connect with Input 1, iP. SEL parameter please switch to i1; connect with Input 2 iP. SEL parameter please switch to i2.
(Same as press ⇩ for 3 sec. in the measuring status.)

Caution: Multi-input is different from dual input, please do not connect two signals at one time.

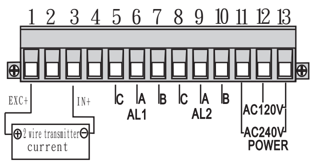
WIRING CONNECTION:

● Multiple input(S01,S02,S03):

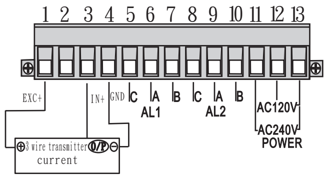


※Note: 1. EXC+≧15V(20mA)
2. connect with input 1, iP. SEL parameter, please switch to i1; connect with input 2 iP. SEL parameter, please switch to i2
(It is same as press ⇩ for 3 sec. in the measuring status.)
3. The wiring connection for 2 wire transmitter: please check example 1
4. Wiring connection for 3 wire transmitter: please check example 2, example 3

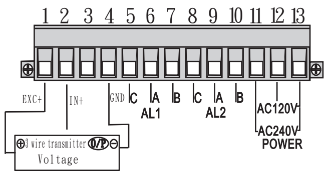
● Example 1:



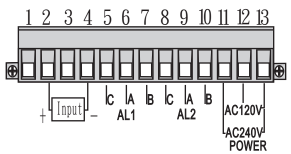
● Example 2:



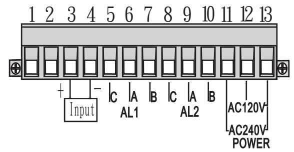
● Example 3:



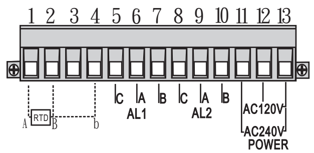
● Voltage,(AC,DC):



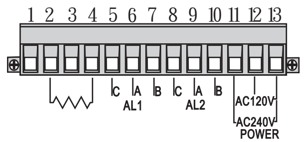
● Current OR Shunt(AC,DC):



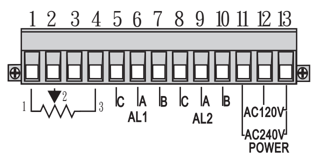
● Temperature (RTD):



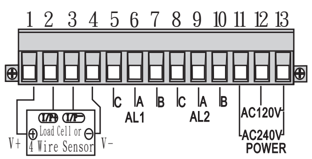
● 2 Wire Resistor:



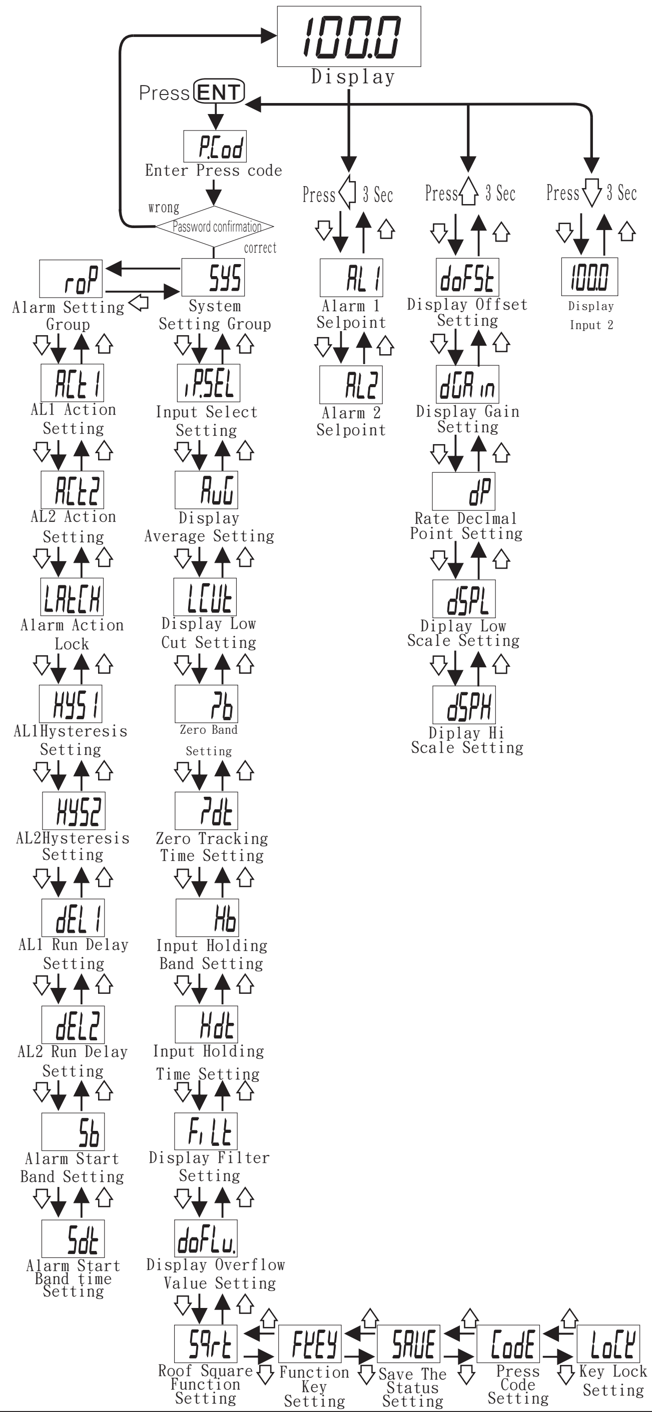
● 3 Wire Potentiometer:



● 4 Wire Sensor or Load cell:



2.1 OPERATING SEQUENCE



2.2 ALARM SETPOINT MODIFICATION

*** In the measuring status , press ⇦ for 3 sec can enter to Alarm Setpoint Modification.**

Display	Default	Name	Descriptions
AL1 PRESS ENT ↓	0000	Alarm 1 Setpoint (AL1)	1. Example：present value 100.0，if AL1 50.0 is required, All must be set at 50.0。 Range: -9999~9999 2. Press ENT to save the value and go to next parameter.
AL2 PRESS ENT ↓	0000	Alarm 2 Setpoint (AL2)	

2.3 DISPLAY SETTING

*** In the measuring status, press ⇧ for 3 sec can enter to Display Group Setting..**

Display	Default	Name	Descriptions
doFSt PRESS ENT ↓	0000	Display Offset Setting (doFSt)	1. Example for Zero Band adjustment：when setting input 0V, if display is 3, please input 3 to correct the deviation Range: -9999~9999 2. Press ENT to save the value and go to next parameter.
dGAin PRESS ENT ↓	0000	Display Gain Setting (dGAin)	1. Example for display adjustment: when setting input 10V, if display is 99.8, Value ÷ actual value =dGAin, 100 ÷ 99.8 = 1.002 (please setting 1.002) 2. Press ENT to save the value and go to the next parameter.
dP PRESS ENT ↓	0000	Decimal Point Setting (dP)	1. Decimal Point setting：for change display 100.0 to 10.00, please change the setting from 1 to 2 Range: 0, 1, 2, 3 (DP) 2. Press ENT to save the value and go to the next parameter.
dSPL PRESS ENT ↓	0000	Display Low Scale Setting (dSPL)	1. Ex：Setting 10 for display low scale 10 while input is 0V Range: -9999~9999 2. Press ENT to save the value and go to the next parameter.
dSPH PRESS ENT ↓	9999	Display Hi Scale Setting (dSPH)	1. Ex：Setting 100 for display Hi Scale 100 while input 10V. Range: -9999~9999 2. Press ENT to save the value and go to the next parameter.

2.4 ERROR CODE OF SELF-DIAGNOSIS

**In case no connection to specific specification (RTD, load cell, potentiometer), it will cause below situations:

Display	Descriptions
ioFL	Input signal is over 150% of input range.
-ioFL	Input signal is under -140% of input range.
AdEr	Input signal is over 180% of input range or meter error.
doFL	Input signal is over display range(9999).
-doFL	Input signal is under display range(-9999).

**In case above-mentioned problems occured, please remove the input signals. If this cannot solve your problem, please contact with your distributor.

E-oo	ERROR reading/writing suffers the interference (about 1 million times).

**In case of E-00 situation, please select "No" and press "ENT" to save. If the problem (E-00) continues to occur, please contact with your distributor.

3.1 SYSTEM(SYS)SETTING GROUP PROCEDURE

*** While pass code is correct, press ⇦ can select system setting group.**

Display	Default	Name	Descriptions
iPSEL PRESS ENT ↓	i1	Input Select Setting (iP.SEL)	1. Example：set i1 to display input 1 Could be changed to i1 or i2 input. ※ This setting is suitable for multi-input. 2. Press ENT to save the value and go to next parameter.
AvG PRESS ENT ↓	0005	Display Average Setting (AvG)	1. Instruction：This is suitable for unsteady signal. The bigger setting value, more steady display value with slower reaction. Range: 1~99 (times) 2. Press ENT to save the value and go to the next parameter.
LCUt PRESS ENT ↓	0000	Display Low Cut Setting (LCUt)	1. Example：if require the display value 0 while value is under 10, then setting value shall be 10。 Range: 0~99 2. Press ENT to save the value and go to the next parameter.
Zb PRESS ENT ↓	0000	Zero Band Setting (Zb)	Example： (Zb range:0 ~ 9.999) 1. Input 4-20mA display 0-600.0bar Required stationary value is 1.0bar Stationary range is Zero Band ±1.0 bar Calculation: (permille↓) Required stationary value ÷ Hi input display value ×1000 = Zb 1.0 ÷ 600.0 × 1000 = 1.666 (Zb) ※ while the value within the stationary range of Zero Band, fixed the Zero Band automatically.
Zdt PRESS ENT ↓	0000	Zero Tracking Time Setting (Zdt)	Instruction: 1. If display reach Zb range, the display value swill track after this setting. (P.S.: This function must use with Zb together) Range:0~99 (sec)
Hb PRESS ENT ↓	0000	Input Holding Band Setting (Hb)	Example： (Hb Range: 0~9.999) 1. Input 4-20mA display 0-600.0bar Required stabilized value is 0.5bar Stabilized range is input value ±0.5 bar Calculation: (permille↓) Required stabilized value÷ Hi input display value ×1000 = Hb 0.5 ÷ 600.0 × 1000 = 0.833 (Hb) ※I f display reach input holding band, this display value will stabilize input signal after this setting.
Hdt PRESS ENT ↓	0000	Input Holding Time Setting (Hdt)	Instruction: 1. If display reach Hb stabilized tracking range, will track after this setting. (P.S.: This function must use with Hb together) Range: 0~99 (sec)
FiLt PRESS ENT ↓	0000	Display Filter Setting (FiLt)	1. Example： Range: 0, 1, 2, 5 If setting 1，digit in ones place display 1,2,3,4(normal display) If setting 2，digit in ones place display 2,4,6,8(even number display) If setting 5，digit in ones place display 0,5(mutipl display of 5) If setting 0，digit in ones place display 0(digit in tens)
doFLu PRESS ENT ↓	9999	Display Overflow Value Setting (DoFLv.)	1. Ex：Display Hi scale is 1000，Setting 1100 for display overflow Range: 0~9999 2. Press ENT to save the value and go to the next parameter.
SQrt PRESS ENT ↓	no	Roof Square Function Setting (Sqrt)	1. Ex：Setting YES (open) to open Roof Square Function. Rage: no (do not open), YES (open) 2. Press ENT to save the value and go to the next parameter.

Display	Default	Name	Descriptions
FKEY PRESS ENT ↓	AZ	Function Key Setting (FKEY)	1. This can modify the function of AZ Key. Range:TEST(panel test)AZ (display reset to Zero), Max (Max hold), HD(date hold), ALrSt(Reset Alarm) 2. Press ENT to save the value and go to next parameter.
CodE PRESS ENT ↓	0000	Pass Code Setting (CodE)	1. To enter the parameter setting and modify the pass code. Range: 0~9999 (Please do remeber new Pass Code)
LoCK PRESS ENT ↓	no	Key Lock Setting (LoCK)	1. Setting YES to lock all keys (except ENT key) Range: no (do not lock), YES (lock) 2. Press ENT to save the value and go to next parameter.
SAvE PRESS ENT ↓	YES	Save The Status Setting (SAVE)	1. Insturction： Setting YES(open) to save (AZ, MAX, HD) fuctions to EEPROM ※Select NO:This can avoided EEPROM over-write. Range: no(do not open), YES(open) 2. Press ENT to save the value and go to next parameter.

3.2 ALARM(ROP)SETTING GROUP PROCEDURE

*** While pass code is correct, press ⇦ can select Alarm output setting group.**

Display	Default	Name	Descriptions
ACt1 PRESS ENT ↓	Hi	AL1 Action Setting (ACt1)	1. Instruction：Setting HI higher than Alarm setpoint, setting LO lower than Alarm setpoint. Range: Hi (≧Alarm setpoint on), Lo (<larm setpoint on) 2. Press ENT to save the value and go to next parameter.
ACt2 PRESS ENT ↓	Hi	AL2 Action Setting (ACt2)	
LAtCH PRESS ENT ↓	no	Alarm Action Lock (LAtCH)	1. Instruction：Setting YES to lock alarm and display. Use FKEY (Alarm reset) to reset the Alarm. no(close), Yes (open) 2. Press ENT to save the value and go to next parameter.
HYS1 PRESS ENT ↓	0000	AL1Hyster esis Setting (HYS1)	1. After setting alarm action HI, display must lower than alarm setpoint - HYS to close alarm. 2. After setting alarm action LO, display must higher than alarm setpoint + HYS to close alarm. Range: 0~99 3. Press ENT to save the value and go to next parameter.
HYS2 PRESS ENT ↓	0000	AL2Hyster esis Setting (HYS2)	
dEL1 PRESS ENT ↓	0000	AL1 RUN Delay Setting (dEL1)	1. Instruction：Setting alarm run delay at 5 sec., While display reach alarm setpoint, the action will be execute after 5 sec. Range: 0~99 (sec) 2. Press ENT to save the value and go to next parameter.
dEL2 PRESS ENT ↓	0000	AL2 RUN Delay Setting (dEL2)	
Sb PRESS ENT ↓	0000	AL Start Band Setting (Sb)	1. Instruction：Setting 5，if display value do not over 5, alarm will not be turned on. Range: -99~99 2. Setting 5，if display display value higher than 5, alarm will be turn on after Sdt setting This function are use to avoid possible errors caused by high inrush current (starting current)
Sdt PRESS ENT ↓	0000	AL start Delay Time Setting (Sdt)	1. If display value reach Alarm Start Band, alarm will be turned on after this setting (sec.) P.S.: this function must use with "Sb" together. Range: 0~99 (sec.) 2. Press ENT to save the value and go to next parameter.