

5 DIGITAL FREQUENCY INPUT MICRO-PROCESS PANEL METER

GR5

FEATURES

- Accuracy: $\pm 0.03\%$ F.S.
- Measuring AC Frequency / DC Pulse / Magnetic; Input frequency: 0.001Hz~10KHz
- High brightness 0.8" LED display: -19999~99999; decimal point selectable
- Line-Speed / RPM / Frequency Settable
- Line unit: M, Ft, Y/min Settable
- Up to 2 alarms and setting (Hi or Lo) programmable
- High stability, non-flammable case (PC), high safety
- CE approval



ORDER INFORMATION: GR5 - Code 1 - Code 2 - Code 3

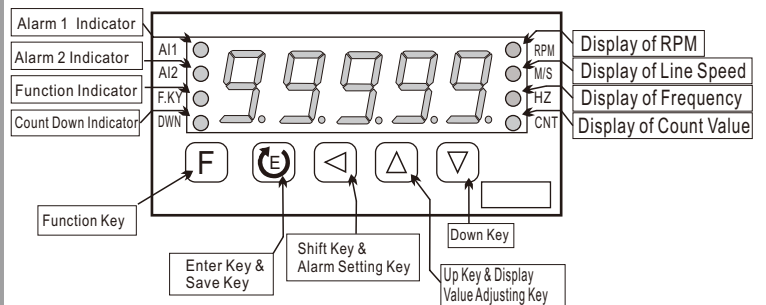
Code 1 Input Signal		Code 2 Aux. Power		Code 3 Alarm Output	
N5	NPN5V	P5	PNP5V	N	None
N2	NPN12V	P2	PNP12V	R1	1 Relay Output
C	Contact	VE	DC 24 Vp	R2	2 Relays Output

**1: NPN(5V),PNP(5V) offers excitation power DC5V; NPN(12V),PNP(12V) offers excitation power DC12V for sensors using.
2: Please use PNP/NPN(5V/12V) for DC pulse input.

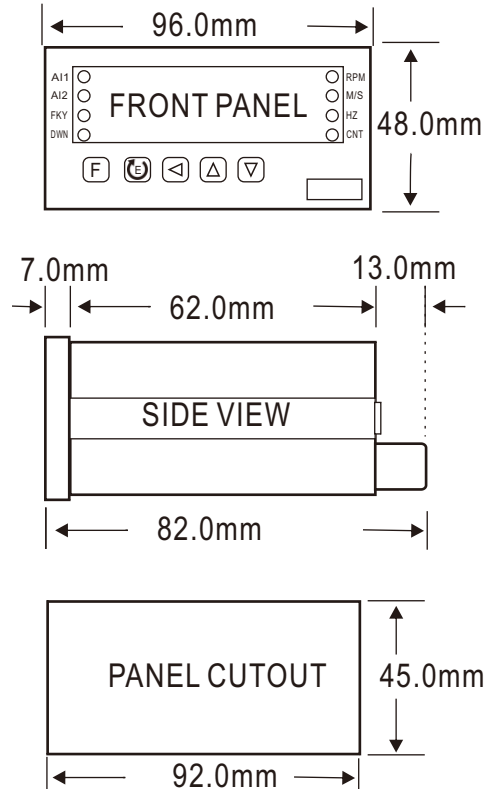
SPECIFICATION

- ◆ Accuracy: $\pm 0.03\%$ F.S.
- ◆ Display Screen: High brightness red LED; 20.3mm(0.8")
- ◆ Max. Input Frequency: 10KHz (50% duty cycle)
- ◆ Sampling Time: 10 cycles / sec: >10Hz
- ◆ Display Range: -19999~99999
- ◆ Over Range Indication: doFL / ioFL
- ◆ Parameters Setting: Push buttons
- ◆ Back Up Memory: EEPROM
- ◆ Diameter Setting Range: 0.0001~9.9999 (M)
- ◆ Alarm Action: " \geq (Hi) on" or "< (Lo) on"
- ◆ Alarm Run Delay Time: 0~99 sec
- ◆ Relay Contact: AC 250V / 3A; DC 30V / 3A
- ◆ Temperature Coefficient: 100ppm / $^{\circ}\text{C}$ (0~60 $^{\circ}\text{C}$)
- ◆ Operating Temperature: 0~60 $^{\circ}\text{C}$
- ◆ Operating Humidity: 20~90% RH (non-condensing)
- ◆ Storage Temperature: -10~70 $^{\circ}\text{C}$
- ◆ Storage Humidity: 20~90% RH (non-condensing)
- ◆ Power Supply: AC/DC 22~60V, AC/DC 100~240V
- ◆ Power Consumption: 4.5VA
- ◆ Surge Test: 2KVac / 1min (Input / Power)

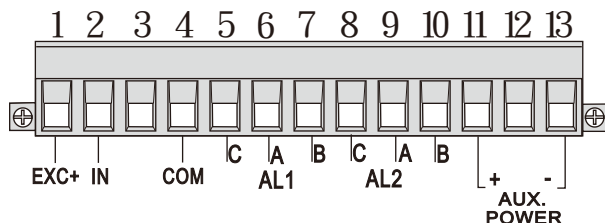
FRONT PANEL & KEY FUNCTIONS



DIMENSION

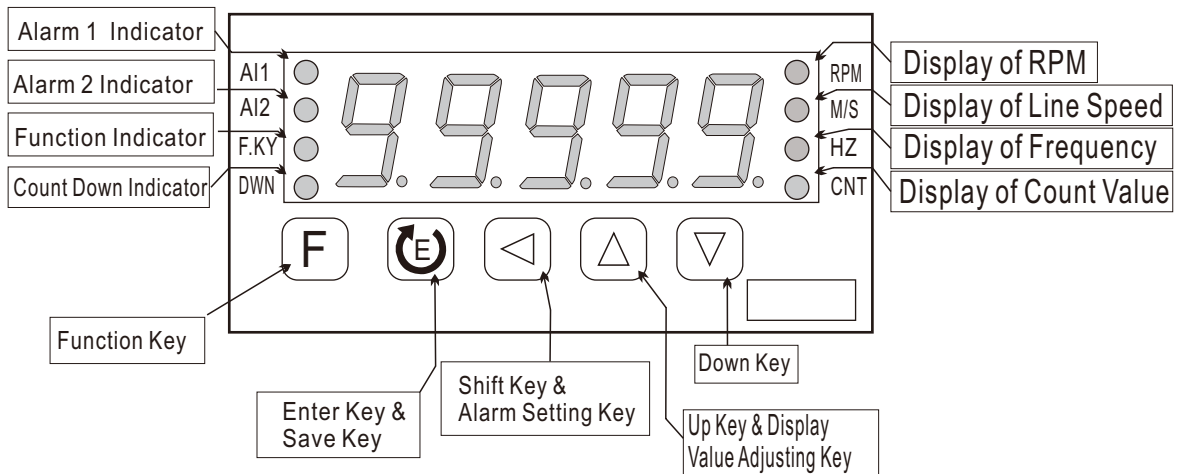


WIRING CONNECTION



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

FRONT PANEL & KEY FUNCTIONS



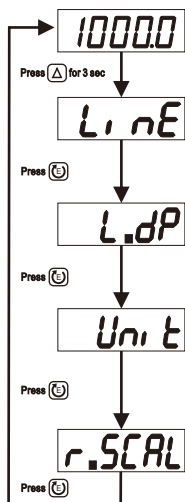
Key Name	Symbol	Descriptions
Function Key Zero Function	F	1. In the measuring status, press this key can open the function set in FKEY page.
Enter Key & Save Key	E	1. In the measuring status, press this key can enter to parameter pages. 2. In the parameter setting, press this key can save the value & go to next parameter.
Shift Key & Alarm Setting Key	◀	1. In the measuring status, press this key for 3 sec can enter to alarm setting page. 2. In the parameter setting, press this key can move the cursor left.
Up Key & Display Scaling Adjusting Key	▶	1. In the measuring status, press this key for 3 sec can enter to display value adjustment. 2. In the parameter setting, press this key can increase the digits.
Down Key	▼	1. In the measuring status, press this key for 3 sec to change the display value. 2. In the parameter setting, press this key can decrease the digits.
UP Down Key	▶+▼	1. In the parameter setting, press this key combination can exit the setting.

GENERAL MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
Power On		Alarm Setpoint	
10000	Measuring Status	Present value for measurement.	
Press ◀ for 3 sec AL1	Alarm 1 Setpoint (AL1)	When display value reach this set point, the relay out of alarm will be activated.	00000
Press E AL2	Alarm 2 Setpoint (AL1)	Setting range: -19999~99999	
		Display Value Adjustment - RPM	
10000	Measuring Status		
Press ▶ for 3 sec rPn	Display Setting Adjustment (rPm)	Press ▶ for 3 sec to enter display value setting page. Press ◀ to select the RPM setting page.	
Press E r.dP	Decimal Point Setting (r.dP)	Select decimal point. Setting range: 0, 1, 2, 3, 4. The decimal point setting to 2 and the value will show "0.00".	00000
Press E r.SCAL	Scale Coefficient Adjustment (r.SCAL)	Modify scale coefficient. Setting range: 0.0001 ~9.9999.	10000

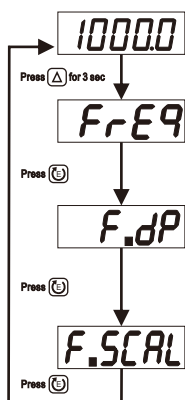
GENERAL MODE OPERATING PROCEDURES

Display Value Adjustment - Line Speed



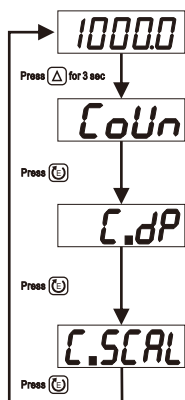
Measuring Status		
Display Setting Adjustment (LinE)	Press (Δ) for 3 sec to enter display value setting page. Press (◀) to select the line speed setting page.	
Decimal Point Setting (L.dP)	Select decimal point. Setting range: 0, 1, 2, 3, 4. The decimal point setting to 2 and the value will show "0.00".	00000
Unit Adjustment (L.Unit)	Modify display unit. Setting range: Meter(MEtEr), Foot(Foot), Yard(YArD)	mEtEr
Scale Coefficient Adjustment (L.SCAL)	Modify scale coefficient. Setting range: 0.0001 ~9.9999.	10000

Display Value Adjustment - Frequency

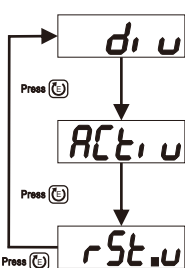


Measuring Status		
Display Setting Adjustment (FrEq)	Press (Δ) for 3 sec to enter display value setting page. Press (◀) to select the frequency setting page.	
Decimal Point Setting (F.dP)	Select decimal point. Setting range: 0, 1, 2, 3, 4. The decimal point setting to 2 and the value will show "0.00".	00000
Scale Coefficient Adjustment (F.SCAL)	Modify scale coefficient. Setting range: 0.0001 ~9.9999.	10000

Display Value Adjustment - Count



Measuring Status		
Display Setting Adjustment (CoUn)	Press (Δ) for 3 sec to enter display value setting page. Press (◀) to select the count setting page.	
Decimal Point Setting (C.dP)	Select decimal point. Setting range: 0, 1, 2, 3, 4. The decimal point setting to 2 and the value will show "0.00".	00000
Scale Coefficient Adjustment (C.SCAL)	Modify scale coefficient. Setting range: 0.0001 ~9.9999.	10000



Divisor Adjustment (div)	Modify divisor of counting value. Setting range: 1 ~9999.	0000 1
Counting direction Setting (ACt i v)	Select the counting direction . Setting range: UP(count up), Down(count down).	UP
Start Point Adjustment (rSt.v)	Modify the counting start point. Setting range: -19999 ~99999. When reset the count value, the start point will be rSt.v.	00000

Display Value Change



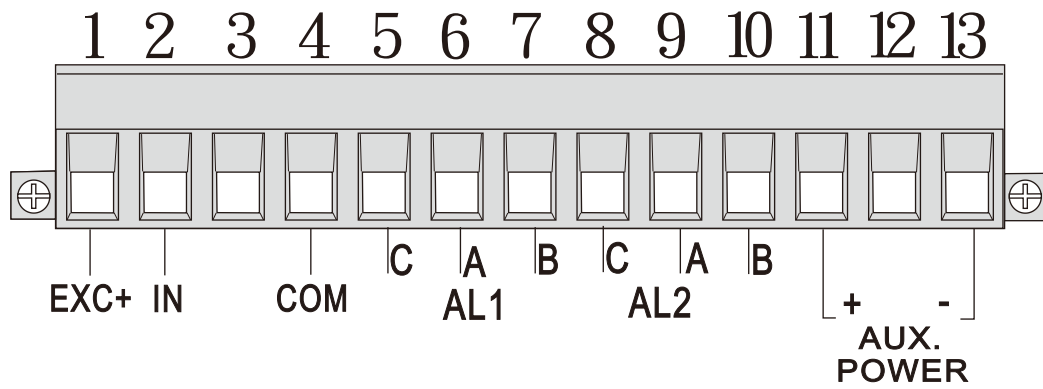
PROGRAMMING MODE OPERATING PROCEDURES

	Display	Descriptions	Default	
	10000	Measuring Status		
	PCod	Pass Code Page	Press pass code to enter the setting page.	00000
	SYS	SYS Page		
	PPr	Pulse per Round Setting (PPr)	Modify pulse per round. Setting range: 1~9999.	0000 1
	tBASE	Time Base Setting (t.bASE)	Modify sampling time base. Setting range: 0.1~999.9s.	00020
	LCUt	Lowcut Setting (LCUt)	Modify the display lowcut value. Setting range: 0~99.	00000
	AvG	Average Times Setting (AvG)	Modify the average times. Setting range: 1~99.	0000 1
	FKEY	Function Key Setting (FKEY)	Select function of function key. Setting range: tESt(LED testing), rSt(resetting display value), ACTiV(changing counting direction), GAtE(counting pause), HD(holding display value), MAX(holding max value)	tESt
	FiLt	Filter Setting (FiLt)	Select filter value. Setting range: OFF, 4, 40, 400, 4000 (Hz)	OFF
	CodE	Pass Code Setting (CodE)	Modify pass code. Setting range: 0000~9999	00000
	LoCK	Lock Setting (LoCK)	Modify lock status. Setting range: no(un-lock), yES(lock). When set to lock, the setting page only can view the setting value.	no
	rOP	Alarm Setting Group Procedures		
	AISEL A2SEL	Alarm Setting (AX.SEL)	Select the corresponding value of alarm. Setting range: RPM(rPm), Line(LinE), Frequency(FrEq), Count(CoUn).	rPn
	ACT1 ACT2	Action Direction Setting (ACTX)	Select the action direction of alarm. Setting range: Hi, Lo Hi: Alarm actions at display value higher than or equal alarm point. Lo: Alarm actions at display value lower than alarm point.	Hi
	oPMod	Operation Mode Setting (oP.Mod)	Select the operation mode of alarm output. Setting range: n(manually), r(recovery), C(continuous), SA(Semiautomatic), CP(Comparative).	n
	HYS1 HYS2	System Hysteresis Setting (HYSX)	Modify the hysteresis value. Setting range: 0~999. The display value must exceed this value and alarm point, then reset the alarm.	00000
	dEL1 dEL2	Action Delay Setting (dELX)	Modify the action delay time. Setting range: 0~99s. The display value must exceed alarm point for this time, then alarm action.	00000
	Sb	Start Band Setting (Sb)	Modify alarm start band, Setting range: -99~99. The display value must exceed this value, then start to process the alarm action.	00000
	Sdt	Start Band Time Setting (Sdt)	Modify time of alarm start band. Setting range: 0~99s. The display value must exceed sb value for this time, then start to process the alarm action.	00000

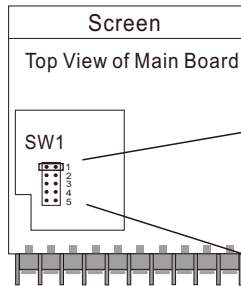
Error Code of Self-Diagnosis

Display	Descriptions	Remark
, oFL	Input signal is over input range (0~100KHz).	**Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.
doFL	Input signal is over display range (99999).	
E-00	EEPROM reading/writing suffers the interference (about 1 million times).	

Wiring Connection



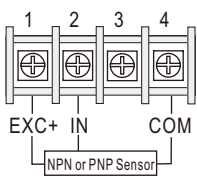
Input Signal Modification



****To Select the pin to modify the input signal for different sensors.**
PS: In dual input type, excitation power must be the same.

SW1	JUMPER	DEFINITION
● ●	1	Open: 12V; Close: 5V
● ●	2	Open: 5V; Close: 12V
● ●	3	Open: 10KHz; Close: 400Hz
● ●	4	Open: NPN; Close: PNP
● ●	5	Open: PNP; Close: NPN

****Connection:**



NPN (5V): 0~400 Hz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

NPN (5V): 0~10 KHz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

NPN (12V): 0~400 Hz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

NPN (12V): 0~10 KHz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

PNP (5V): 0~400 Hz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

PNP (5V): 0~10 KHz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

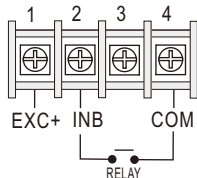
PNP (12V): 0~400 Hz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

PNP (12V): 0~10 KHz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

****Connection:**



Relay Contact: NPN 0~400 Hz

JUMPER	SW1/SW2
1	● ●
2	● ●
3	● ●
4	● ●

****For relay input type, please select NPN 0~400 Hz.**