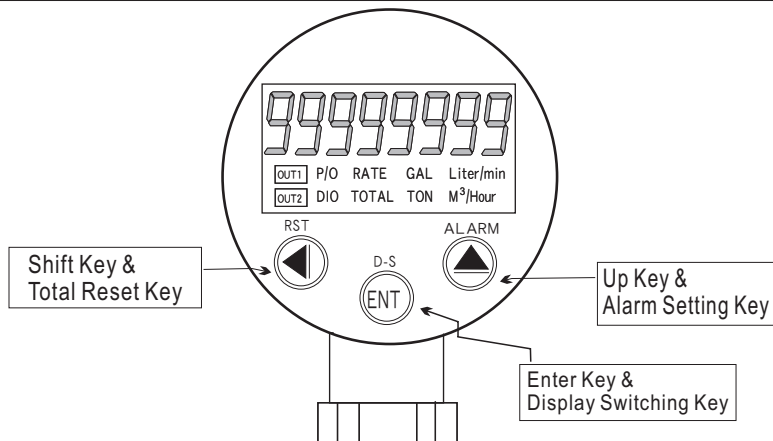


\* Please understand key indicators & functions at the first operation.

## FRONT PANEL & KEY FUNCTIONS



Key Name	Symbol	Descriptions
Enter Key & Save Key	ENT	1. In the measuring status, press this key for 5 sec can enter to parameter pages. 2. In the measuring status, press this key can switch the rate & total value. 3. In the parameter setting, press this key can save the value & go to next parameter.
Shift Key & Total Reset Key	←	1. In the measuring status, press this key for 10 sec can reset the total value. 2. In the parameter setting, press this key can move the cursor left.
Up Key & Alarm Setting Key	↑	1. In the measuring page, press this key for 5 sec can enter to alarm setting page (The selecting digit will be flashed) 2. In the parameter setting, press this key can increase the digits.
Down Key	↓	1. In the parameter setting, press this key can decrease the digits.

- \*\*1. The following block charts are parameters codes, parameter codes & parameters will alternate flashing if the parameters can be modified.
- To modify the parameters, please press ←&↑, and press **ENT** to save the parameter after the modification.
  - Please don't forget the new pass code after modification.
  - In any pages, press ←&↑, or don't press any keys for 2 minutes that will back to measuring status.

## GENERAL MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
Power ON		<b>Alarm Setpoint</b>	
10000	Measuring Status	Present value for measurement.	
Press: ↑ for 5 sec	AL1	Alarm 1 Setpoint (AL1)	00000
Press: ENT	AL2	Alarm 2 Setpoint (AL1)	00000
Press: ENT			

Remark: 1. There are 4 parameter groups of "System Setting Group(SYS)", "Alarm Setting Group(roP)", "Analog Output Setting Group (AoP)" & "RS485 Setting Group(doP)" for modification.  
 2. Press ← to select each group page, and press **ENT** to enter each group or parameter page for modification or saving the parameters.  
 3. Some of optional functions of parameter pages still exist, but the functions are disable.

## PROGRAMMING MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
Power ON		<b>Parameter Group Setting Procedures</b>	
10000	Measuring Status	Present value for measurement.	
Press: ENT	P.Cod	Pass Code (P.Cod)	00000
Press: ENT	P.Code Correct	Pass code is correct that will enter to parameter groups. Pass code is wrong that will back to measuring status.	
NO			
YES			
Press: ←	SYS	System Setting Group (SYS)	
Press: ENT	roP	Alarm Setting Group (roP)	
Press: ←	AoP	A/O Setting Group (AoP)	
Press: ENT	doP	RS485 Setting Group (doP)	
Press: ←			

Display	Descriptions	Default
<b>System Setting Group Procedures</b>		
545 Press: ENT unit	System Setting Page (SYS) Flow Unit Setting (Unit) Press $\triangleleft$ to modify the unit (Liter, Gal, Ton., m <sup>3</sup> )	LitEr
idC-t Press: ENT dPr	Sampling Time Base (idC-t) Press $\triangleleft$ to modify sampling time base (0.5, 1.0, 2.5, 5.0 sec).	10
dPt Press: ENT t-unit	Decimal Point of Rate Setting (dPr) Press $\triangleleft$ to select rate decimal point (0, 1, 2, 3, 4).	00000
dPt Press: ENT K-F	Decimal Point of Total Setting (dPt) Press $\triangleleft$ to select total decimal point (0, 1, 2, 3, 4).	00000
t-unit Press: ENT K-F	Time Parameter Setting (t-unit) Press $\triangleleft$ to modify time parameter (sec / min / hour)	SEC
K-F Press: ENT CodE	K Factor Setting (K-F) Press $\triangleleft$ to modify K Factor (0.1~999.999).	100000
CodE Press: ENT LoCK	Pass Code Setting (CodE) PS: Please don't forget the new pass code after modification.	00000
LoCK Press: ENT	Key Lock Setting (LoCK) Press $\triangleleft$ to lock the keys, using key lock function only can view the parameters, but cannot modify any values. PS: no (unlock), YES ("ENT" unlock, others lock).	no
<b>Alarm Setting Group Procedures</b>		
roP Press: ENT AL1.5	Alarm Setting Page (roP) The following steps are only available for alarm output.	
AL1.5 Press: ENT AL2.5	Alarm 1 Selection Setting (AL1.S) Press $\triangleleft$ to select alarm 1 (Rate or Total)	rAtE
AL2.5 Press: ENT ACT1	Alarm 2 Selection Setting (AL2.S) Press $\triangleleft$ to select alarm 2 (Rate or Total)	rAtE
ACT1 Press: ENT ACT2	Alarm 1 (ACT1) Alarm Action Setting Press $\triangleleft$ to modify alarm value that is $\geq$ (Hi) or $<$ (Lo) for alarm action.	Hi
ACT2 Press: ENT HYS1	Alarm 2 (ACT2)	
HYS1 Press: ENT HYS2	Hysteresis 1 (HYS1) Alarm Hysteresis Setting Press $\triangleleft$ to modify the value, when alarm runs lower or higher display value (depends on alarm action). Alarm setpoint $\pm$ this value (0~999) will turn off the alarm.	00000
HYS2 Press: ENT dEL1	Hysteresis 2 (HYS2)	
dEL1 Press: ENT dEL2	Delay Time 1 (dEL1) Alarm Run Delay Setting Press $\triangleleft$ to modify the value, when the display value reach the alarm value that need to wait for this time (0~99 sec) for alarm action.	00000
dEL2 Press: ENT Sdt	Delay Time 2 (dEL2)	
Sdt Press: ENT	Alarm Start Band Time Setting (Sdt) Press $\triangleleft$ to modify the value (0~99 sec), if the display value reach alarm start band value; the alarm will be act after this value (sec).	00000

Display	Descriptions	Default
<b>A/O Setting Group Procedures</b>		
RoP Press: ENT AoSEL	A/O Setting Page (AoP) The following steps are only available for analog output.	
AoSEL Press: ENT AnLo	A/O Selection Setting (Ao.SEL) Press $\triangleleft$ to select output for Rate or Total.	rAtE
AnLo Press: ENT AnHi	A/O Low Scale Setting (AnLo) Press $\triangleleft$ to adjust A/O low scale to correspond to the display value (programmable). EX: A/O is 0~10V, the display is 10.0 to output 0V, this value must be set for 10.0.	00000
AnHi Press: ENT APero	A/O Hi Scale Setting (AnHi) Press $\triangleleft$ to adjust A/O hi scale to correspond to the display value (programmable). EX: A/O is 0~10V, the display is 90.0 to output 1 0V, this value must be set for 90.0.	99999
APero Press: ENT ASPan	A/O Zero Adjustment (AZero) Press $\triangleleft$ to select adjusting speed rate, press $\triangleleft$ to modify the A/O zero. PS: To use this function to adjust the real A/O zero.	00000
ASPan Press: ENT	A/O Span Adjustment (ASPan) Press $\triangleleft$ to select adjusting speed rate, press $\triangleleft$ to modify the A/O span. PS: To use this function to adjust the real A/O span.	00000
<b>RS485 Setting Group Procedures</b>		
doP Press: ENT Addr	RS485 Setting Page (doP) The following steps are only available for RS-485.	
Addr Press: ENT bAUd	Address Setting (Addr) Press $\triangleleft$ to modify address (0~255).	00000
bAUd Press: ENT PARi	Baud Rate Setting (bAUd) Press $\triangleleft$ to select baud rate (19200/9600/4800/2400).	19200
PARi Press: ENT	Parity Setting (PAri) Press $\triangleleft$ to select parity (n.8.2/n.8.1/even/odd).	n8.2

### Error Code of Self-Diagnosis

Display	Descriptions
1oFL	Input signal is over 120% of input range.
doFL	Input signal is over display range (99999)
E-00	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.

## GFL2Modbus RTU Mode Protocol Address Map

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

HEX	Name	Description	Act
0000	UNIT	Display Unit, Input Range 0000~0003(0~3),0:Liter,1:M <sup>3</sup> ,2:TON,3:GAL	R/W
0001	IDC-T	Indication time, Input range 0000~0003(0~3)0:0.5sec., 1:1.0 sec., 2:2.5sec., 3:5.0sec.	R/W
0002	DPR	Rate decimal point setting, range0000~0004(0~4)	R/W
0003	DPT	Decimal point setting, range0000~0004(0~4)	R/W
0004	T-UNIT	Flow unit setting, 0000~0002(0~2) 0:/S, 1:/min, 2:/Hour	R/W
0005	LOCK	Key lock setting, range: 0000~0001(0~1)0:NO , 1:YES	R/W
0007	ACT1	Alarm 1 action setting, range:0000~0001(0~1)0:HI , 1:LO	R/W
0008	ACT2	Alarm 2 action setting , range: 0000~0001(0~1) 0:HI , 1:LO	R/W
0009	AL1.S	Alarm 1 output selection, range:0000~0001(0~1)O:RATE, 1:TOTAL	R/W
0010	AL2.S	Alarm 2 output selection, range: 0000~0001(0~1) O:RATE, 1:TOTAL	R/W
000a	AO.SEL	A/O selection setting,range: 0000~0001(0~1) O:RATE, 1:TOTAL	R/W
000b	ADDR	Address setting, range: 0000~00FF(0~255)	R/W
000c	BAUD	Baud rate setting, range:0000~0003(0~3)0:38400, 1:19200, 2:9600, 3:4800	R/W
000d	PARI	Parity check setting, range0000~0003(0~3)0:n.8.2. , 1:n.8.1. , 2:EvEn , 3:odd	R/W
000e	HYS1	Alarm 1 hysteresis setting:0000~03E7(0~999)*:AL1.S=TOTAL, HYS1 function failure	R/W
000f	HYS2	Alarm 2 hysteresis setting: 0000~03E7(0~999) *:AL1.S=TOTAL, HYS2 function failure	R/W
0010	SDT	Start delay time, range: 0000~03E7(0~99.9 sec.)	R/W
0011	DEL1	Delay 1, Input range:FC19~03E7(-99.9~99.9)*AL.1=TOTAL,DEL1=0~999sec.	R/W
0012	DEL2	Delay 2, Input range:FC19~03E7(-99.9~99.9)*AL.2=TOTAL,DEL2=0~999sec.	R/W
0013	A_ZERO	Analog zero adjustment, range:E891~176F(-5999~5999)	R/W
0014	A_SPAN	Analog span adjustment, range:E891~176F(-5999~5999)	R/W
0015	CODE	Pass code setting, range:00000000~0001869F(0~99999)	R/W
0017	K-F	K-Factor, input range:00000064~000F423F(0.100~999.999)	R/W
0019	ANHO	Analog low scale setting range: RATE=00000000~0001869F(0~99999) TOTAL=00000000~05F5E0FF(0~99999999)	R/W
001b	ANHI	Analog hi scale setting range: RATE=00000000~0001869F(0~99999) TOTAL=00000000~05F5E0FF(0~99999999)	R/W
001d	AL1	Alarm 1,input range: RATE=00000000~0001869F(0~99999) TOTAL=00000000~05F5E0FF(0~99999999)	R/W
001f	AL2	Alarm 2,input range:RATE=00000000~0001869F(0~99999) TOTAL=00000000~05F5E0FF(0~99999999)	R/W
0021	DISPLAY	Rate or totalizer display, range: RATE=00000000~0001869F(0~99999) TOTAL=00000000~05F5E0FF(0~99999999)	R
0011	RST	Write= 0x01(Function 06),Totalizer value will be reset	W