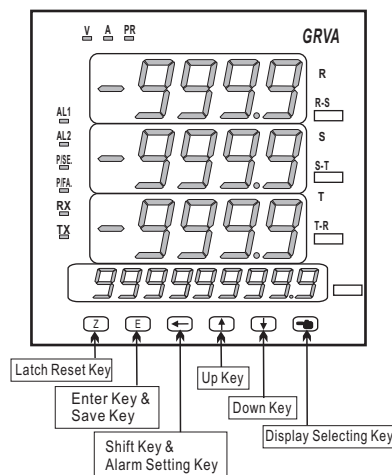


* Please understand key indicators & functions at the first operation.

FRONT PANEL & KEY FUNCTIONS



Key Name	Symbol	Descriptions
Reset Key		1. Press this key to enable the reset function for total value and max. value.
Enter Key & Save Key		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 page, press this key for 3 sec can enter to alarm setting page (The selecting digit will be flashed) 2. In the parameter setting, press this key can move the cursor left.
Up Key		1. 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.
Display Switching Key		1. In the measuring page, press this key can switch the display pages.

- **1. The following block charts are parameters codes, parameter codes & parameters will alternate flashing if the parameters can be modified.
2. To modify the parameters, please press , and press to save the parameter after the modification.
3. Please don't forget the new pass code after modification.
4. 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
		Alarm Setpoint	
Measuring Status	10000	Present value for measurement	
Alarm 1 Setpoint (AL1)	AL 1	Press to modify alarm 1 setpoint.	00000
Alarm 2 Setpoint (AL2)	AL 2	Press to modify alarm 2 setpoint.	00000

- Remark: 1. There are 3 parameter groups of "System Setting Group(SYS)", "Alarm Setting Group(roP)", "RS485 Setting Group(doP)" for modification.
2. Press to select each group page, and press 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
		Parameter Group Setting Procedures	
Measuring Status	10000	Present value for measurement.	
Pass Code (P.Cod)	P.Cod	Press to enter pass code.	00000
	P.Code Correct	Pass code is correct that will enter to parameter groups. Pass code is wrong that will back to measuring status.	
	SYS	System Setting Group	
	roP	Alarm Setting Group	
	doP	RS485 Setting Group	

Error Code of Self-Diagnosis

Display	Descriptions
1 oFL	Input signal is over 120% of input range.
-1 oFL	Input signal is under -20% of input range.
AdEr	Input signal is over 180% of input range or meter error.
doFL	Input signal is over display range (99999)
-doFL	Input signal is under display range (-19999)
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.

Display	Descriptions	Default
System Setting Group Procedures		
Press 545	System Setting Page (SYS)	
Press dPv	Volt Decim al Point Setting (dPv)	Customers specify
Press dSPLv	Volt Low Scale Setting (dSPLV)	Customers specify
Press dSPHv	Volt Hi Scale Setting (dSPHV)	Customers specify
Press dPA	Amp Decim al Point Setting (dPA)	Customers specify
Press dSPLA	Amp Low Scale Setting (dSPLA)	Customers specify
Press dSPHA	Amp Hi Scale Setting (dSPHA)	Customers specify
Press AvG	Display Average Setting (AvG)	00005
Press LCUtv	Volt Low Cut Setting (LCUtv)	00000
Press LCUtA	Amp Low Cut Setting (LCUtA)	00000
Press Code	Pass Code Setting (Code)	00000
Press Auto	Auto Display Switching Setting (Auto)	no
Press LoCK	Key Lock Setting (LoCK)	no
Alarm Setting Group Procedures		
Press roP	Alarm Setting Page (roP)	The following steps are only available for alarm output.
Press SEL 1	Alarm 1 Selection Setting (SEL1)	u1
Press ACt 1	Alarm 1 Action Setting (ACt1)	Hi
Press HYS 1	Alarm Hysteresis Setting (HYS1)	00000
Press dEL 1	Alarm Run Delay Setting (dEL1)	00000
Press Sb 1	Alarm Start Band Setting (Sb1)	00000
Press Sdt 1	Alarm Start Band Time Setting (Sdt1)	00000
Press SEL 2	Alarm 2 Selection Setting (SEL2)	u2

Display	Descriptions	Default
Press ACt 2	Alarm 1 Action Setting (ACt2)	Hi
Press HYS 2	Alarm Hysteresis Setting (HYS2)	00000
Press dEL 2	Alarm Run Delay Setting (dEL2)	00000
Press Sb 2	Alarm Start Band Setting (Sb2)	00000
Press Sdt 2	Alarm Start Band Time Setting (Sdt2)	00000
Press LACt 1	Alarm 1 Latch Setting (LACt1)	no
Press LACt 2	Alarm 2 Latch Setting (LACt2)	no
Press tEst	Test Run Setting (tEst)	00000
Press t-ti n	Test Time Setting (t-tiM)	00000
RS485 Setting Group Procedures		
Press doP	RS485 Setting Page (doP)	The following steps are only available for RS-485.
Press Addr	Address Setting (Addr)	00000
Press bAUd	Baud Rate Setting (bAUd)	19k2
Press PAri	Parity Setting (PAri)	n8.2
Press FrAmE	Frame Setting (FrAmE)	no

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	ID	Model number identification; GRVA is "14"	R
40002	0001	STATUS	Current status display; range: 0000~00FF(0~254) (0:OFF, 1:ON) (Bit7:AL2, Bit6: AL1, Bit5:OC2, Bit4:OC1, Bit3:DI2, Bit2:DI1)	R
40003	0002	INDEX		R/W
40004	0003	DPV	Volt decimal point setting; range: 0000~0004 (0~4) 0:10 ⁰ , 1:10 ¹ , 2:10 ² , 3:10 ³ , 4:10 ⁴	R/W
40005	0004	DPA	Amp decimal point setting; range: 0000~0004 (0~4) 0:10 ⁰ , 1:10 ¹ , 2:10 ² , 3:10 ³ , 4:10 ⁴	R/W
40006	0005	AUTO	Auto display switching setting; range: 0000~0001 (0~1) 0:NO, 1:YES	R/W
40007	0006	LOCK	Key lock setting; range: 0000~0001 (0~1) 0:NO, 1:YES	R/W
40008	0007	SEL1	Alarm 1 selection setting; range: 0000~0005 (0~5) 0:V1, 1:V2, 2:V3, 3:A1, 4:A2, 5:A3	R/W
40009	0008	SEL2	Alarm 2 selection setting; range: 0000~0005 (0~5) 0:V1, 1:V2, 2:V3, 3:A1, 4:A2, 5:A3	R/W
40010	0009	ACT1	Alarm 1 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40011	000A	ACT2	Alarm 2 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40012	000B	LATCH1	Alarm latch 1 setting; range 0000~0001(0~1) 0:NO, 1:YES	R/W
40013	000C	LATCH2	Alarm latch 2 setting; range 0000~0001(0~1) 0:NO, 1:YES	R/W
40014	000D	FRAME	Frame setting; range 0000~0001(0~1) 0:NO, 1:YES	R/W
40015	000E	BAUD	Baud rate setting; range: 0000~0003 (0~3) 0:19200, 1:9600, 2:4800, 3:2400	R/W
40016	000F	PARI	Parity setting; range: 0000~0003 (0~3), 0:N.8.2., 1:N.8.1., 2:EVEN, 3:ODD	R/W
40017	0010	AVG	Display average setting; range: 0001~0063 (1~99)	R/W
40018	0011	LCUTV	Volt low cut setting; range: 0000~0063 (0~99)	R/W
40019	0012	LCUTA	Amp low cut setting; range: 0000~0063 (0~99)	R/W
40020	0013	ADDR	Address setting; range: 0000~00FF (0~255)	R/W
40021	0014	TEST	Test setting; range: 0000~0063 (0~99)	R/W
40022	0015	T.TIME	Test time setting; range: 0000~0063 (0~99)	R/W
40023	0016	DEL1	Alarm 1 act delay time setting; range: 0000~0063 (0~99)	R/W
40024	0017	DEL2	Alarm 2 act delay time setting; range: 0000~0063 (0~99)	R/W
40025	0018	SDT1	Alarm 1 start delay time setting; range: 0000~0063 (0~99)	R/W
40026	0019	SDT2	Alarm 2 start delay time setting; range: 0000~0063 (0~99)	R/W
40027	001A	SB1	Alarm 1 start band setting; range: FF9D~0063 (-99~99)	R/W
40028	001B	SB2	Alarm 2 start band setting; range: FF9D~0063 (-99~99)	R/W
40029	001C	HYS1	Alarm 1 hysteresis setting; range: 0000~0063 (0~99)	R/W
40030	001D	HYS2	Alarm 2 hysteresis setting; range: 0000~0063 (0~99)	R/W
40031	001E	CODE	Pass code setting; range: 0000~4E1F (0~19999)	R/W
40032	001F	DSPLV	Volt display low scale setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W
40033	0020		Volt display low scale setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40034	0021	DSPLA	Amp display low scale setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W

Modbus	HEX	Name	Descriptions	Act
40035	0022		Amp display low scale setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40036	0023	DSPHV	Volt display hi scale setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W
40037	0024		Volt display hi scale setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40038	0025	DSPHA	Amp display hi scale setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W
40039	0026		Amp display hi scale setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40040	0027	AL1	Alarm 1 setpoint setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W
40041	0028		Alarm 1 setpoint setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40042	0029	AL2	Alarm 2 setpoint setting; range: FFFFB1E1~0001869F(-19999~99999) Hi Bit	R/W
40043	002A		Alarm 2 setpoint setting; range: FFFFB1E1~0001869F(-19999~99999) Low Bit	R/W
40044	002B	RATEV1	Volt 1 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40045	002C		Volt 1 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40046	002D	RATEV2	Volt 2 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40047	002E		Volt 2 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40048	002F	RATEV3	Volt 3 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40049	0030		Volt 3 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40050	0031	RATEA1	Amp 1 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40051	0032		Amp 1 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40052	0033	RATEA2	Amp 2 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40053	0034		Amp 2 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40054	0035	RATEA3	Amp 3 display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40055	0036		Amp 3 display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40056	0037	RATEVE	VE display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40057	0038		VE display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R
40058	0039	RATEAE	AE display; range: FFFFB1E1~0001869F (-19999~99999) Hi Bit	R
40059	003A		AE display; range: FFFFB1E1~0001869F (-19999~99999) Low Bit	R