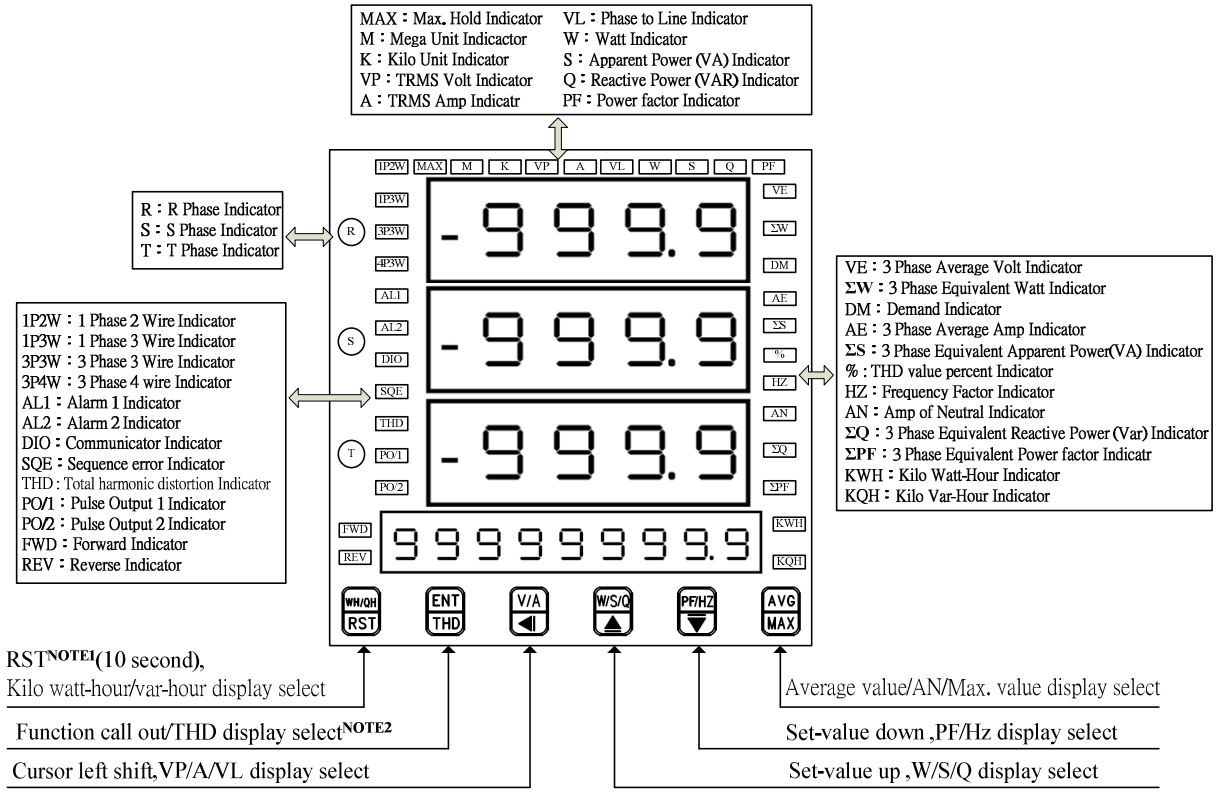
AXE MULTI-FUNCTION POWER METER MMP-2H

■ Features

- ◎Accuracy ±0.1% FS
- ◎Measuring ACV/ACA/Watt/Var/Power factor/Frequency/ KWH/DM
- ◎Measuring ACV/ACATotal harmonic distortion up to 35th
- ◎Input measurement network can be selective(1φ2W/ 1φ3W/3φ3W/3φ4W)
- ◎CT rate/PT rate can be modifien
- ◎Two alarm control function(option)
- ◎Two pulse output function(option)
- ◎Digital RS-485 interface function(option)
- ◎BAUD RATE:38400/19200/9600/4800/2400
- ◎Man-machine interface ,easy to operate
- ◎EEPROM Saving ,data safekeeping over 10 years
- ◎Modified inside parameter must have pass code

■ Name Of Parts



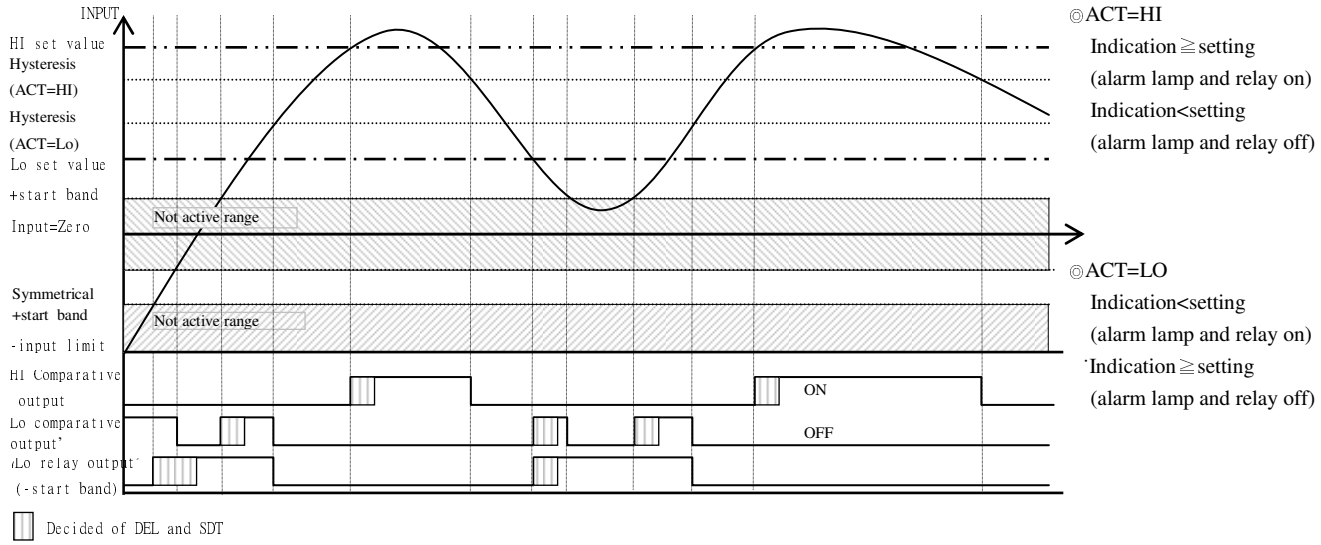
Note1: Press 10S, Max./KWH/KQH value reset

Note2: Press ENT THD + V/A 3S, THD of VP display select

Press ENT THD + W/S/Q 3S, THD of VL display select

Press ENT THD + PF/HZ 3S, THD of A display select

■Alarm Function Diagram



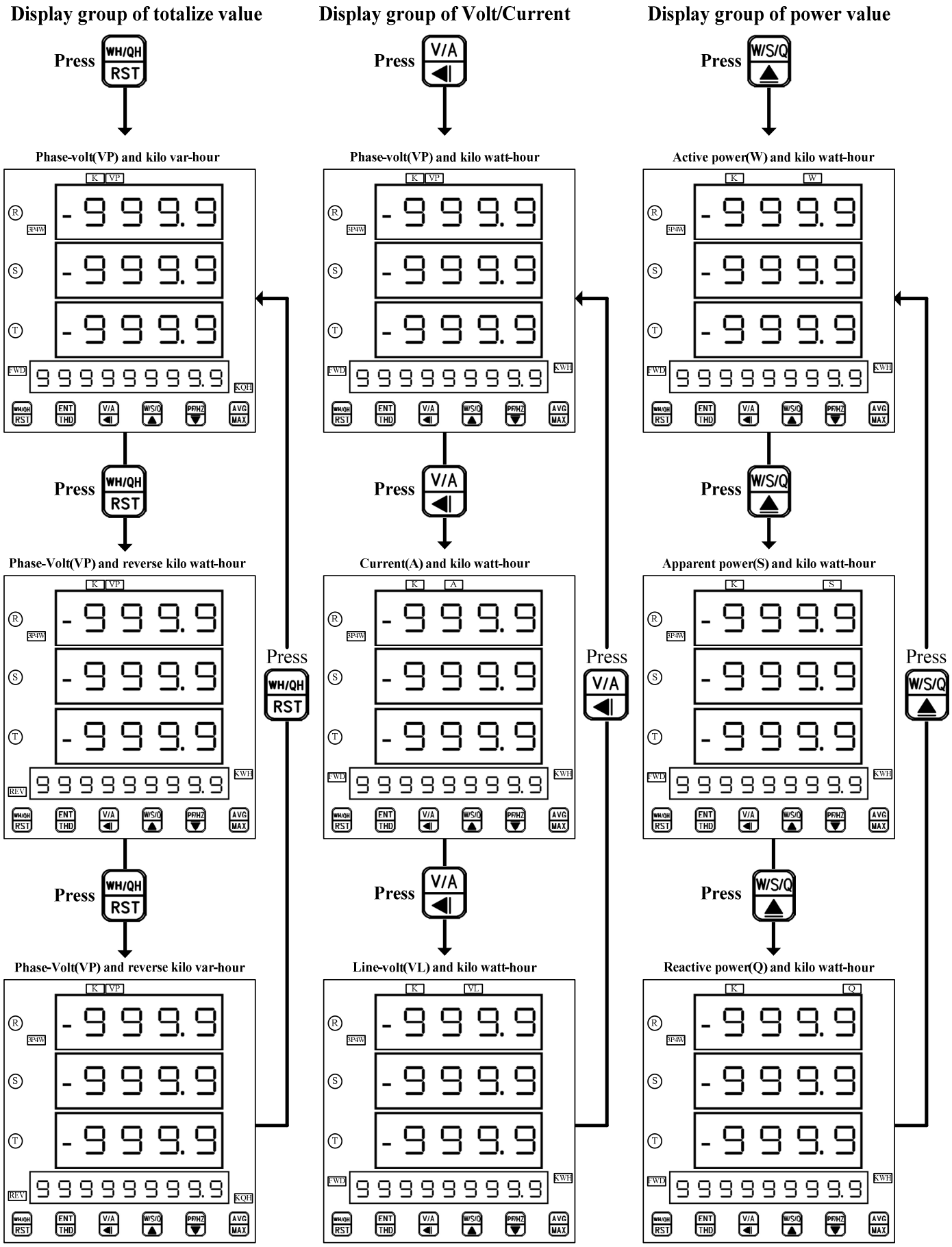
Key Introduce	Operation Manual
WH/QH/RST Key Function	1. In normal display, The key function is select KWH/KQH display mode. 2. Press RST key about 10S, Max./KWH/KQH value reset.
㊎/THD Key Function	1. In normal display, The key function is call out setting group and THD display mode(press 3 sec. with shift or up or down key) 2. In parameter setting page, The key function is data enter , and goto next page
◀/V/A Key Function	1. In normal display, The key function is select VP/A/VL display mode 2.Into parameter setting page, the parameter mark & data is alternate display, If need modify data can press shift key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again, the cursor(twinkle express)is cycle moving left/right. (Key Response about 0.2 sec)
▲/W/S/Q Key Function	1. In normal display, The key function is select W/S/Q display mode 2.Into parameter setting page, the parameter mark& data is alternate display, If need modify data can press up key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again, the parameter data will increment. (Key Response about 0.2 sec)
▼/PF/HZ Key Function	1.In normal display, The key function is select PF/Hz display mode 2.Into parameter setting page, the parameter mark& data is alternate display, If need modify data can press down key into setting procedure, The display is lock parameter data, this time must let off key about 0.2 sec, press again the parameter data will decrement. (Key Response about 0.2 sec)
AVG/MAX Key Function	1.In normal display, The key function is select AVG/Max. value of V/A/W/S/Q/DM/PF/Hz display mode
▲&▼Key Function	In setting group or setting page press ▲&▼ key return normal display, but if in setting page the modify data will be lost
No Key in anything	In setting group or setting page no key in anything about 2 minutes, return normal display

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1234	Press ㊎/THD key into P.COD setting page
2	P.COD(Pass code input page) Default=0	P.Cod 0000	1. Key in 4 digit pass code with ◀&▲&▼key 2.Press ㊎key, the pass code is right into setting group , otherwise return normal display
3	SYS(System setting group) ROP(Alarm setting group) DOP(Communication setting group) DSP(Display value adjust)	SYS roP doP dSP	1.Select setting group with ◀key 2.Press ㊎key into setting page of selection setting group
4	SYS(System setting group)	SYS	Press ◀key select setting group and Press ㊎ into NET setting page
4-1	NET(NET) Default=3φ4L	nEt 3P4L	1. Decide net with ▲&▼key(1φ2L,1φ3L,3φ3L,3φ4L) 2. Press ㊎key enter data and into C-P setting page
4-2	C-P(Current Polarity) Default=Yes	C-P YES	1. Decide C-P rate with ◀&▲&▼key (No,Yes) 2. Press ㊎key enter data and into CT.R setting page Note: while C-P = Yes, Buy/Sell electricity function work by current direction. while C-P = No, only Sell electricity function work.
4-3	CT.R(CT Rate) Default=1	Ct.r 1	1. Decide CT rate with ◀&▲&▼key (1~9999) 2. Press ㊎key enter data and into PT.DP setting page
4-4	PT.DP(PT Rate Decimal Point) Default=0	Pt.dP 0	1. Decide PT.DP with ▲&▼key ($0:10^0$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$) 2. Press ㊎key enter data and into PT rate setting page
4-5	PT.R(PT Rate) Default=1	Pt.r 1	1. Decide PT rate with ◀&▲&▼key (0.001~9.999 to 1~9999) 2. Press ㊎key enter data and into DEA.T setting page
4-6	DEA.T(Demand Time) Default=15	dEA.t 15	1. Decide Demand Time with ◀&▲&▼key (1~60 minutes) 2. Press ㊎key enter data and into CODE setting page
4-7	CODE(Code) Default=0	Code 0000	1. Decide Pass code with ◀&▲&▼key (0~9999) 2. Press ㊎key enter data and into LOCK setting page
4-8	LOCK(Panel Lock) Default=NO	LoCK no	1. Decide panel lock with▲&▼ key (NO or YES) 2. Press ㊎key enter data and return SYS setting group
4-9	SYS(System setting group)	SYS	Press ◀key select setting group and Press ㊎ into setting group
5	ROP(Alarm setting group)	roP	Press ◀key decide ROP setting group, press ㊎key into AL1.S setting page
5-1	AL1.S (Alarm 1 Select) Default=AE	AL 1.S AE	1. Decide AL1.S with ▲&▼key (VE,AE,AN,Σ -W,Σ -Q,Σ -S, Σ -PF,DEMA,MAX.D,+KWH,-KWH,+KQH,-KQH) 2. Press ㊎key into AL2.S setting page

5-2	AL2.S (Alarm 2 Select) Default=AE	AL2.S AE	1. Decide AL2.S with ▲&▼key (VE,AE,AN, Σ -W, Σ -Q, Σ -S, Σ -PF,DEMA,MAX.D,+KWH,-KWH,+KQH,-KQH) 2. Press EN key into AL1 setting page
5-3	AL1 (Alarm value 1 setting page) Default=3.000	AL 1 00003.000	1. Decide alarm value 1 with ◀&▲&▼ key (0~999999999) 2. Press EN key enter data and into AL2 setting page
5-4	AL2 (Alarm value 2 setting page) Default=3.000	AL2 00003.000	1. Decide alarm value 2 with ◀&▲&▼ key (0~999999999) 2. Press EN key enter data and into ACT1 setting page
5-5	ACT1(Alarm Active 1 setting page)Default=HI	ACT 1 HI	1.Decide active 1 with ▲&▼key(HI or LO) 2.Press EN key enter data and into ACT2 setting page
5-6	ACT2(Alarm Active 2 setting page)Default=HI	ACT2 HI	1. Decide active 2 with ▲&▼key(HI or LO) 2. Press EN key enter data and into HYS1 setting page
5-7	HYS1(Alarm Hysteresis 1 setting page1)Default=0	HYS 1 0000	1. Decide HYS1 with ◀&▲&▼key (0~999) 2. Press EN key enter data and into HYS2 setting page
5-8	HYS2(Alarm Hysteresis 2 setting page2)Default=0	HYS2 0000	1. Decide HYS2 with ◀&▲&▼key (0~999) 2. Press EN key enter data and into DEL1 setting page
5-9	DEL1(Delay 1) Default=0	dEL 1 0000	1. Decide DEL1 with ◀&▲&▼key (0~±999 sec) 2. Press EN key enter data and into DEL2 setting page Note:-1~-999 is active time setting,0~999 is delay time setting
5-10	DEL2(Delay 2) Default=0	dEL2 0000	1. Decide DEL2 with ◀&▲&▼key (0~±999 sec) 2. Press EN key enter data and into P1.2S setting page Note:-1~-999 is active time setting,0~999 is delay time setting
5-11	P1.2.S(Pluse 1/Pluse 2 output select)Default=+KWH/-KWH	P 1.2.S +KWH	1.Decide P1.2.S with▲&▼key(+KWH/-KWH or +KQH/-KQH or +KWH/+KQH) 2. Press EN key enter data and into SDT setting page
5-12	SDT(Start Delay Time) Default=0	SdT 0000	1. Decide SDT with ◀&▲&▼key (0~99 sec) 2. Press EN key enter data and into KWHP setting page
5-13	KWHP(Pulse out) Default=1	KWHP 1	1. Decide KWHP with ◀&▲&▼key (0.001,0.01,0.1,1,10, 100,1000) 2.Press EN key return Alarm Active setting group
5-14	ROP(Alarm setting group)	roP	Press ◀key select setting group and Press EN into setting group
6	DOP(Communication setting group)	doP	Press ◀key decide DOP setting group, press EN key into ADDR setting page
6-1	ADDR(Communication Address) Default=0	Addr 0000	1. Decide address with ◀&▲&▼key (0~255) 2. Press EN key enter data and into BAUD setting page
6-2	BAUD(Communication Baud Rate) Default=19200	bAUd 19E2	1. Decide baud rate with ▲&▼key (38400,19200,9600,4800,2400) 2. Press EN key enter data and into PARI setting page
6-3	PARI(Communication Parity Check)Default=n.8.2.	PAr1 n.8.2	1. Decide parity check with ▲&▼key(n.8.2,n.8.1,even,odd) 2. Press EN key enter data and return DOP setting group
6-4	DOP(Communication setting group)	doP	Press ◀key select setting group and Press EN into setting group
7	DSP(Display value adjust)	dSP	Press ◀key decide DSP setting group, Press EN key into R.V.P setting page
7-1	R.V.P(R Phase Voltage Adjust) Default=0	rUP 0000	1. Input Max. voltage to phase R ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into S.V.P setting page
7-2	S.V.P(S Phase Voltage Adjust)Default=0	SUP 0000	1. Input Max. voltage to phase S ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into T.V.P setting page
7-3	T.V.P(T Phase Voltage Adjust)Default=0	tUP 0000	1. Input Max. voltage to phase T ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into R.A setting page
7-4	R.A(R Phase Current Adjust)Default=0	rA 0000	1. Input Max. current to phase R ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into S.A setting page
7-5	S.A(S Phase Current Adjust)Default=0	SA 0000	1. Input Max. current to phase S ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into T.A setting pag
7-6	T.A(T Phase Current Adjust)Default=0	tA 0000	1. Input Max. current to phase T ,Adjustment display span with ▲&▼key 2. Press EN key enter data and into RW setting pag
7-7	RW(R Phase Watt Adjust)Default=0	rU 0000	1. Input Max. watt to phase R ,Adjustment display value with ▲&▼key 2.Press EN key enter data and into SW setting page
7-8	SW(S Phase Watt Adjust)Default=0	SU 0000	1. Input Max. watt to phase S ,Adjustment display value with ▲&▼key 2. Press EN key enter data and into TW setting pag

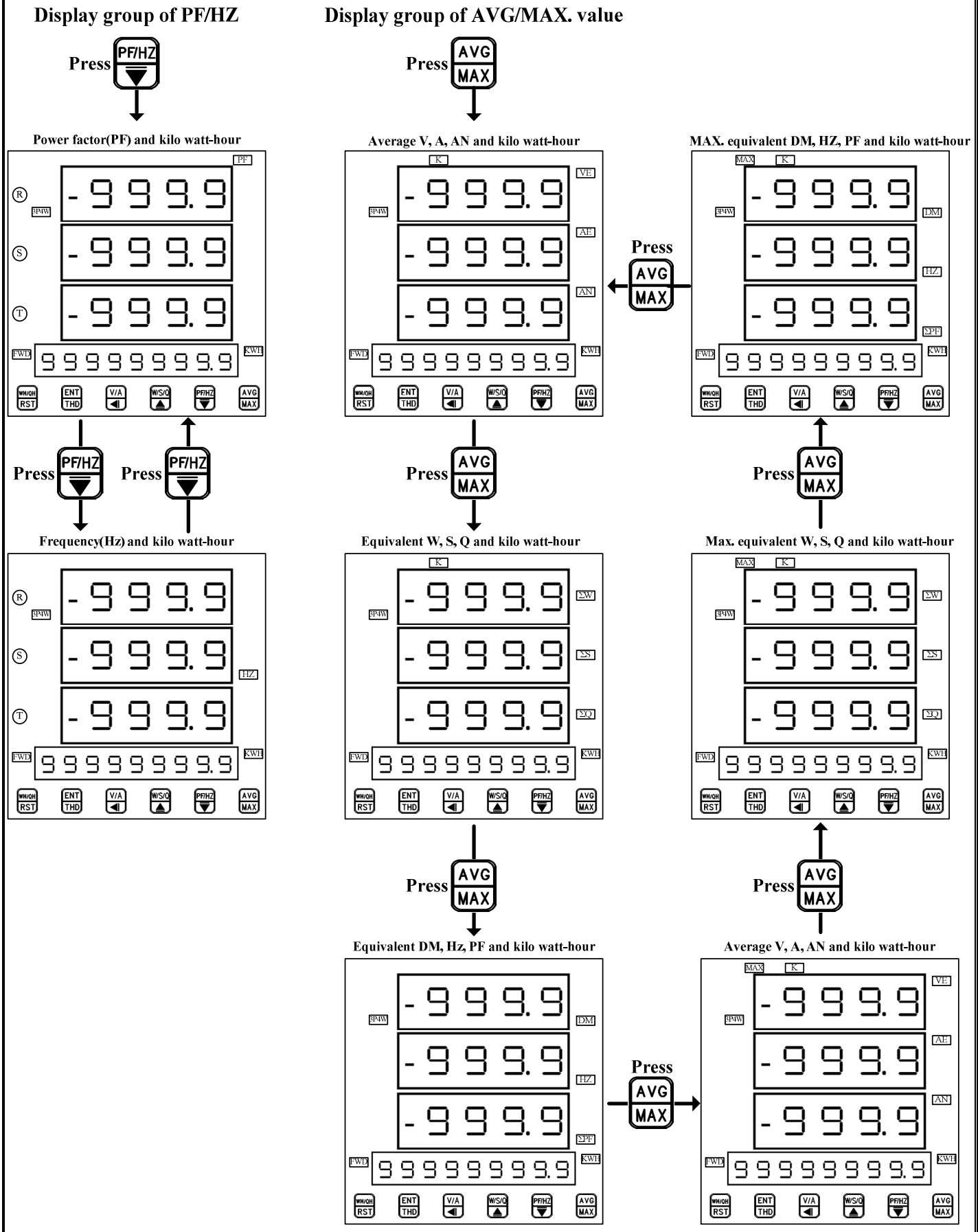
7-9	TW(T Phase Watt Adjust)Default=0	t W 0000	1. Input Max. watt to phase T ,Adjustment display value with ▲&▼key 2. Press EN key e enter data and into RVAR setting pag
7-10	RVAR(R Phase VAR Adjust)Default=0	r uAr 0000	1. Input Max. VAR to phase R ,Adjustment display value with ▲&▼key 2.Press EN key enter data and into SVAR setting page
7-11	SVAR(S Phase VAR Adjust)Default=0	S uAr 0000	1. Input Max. VAR to phase S ,Adjustment display value with ▲&▼key 2. Press EN key enter data and into TVAR setting pag
7-12	TVAR(T Phase VAR Adjust)Default=0	t uAr 0000	1. Input Max. VAR to phase T ,Adjustment display value with ▲&▼key 2. Press EN key e enter data and into R-PH setting pag
7-13	R-PH(R Phase Voltage & Current Adjust)Default=0	r-PH 0000	1. Input Max. V and A and PF=0 to phase R ,Adjustment display value with ▲&▼key let display value < ±50 CNT. 2.Press EN key enter data and into S-PH setting page
7-14	S-PH(S Phase Voltage & Current Adjust)Default=0	S-PH 0000	1. Input Max. V and A and PF=0 to phase S ,Adjustment display value with ▲&▼key let display value < ±50 CNT. 2. Press EN key enter data and into T-PH setting pag
7-15	T-PH(T Phase Voltage & Current Adjust)Default=0	t-PH 0000	1. Input Max. V and A and PF=0 to phase T ,Adjustment display value with ▲&▼key let display value < ±50 CNT. 2. Press EN key enter data and return DSP setting group
Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Display over error detect	doFL	Display over range (9999)
2	Display negative over error detect	-doFL	Display over range (-9999)
3	Line error	LnEr	Line error, voltage/current polarity error
4	EEPROM error detect	E-00 no YES	1.External interference when EEPROM read/write 2.EEPROM write over 10 million times(guarantee 10 years) Please power reset, if still display E-00,doing following step: 1.E-00 & No alternate display for inquire reset EEPROM 2.Decide Yes with ▲ or ▼ key, press EN key return normal display EEPROM was reset, Please follow step 1~7 set again

■ Display switching indication



NOTE: 1. while NET=1P2W, only display group of AVG/Max. value can be selected.
2. while NET=3P3W, display group of power value not exist
3.It will recurring in same display group while press same key to select display group.
4.It will change display group, while press different key to select display group.

■ Display switching indication



NOTE: 1. while NET=1P2W, only display group of AVG/Max. value can be selected.
2. while NET=3P3W, display group of power value not exist
3.It will recurring in same display group while press same key to select display group.
4.It will change display group, while press different key to select display group.

Note1. DEL:

Active time setting:

Alarm signal active time while alarm generate

Delay time setting

Alarm signal delay time while alarm generate

2.Relation with CT & max. display value & LCUT value & SB value

CT.r	Display Range	LCUT Value	SB Value
= 1	0.000A~5.000A	CT.r*0.01A	0.01A
≦ 10	0.00A~50.00A		0.1A
≦ 100	0.0A~500.0A		0.1A
≦ 1000	0.000KA~5.000KA		0.01KA
≦ 9999	0.00KA~50.00KA		0.1KA

3. Relation with PT & max. display value & Lcut value & SB value

PT.r*PT.DP	Display Range	LCUT Value	SB Value
≦ 0.01	0.000V~3.000V	PT.r*0.6V	0V
≦ 0.1	00.00V~30.00V		
≦ 1	0.0V~300.0V		
≦ 10	0.000KV~3.000KV		
≦ 100	0.00KV~30.00KV		
≦ 1000	0.0KV~300.0KV		
≦ 9999	0KV~3000KV		

4. Relation watt with CT *PT & max. display value & LCUT value & SB value

CT.r *(PT.r*PT.DP)	Display Range	LCUT Value	SB Value
≦ 0.01	0.00~15.00W	CT.r*(PT.r*PT.DP)*2W	0W
≦ 0.1	0.0~150.0W		
≦ 1	0.000~1.500KW		
≦ 10	0.00~15.00KW		
≦ 100	0.0~150.0KW		
≦ 1000	0.000~1.500MW		
≦ 10000	0.00~15.00MW		
≦ 100000	0.0~150.0MW		
> 100000	0~1500MW		

5. Relation watt-hour with CT *PT & max. display value & LCUT value & SB value

CT.r * PT.r	Display range
≦ 1	0.000~999999.999KWH
≦ 10	0.00~9999999.99KWH
≦ 100	0.0~99999999.9KWH
> 100	0~999999999KWH

6. LCUT(low value cut out):while display value ≦ LCUT value, display value = 0
SB(start band): while ALx ≧ SB, into alarm mode

7. KWHP pulse out max value:61pulse/S

MMP-2H Modbus RTU Mode Protocol Address Map

Data format 16Bit/32Bit, sign bit 8000~7FFF(–32768~32767),80000000~7FFFFFFF(-2147483648~2147483647)

Address	Name	Description	Accept
0000	ID	Judge type code MMP-2H is 00	R
0001	STATUS	STATUS, range 0000~0003(0~3)(0:OFF,1:ON) (Bit0:AL1,Bit1:AL2)	R
0002	DISP-MODE	Display mode,range000~00013(0~19) (4)	R/W
0003	ACT1	ACT1, range 0000~0001(0~1)(0:HI,1:LO)	R/W
0004	ACT2	ACT2, range 0000~0001(0~1)(0:HI,1:LO)	R/W
0005	DEA.T	Demand Time, range (1~60)	R/W
0006	AL1.S	AL1 select, range 0000~000C(0~12) (0:VE,1:AE,2:AN,3: Σ W,4: Σ Q,5: Σ S,6: Σ PF,7:DEMA,8:MAX.D, 9:+KWH, 10:-KWH,11:+KQH,12:-KQH)	R/W
0007	AL2.S	AL2 select, range 0000~000C(0~12) (0:VE,1:AE,2:AN,3: Σ W,4: Σ Q,5: Σ S,6: Σ PF,7:DEMA,8:MAX.D, 9:+KWH, 10:-KWH,11:+KQH,12:-KQH)	R/W
0008	P1.2.S	Pluse 1/Pluse 2 output select, range 0000~0002(0~2) (0:+KWH/-KWH, 1:+KQH/-KQH, 2:+KWH/+KQH)	R/W
0009	KWHP	KWHP, range 0000~0006(0~6) 0:0.001,1:0.01,2:0.1,3:1,4:10,5:100,6:1000	R/W
000A	NET	NET, range 0000~0003(0~3), (0:1 ϕ 2L,1:1 ϕ 3L,2:3 ϕ 3L3:3 ϕ 4L)	R/W
000B	C-P	C-P, range 0000~0001(0~1), (0:No, 1:Yes)	R/W
000C	PD.DP	PD.DP, range 0000~0003(0~3), $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
000D	LOCK	LOCK, range 0000~0001(0~1),(0:NO,1:YES)	R/W
000E	BAUD	BAUD, range 0000~0004(0~4)0:38K2,1:19K2,2:9600,3:4800,4:2400	R/W
000F	PARI	PARI, range 0000~0003(0~3) ,0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
0010	ADDR	ADDR, range 0000~00FF(0~255)	R/W
0011	SDT	SDT, range 0000~0063(0~99)	R/W
0012	HYS1	HYS1, range 0000~03E7 (0~999)	R/W
0013	HYS2	HYS2, range 0000~03E7 (0~999)	R/W
0014	DEL1	DEL1, range FC19~03E7(-999~999)	R/W
0015	DEL2	DEL2, range FC19~03E7(-999~999)	R/W
0016	CT.R	CT rate, range 0001~270F(1~9999)	R/W
0017	PT.R	PT rate, range 0001~270F(1~9999)	R/W
0018	CODE	CODE, range 0000~270F(0~9999)	R/W
0019	AL1	AL1, range 00000000~3B9AC9FF(0~999999999) high word	R/W
001A		AL1, range 00000000~3B9AC9FF(0~999999999) low word	R/W
001B	AL2	AL2, range 00000000~3B9AC9FF(0~999999999) high word	R/W
001C		AL2, range 00000000~3B9AC9FF(0~999999999) low word	R/W
001D	DISP-RVP	DISP-RVP , range 0000~2710(0~10000)(1)	R
001E	DISP-SVP	DISP-SVP , range 0000~2710(0~10000)(1)	R
001F	DISP-TVP	DISP-TVP , range 0000~2710(0~10000)(1)	R
0020	DISP-RA	DISP-RA , range 0000~2710(0~10000)(1)	R
0021	DISP-SA	DISP-SA ,0000~2710(0~10000)(1)	R
0022	DISP-TA	DISP-TA,0000~2710(0~10000)(1)	R
0023	DISP-RVL	DISP-RVL, range 0000~2710(0~10000)(1)	R
0024	DISP-SVL	DISP-SVL, range 0000~2710(0~10000)(1)	R
0025	DISP-TVL	DISP-TVL, range 0000~2710(0~10000)(1)	R
0026	DISP-RKW	DISP-RKW, range D8F0~2710(-10000~10000)(2)(3)	R
0027	DISP-SKW	DISP-SKW, range D8F0~2710(-10000~10000)(2)(3)	R
0028	DISP-TKW	DISP-TKW, range D8F0~2710(-10000~10000)(2)(3)	R

0029	DISP-RKVAR	DISP-RKVAR, range D8F0~2710(-10000~10000)[2][3]	R
002A	DISP-SKVAR	DISP-SKVAR, range D8F0~2710(-10000~10000)[2][3]	R
002B	DISP-TKVAR	DISP-TKVAR, range D8F0~2710(-10000~10000)[2][3]	R
002C	DISP-RKS	DISP-RKS, range 0000~2710(0~10000)[1][3]	R
002D	DISP-SKS	DISP-SKS, range 0000~2710(0~10000)[1][3]	R
002E	DISP-TKS	DISP-TKS, range 0000~2710(0~10000)[1][3]	R
002F	DISP-RPF	DISP-RPF, range FC18~03E8(-1000~1000)	R
0030	DISP-SPF	DISP-SPF, range FC18~03E8(-1000~1000)	R
0031	DISP-TPF	DISP-TPF, range FC18~03E8(-1000~1000)	R
0032	DISP-RHZ	DISP-RHZ, range 0000~1964(0~6500)	R
0033	DISP-SHZ	DISP-SHZ, range 0000~1964(0~6500)	R
0034	DISP-THZ	DISP-THZ, range 0000~1964(0~6500)	R
0035	DISP-AN	DISP-AN, range 0000~2710(0~10000)[1]	R
0036	DISP-DM	DISP-DM, range 0000~2710(0~10000)[1]	R
0037	DISP-ΣKW	DISP-ΣKW, range 0000~2710(0~10000)[1]	R
0038	DISP-ΣKVAR	DISP-ΣKVAR, range 0000~2710(0~10000)[1]	R
0039	DISP-ΣKS	DISP-ΣKS, range 0000~2710(0~10000)[1]	R
003A	DISP-ΣVP	DISP-ΣVP, range 0000~2710(0~10000)[1]	R
003B	DISP-ΣA	DISP-ΣA, range 0000~2710(0~10000)[1]	R
003C	DISP-ΣPF	DISP-ΣPF, range 0~03E8(0~1000)	R
003D	DISP-ΣHZ	DISP-ΣHZ, range 0000~1964(0~6500)	R
003E	DISP-KWH	DISP-KWH, range00000000~3B9AC9FF(0~999999999) high word	R
003F		DISP-KWH, range 00000000~3B9AC9FF(0~999999999)low word	R
0040	DISP-KQH	DISP-KQH, range00000000~3B9AC9FF(0~999999999)high word	R
0041		DISP-KQH, range 00000000~3B9AC9FF(0~999999999) low word	R
0042	REVDISP-KWH	REVDISP-KWH,range 00000000~3B9AC9FF(0~999999999) high word	R
0043		REVDISP-KWH, range 00000000~3B9AC9FF(0~999999999) low word	R
0044	REVDISP-KQH	REVDISP-KQH,range 00000000~3B9AC9FF(0~999999999) high word	R
0045		REVDISP-KQH, range 00000000~3B9AC9FF(0~999999999) low word	R
0046	MAX. (DISP-ΣKW)	MAX.(DISP-ΣKW) , range 0000~2710(0~10000)[1]	R
0047	MAX. (DISP-ΣKVAR)	MAX.(DISP-ΣKVAR), range 0000~2710(0~10000)[1]	R
0048	MAX. (DISP-ΣKS)	MAX.(DISP-ΣKS) , range 0000~2710(0~10000)[1]	R
0049	MAX. (DISP-ΣVP)	MAX.(DISP-ΣVP) , range 0~2710(0~10000)[1]	R
004A	MAX. (DISP-ΣA)	MAX.(DISP-ΣA) , range 0~2710(0~10000)[1]	R
004B	MAX. (DISP-ΣPF)	MAX.(DISP-ΣPF) , range 0~03E8(0~1000)	R
004C	MAX. (DISP-ΣHZ)	MAX.(DISP-ΣHZ), range 0000~1964(0~6500)	R
004D	MAX. (DISP-AN)	MAX.(DISP-AN), range 0000~2710(0~10000)[1]	R
004E	MAX. (DISP-DM)	MAX.(DISP-DM), range 0000~2710(0~10000)[1]	R
004F	DISP-RVP-THD	DISP-RVP-THD, range 0000~03E8 (0~1000)	R
0050	DISP-SVP-THD	DISP-SVP-THD, range 0000~03E8 (0~1000)	R
0051	DISP-TVP-THD	DISP-TVP-THD, range 0000~03E8 (0~1000)	R
0052	DISP-RA-THD	DISP-RA-THD, range 0000~03E8 (0~1000)	R

0053	DISP-SA-THD	DISP-SA-THD, range 0000~03E8 (0~1000)	R
0054	DISP-TA-THD	DISP-TA-THD, range 0000~03E8 (0~1000)	R
0055	DISP-RVL-THD	DISP-RVL-THD, range 0000~03E8 (0~1000)	R
0056	DISP-SVL-THD	DISP-SVL-THD, range 0000~03E8 (0~1000)	R
0057	DISP-TVL-THD	DISP-TVL-THD, range 0000~03E8 (0~1000)	R

Note (1):MODBUS range 0~2710(0~10000),display of MMP-2H range 0~270F(0~9999)
(2):MODBUS range D8F0~2710(-10000~10000), display of MMP-2H range (-1999~9999)
(3):When in 3P3W mode, these value not exist
(4):0. Phase volt (VP) and kilo watt-hour
1. Phase volt (VP) and kilo var-hour
2. Phase volt (VP) and reverse kilo watt-hour
3. Phase volt (VP) and reverse kilo var-hour
4. Line volt (VL) and kilo watt-hour
5. Current (A) and kilo watt-hour
6. Active power (W) and kilo watt-hour
7. Apparent power (S) and kilo watt-hour
8. Reactive power (Q) and kilo watt-hour
9. Power factor (PF) and kilo watt-hour
10. Frequency (Hz) and kilo watt-hour
11. Average V, A, AN and kilo watt-hour
12. Equivalent ΣW, ΣS, ΣQ and kilo watt-hour
13. Equivalent DM, Hz, ΣPF and kilo watt-hour
14. MAX. equivalent DM, Hz, ΣPF and kilo watt-hour
15. MAX. equivalent ΣW, ΣS, ΣQ and kilo watt-hour
16. MAX. average V, A, AN and kilo watt-hour
17. VP_THD and kilo watt-hour
18. VL_THD and kilo watt-hour
19. A_THD and kilo watt-hour