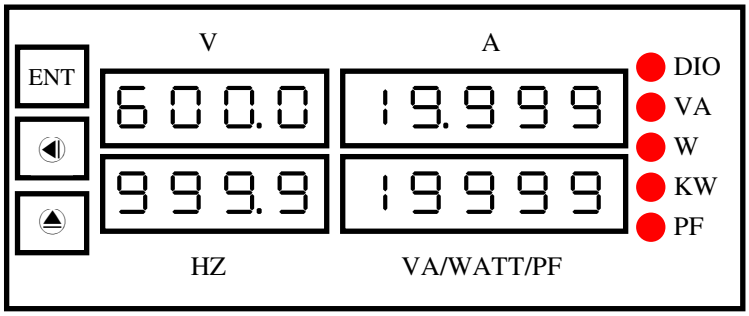
AXE Microprocess AC MULTI-POWER METER(1 ϕ 2W) MMX-P1 series

■Features

◎Accept CURRENT, VOLTAGE, WATT, VAR,POWER FACTOR, FERQUENCY SIGNALS.
◎Accuracy 0.25% F.S.±1 digit
◎WATT unit can set to KW or W
◎CURRENT and WATT Decimal point can be set
◎CT RATIO can be set 1~999
◎Display FERQUENCY, VOLTAGE, CURRENT, (WATT ◎or VAR or PF) at the same time
◎Modified inside parameter ,must have pass code
◎RS485 interface, MODBUS RTU MODE
◎BAUD RATE:19200/9600/4800/2400
◎0.56" highlight display
◎VOLTAGE,CURRENT,WATT are TRMS(USE IC:4200)
◎EEPROM Saving ,data safekeeping about 10 year

■Name Of Parts



■Alarm Function Diagram

1.Maximum current input:50A
2.Maximum voltage input:600V
3.Maximum watt input:30.00KW(10A*600V,PF=1)
4.Current display: input value*CTR*DP-A(MSB:x1000,2SB:x100,3SB:x10,LSB:x1)(display range 0~19999)
5.Voltage display: input value*10(fix decimal point)(display range 0~600.0)
6.Watt display:[input value*CTR*DPW(MSB:x1000,2SB:x100,3SB:x10,LSB:x1)]/UNIT(KW:1000,W:1)(display range 0~19999)

Key introduce	Operation Manual
ENT key function	1.In normal display, The key function is call out setting group 2.In parameter setting page, The key function is data ENTER, and goto next page
◀ key function	1.In normal display, The key function is call out alarm value setting page 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.(Key response about 0.2 sec.)
▲ key function	In normal display, The key function is call out adjustment rate display page (DZERO&DSPAN) 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 parameter data will increment .(Key response about 0.2 sec.)
◀ & ▼ 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, but if in setting page the modify data will be lost

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1234	Press ENT /FUNC key into P.COD setting page
		1234	
2	P.COD(Pass Code input page)	00000	1.Key in 5 digit pass code with ◀ & ▲ key 2.Press ENT key, the pass code is right into setting group, otherwise return normal display
		P.Cod	
3	SYS(System setting group)	SYS	3.Select setting group with ◀ key 4.Press ENT key into setting page of selection setting group
	ADJ(Display adjust setting group)	Adj	

	DOP(Communication setting group)	dOP	
4	SYS(System setting group)	SYS	Press ◀ key decide SYS setting group , press ⓜ key into VOL.(V Range) setting page
4-1	VOL.(V Range) Default 300V	uoL. 300u	1.Decide VOL.(V Range) with ▲ key (300V/600V) 2. Press ⓜ key enter DP-A(DP Current) setting page
4-2	DP-A(DP Current) Default 0	dP-A 0	1. Decide DP-A(DP Current) with ▲ key (0~4) 2. Press ⓜ key enter AMP.(A Range) setting page
4-3	AMP.(A Range) Default 5A	AnP. 5A	1. Decide AMP.(A Range) with ▲ key (5A/50A) 2. Press ⓜ key enter CTR(C.T Rate) setting page
4-4	CTR(C.T Rate) Default 1	Ctr 1	1. Decide CTR(C.T Rate) with ◀ & ▲ (1~999) 2. Press ⓜ key enter UNIT setting page
4-5	UNIT(Watt Unit) Default KW	Uni t KW	1. Decide UNIT with ▲ (W/KW) 2. Press ⓜ key enter DP-W(Decimal Point Watt) setting page
4-6	DP-W(Decimal Point Watt) Default 0	dP-W 0	1. Decide DP-W(Decimal Point Watt) with ▲ (0~4) 2. Press ⓜ key enter VCUT (Voltage Low Cut) setting page
4-7	VCUT (Voltage Low Cut) Default 0	uCUt 00000	1. Decide VCUT (Voltage Low Cut) with ◀ & ▲ (0~99) 2. Press ⓜ key ACUT (Current Low Cut) setting page if LCUT = 0 function disable
4-8	ACUT (Current Low Cut) Default 0	ACUt 00000	1. Decide ACUT (Current Low Cut) with ◀ & ▲ (0~99) 2. Press ⓜ key enter WCUT (Watt Low Cut) setting page if LCUT = 0 function disable
4-9	WCUT (Watt Low Cut) Default 0	WCUt 00000	1. Decide WCUT (Watt Low Cut) with ◀ & ▲ (0~99) 2. Press ⓜ key enter AVG (Average) setting page if LCUT = 0 function disable
4-10	AVG (Average) Default 1	AuG 0001	1. Decide AVG (Average) with ◀ & ▲ (1~99) 2. Press ⓜ key enter CODE(Code) setting page
4-11	CODE(Code) Default 0	CodE 00000	1. Decide CODE(Code) with ◀ & ▲ (0~19999) 2. Press ⓜ key return SYS setting group
5	Display adjust setting page	AdJ	Decide setting page with ◀ key, Press ⓜ into VZER(Voltage Display Zero Adjust)
5-1	VZER(Voltage Display Zero Adjust) Default 0	u.PEr 00000	1. Decide VZER(Voltage Display Zero Adjust) with ▲ & ◀ 2. Press ⓜ key enter VSPA(Voltage Display Span Adjust) setting page
5-2	VSPA(Voltage Display Span Adjust) Default 0	u.SPA 00000	1. Decide VZER(Voltage Display Span Adjust) with ▲ & ◀ 2. Press ⓜ key enter AZER(Current Display Zero Adjust) setting page
5-3	AZER(Current Display Zero Adjust) Default 0	A.PEr 00000	1. Decide AZER(Current Display Zero Adjust) with ▲ & ◀ 2. Press ⓜ key enter ASPA(Current Display Span Adjust)setting page
5-4	ASPA(Current Display Span Adjust) Default 0	A.SPA 00000	1. Decide ASPA(Current Display Span Adjust) with ▲ & ◀ 2. Press ⓜ key enter WZER(Watt Display Zero Adjust) setting page
5-5	WZER(Watt Display Zero Adjust) Default 0	u.PEr 00000	1. Decide WZER(Watt Display Zero Adjust) with ▲ & ◀ 2. Press ⓜ key enter WSPA(Watt Display Span Adjust) setting page
5-6	WSPA(Watt Display Span Adjust) Default 0	u.SPA 00000	1. Decide WSPA(Watt Display Span Adjust) with ▲ & ◀ 2. Press ⓜ key return ADJ setting group

7	DOP(Communication setting group)	dOP	Press ◀ key decide DOP setting group, press EN key into ADDR setting page
7-1	ADDR(Communication Address setting page) Default=0	Addr 00000	1.Decide Communication address with ◀ & ▲ key(0~255) 2.Press EN key enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate setting page) Default=19200	bAUd 19200	1.Decide baud rate with ▲ key(19200,9600,4800,2400) 2.Press EN key enter data and into PARI setting page
7-3	PARI(Communication Parity Check setting page) Default=n82	PAr1 n.8.2.	1.Decide parity check with ▲ key(n82,n81,even,odd) 2.Press EN key enter data and return DOP setting group *if Parity check setting is non , sometime STOP BIT must set 2 BIT

Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	1 oFL	Input signal over range(120%)
2	Display over error detect	doFL	Display over range(19999)
3	A/D Converter error detect	AdEr	1. Input signal over range(180%) 2. Inside circuit damage Please moving input signal if still display ADER, please contact us
4	EEPROM error detect	no E-00 YES E-00	1.External interference when EEPROM read/write 2.EEPROM write over 100 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
		no YES	EEPROM was reset, Please follow step 1~10 set again

MMX-P1 Modbus RTU Mode Protocol Address Map

Data format 16Bit, 8000~7FFF(–32768~32767)

Address	名稱	說明	動作
0000	DP-A	Current decimal point position, range 00~04(0~4) 0:10^{0},1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4}	R/W
	DP-W	Watt decimal point position, range 00~04(0~4) 0:10^{0},1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4}	R/W
0002	VOL.	Voltage input range, 00~01(0:300V,1:600V)	R/W
	AMP.	Current input range, 00~01(0:5A,1:50A)	R/W
0004	UNIT	Display watt range, 00~01(0:KW,1:W)	R/W
	STATUS	LED indicate status, BIT0:DIO,BIT3:KW,BIT4:W,BIT5:VA,BIT6:PF	R/W
0006	VCUT	Voltage Low cut, range 00~63(0~99)	R/W
	ACUT	Current Low cut, range 00~63(0~99)	R/W
0008	WCUT	Watt Low cut, range 00~63(0~99)	R/W
	AVG	Display Average time, input range 01~63(1~99)	R/W
000A	BAUD	Baud rate, input range 00~03(0~3)0:19200,1:9600,2:4800,3:2400	R/W
	PARI	Parity, input range 00~03(0~3)0:N82,1:N81,2:EVEN,3:ODD	R/W
000C	CTR	Current transformer rate, input range 0001~03E7(1~999)	R/W
000E	CODE	Pass code, input range 0000~4E1F(0~19999)	R/W
0010	ADDR	Communication address, input range 0000~00FF(0~255)	R/W
0024	DISP-F	Frequency display value, range 0000~270F(0~9999)	R
0026	DISP-V	Voltage display value, range 0000~270F(0~9999)	R
0028	DISP-A	Current display value, range 0000~4E1F(0~19999)	R
002A	DISP-W	Watt(VAR,PF) display value, range 0000~4E1F(0~19999)	R