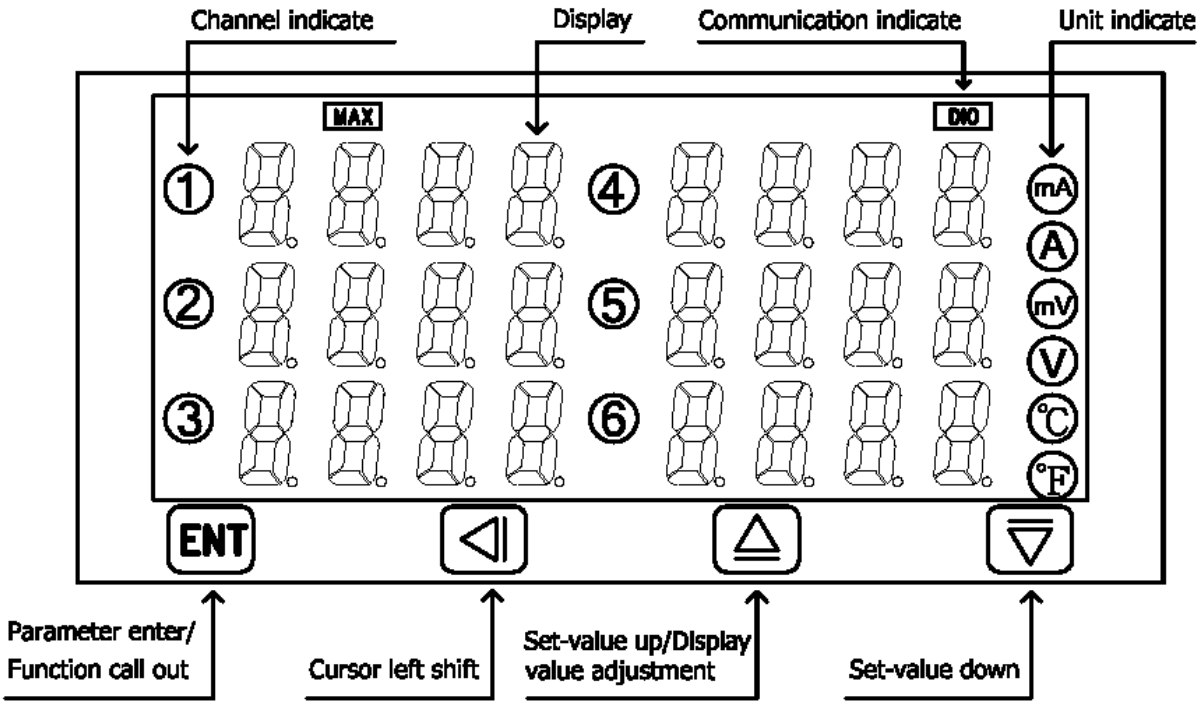
AXE MICROPROCESS 6 CHANNEL ANALOG INPUT PANEL METER MM8A-D

■ FEATURES

◎Accuracy 0.05%F.S.±1(DCV)/0.2%F.S.±0.5℃(TC)
◎Measuring 6 channel DCV/TC(K,J,E,T,R,S,B)
◎Input channel number(1~6)can be modified
◎Temperature unit(℃/℉)can be modified
◎CJC traceability < ±0.5℃(0~70℃)
◎RS485 communication interface,Protocol MODBUS RTU MODE
◎BAUD RATE:38400/19200/9600/4800/2400
◎Man-machine interface,easy to operate
◎Flash/EE saving data safekeeping about 10 years
◎Modified inside parameter must have pass code

■ Name of Parts



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.Into parameter setting page,the parameter mark & data is alternate display,If need modify data can press ◀ 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	1.In normal display,The key function is call out adjustment display value (DZERO & DSPAN)page 2.Into parameter setting page,the parameter mark & data is alternate display,If need modify data can press ▲ 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	1.Into parameter setting page,the parameter mark & data is alternate display,If need modify data can press ▼ 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.)
▲&▼ key function	1.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	1.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	1.Press ENT 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 ENT key,the pass code is correct into setting group , otherwise,return normal display

3	SYS (System Setting Group)	SYS	1.Select setting group with ◀ key 2.Press EN key into setting page of selection setting group
	DSP (Display Value Adjust)	dSP	
	DOP (Communication Setting)	doP	
4	SYS (System Setting Group)	SYS	1.Press ◀ key decide SYS setting group 2.Press EN key into CH-S setting page
4-1	CH-S (Input Channel Number Select) Default = 6	CH-S 0006	1.Decide input channel number with ▲&▼ key(1 to 6) 2.Press EN key enter data and into TYPE setting page
4-2	TYPE (Input Range Type) Default = K-TYPE	TYPE E 	1.Decide input range type with ▲&▼ key (25mV/50mV/0.1V/0.5V/1V/K/J/E/T/R/S/B) 2.If TYPE select DCV(25mV/50mV/0.1V/0.5V/1V),Press EN key enter data and into Step 4-6 AVG setting page 3.If TYPE select Thermocouple(K/J/E/T/R/S/B),Press EN key enter data and into Step 4-3 DP setting page
4-3	DP(Decimal Point) Default = 1	dP 0001	1.Decide decimal point with ▲&▼ key(0~1) 2.Press EN key enter data and into UNIT setting page
4-4	UNIT(Temperature Unit) Default = °C	Unit °C	1.Decide Temperature Unit with ▲&▼ key(°C/°F) 2.Press EN key enter data and into CJC setting page
4-5	CJC(Cold Junction Compen-Sation) Default = ON	CJC on	1.Decide Cold Junction CompenSation with ▲&▼ key (ON/OFF) 2.Press EN key enter data and into AVG setting page
4-6	AVG (Average) Default = 5	AvG 0005	1.Decide display average times with ▲&▼ key(1~10) 2.Press EN key enter data and into LCUT setting page
4-7	LCUT (Low Cut) Default = 0	LCUt 0000	1.Decide low cut with ◀&▲&▼ key(0~99) 2.Press EN key enter data and into CODE setting page
4-8	CODE (Pass Code) Default = 0	CodE 0000	1.Decide pass code with ◀&▲&▼ key(0~9999) 2.Press EN key enter data and into LOCK setting page
4-9	LOCK (Parameter Lock) Default = NO	LoCK no	1.Decide parameter lock with ▲&▼ key(NO or YES) 2.Press EN key enter data and return SYS setting group
4-10	SYS (System Setting Group)	SYS	1.Select setting group with ◀ key 2.Press EN key into setting page of selection group

NOTE:If TYPE select Thermocouple(K/J/E/T/R/S/B),the Display Value Adjust group(DSP) is not appear

5	DSP (Display Value Adjust group)	dSP	1.Press ◀ key decide DSP setting group 2.Press EN key into DP-1 setting page
5-1	DP-1 (Decimal Point-Channel 1) Default = 2	dP-1 0002	1.Decide channel 1 decimal point with ▲&▼ key(0~3) 2.Press EN key enter data and into DL-1 setting page
5-2	DL-1 (Display Low-Channel 1) Default = 00.00	dL-1 00.00	1.Decide channel 1 display low with ◀&▲&▼ key (-1999~9999) 2.Press EN key enter data and into DH-1 setting page
5-3	DH-1 (Display High-Channel 1) Default = 10.00	dH-1 10.00	1.Decide channel 1 display high with ◀&▲&▼ key (-1999~9999) 2.Press EN key enter data and into DP-2 setting page
5-4	DP-2 (Decimal Point-Channel 2) Default = 2	dP-2 0002	1.Decide channel 2 decimal point with ▲&▼ key(0~3) 2.Press EN key enter data and into DL-2 setting page
5-5	DL-2 (Display Low-Channel 2) Default = 00.00	dL-2 00.00	1.Decide channel 2 display low with ◀&▲&▼ key (-1999~9999) 2.Press EN key enter data and into DH-2 setting page
5-6	DH-2 (Display High-Channel 2) Default = 10.00	dH-2 10.00	1.Decide channel 2 display high with ◀&▲&▼ key (-1999~9999) 2.Press EN key enter data and into DP-3 setting page
5-7	DP-3 (Decimal Point-Channel 3) Default = 2	dP-3 0002	1.Decide channel 3 decimal point with ▲&▼ key(0~3) 2.Press EN key enter data and into DL-3 setting page

5-8	DL-3 (Display Low-Channel 3) Default = 00.00	dL-3 00.00	1.Decide channel 3 display low with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DH-3 setting page
5-9	DH-3 (Display High-Channel 3) Default = 10.00	dH-3 10.00	1.Decide channel 3 display high with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DP-4 setting page
5-10	DP-4 (Decimal Point-Channel 4) Default = 2	dP-4 0002	1.Decide channel 4 decimal point with ▲&▼ key(0~3) 2.Press ENT key enter data and into DL-4 setting page
5-11	DL-4 (Display Low-Channel 4) Default = 00.00	dL-4 00.00	1.Decide channel 4 display low with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DH-4 setting page
5-12	DH-4 (Display High-Channel 4) Default = 10.00	dH-4 10.00	1.Decide channel 4 display high with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DP-5 setting page
5-13	DP-5 (Decimal Point-Channel 5) Default = 2	dP-5 0002	1.Decide channel 5 decimal point with ▲&▼ key(0~3) 2.Press ENT key enter data and into DL-5 setting page
5-14	DL-5 (Display Low-Channel 5) Default = 00.00	dL-5 00.00	1.Decide channel 5 display low with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DH-5 setting page
5-15	DH-5 (Display High-Channel 5) Default = 10.00	dH-5 10.00	1.Decide channel 5 display high with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DP-6 setting page
5-16	DP-6 (Decimal Point-Channel 6) Default = 2	dP-6 0002	1.Decide channel 6 decimal point with ▲&▼ key(0~3) 2.Press ENT key enter data and into DL-6 setting page
5-17	DL-6 (Display Low-Channel 6) Default = 00.00	dL-6 00.00	1.Decide channel 6 display low with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and into DH-6 setting page
5-18	DH-6 (Display High-Channel 6) Default = 10.00	dH-6 10.00	1.Decide channel 6 display high with ◀&▲&▼ key (-1999~9999) 2.Press ENT key enter data and return DSP setting group
5-19	DSP (Display Value Adjust group)	dSP	1.Select setting group with ◀ key 2.Press ENT key into setting page of selection group
6	DOP (Communication setting group)	doP	1.Press ◀ key decide DOP setting group 2.Press ENT key into ADDR setting page
6-1	ADDR (Communication Address setting page) Default =0	Addr 0000	1.Decide Communication address with ◀&▲&▼ key(0~255) 2.Press ENT key enter data and into BAUD setting page
6-2	BAUD (Communication Baud Rate setting page) Default = 19K2	baud 19k2	1.Decide baud rate with ▲&▼ key(38K4/19K2/9600/4800/2400) 2.Press ENT key enter data and into PARI setting page
6-3	PARI(Communication Parity Check setting page) Default = n.8.2.	PAr. n.8.2.	1.Decide parity check with ▲&▼ key(n82,n81,even,odd) 2.Press ENT key enter data and return DOP setting group
6-4	DOP (Communication setting group)	doP	1.Select setting group with ◀ key 2.Press ENT key into setting page of selection group

Step	Parameter Mark Description	Parameter Mark	Operation Manual
7	Normal display	1234	Press ▲ key about 3 sec,into DZ-1 setting page
7-1	DZ-1 (Display Zero Adjust -Channel 1)	dZ-1 00.00	1.Adjustment channel 1 display zero with ▲&▼key 2.Press ENTkey enter data and into DS-1 setting page Note:Adjust DZ-1 value while minimum display value error
7-2	DS-1 (Display Span Adjust -Channel 1)	dS-1 10.00	1.Adjustment channel 1 display span with ▲&▼key 2.Press ENTkey enter data and into DZ-2 setting page Note:Adjust DS-1 value while maximum display value error

7-3	DZ-2 (Display Zero Adjust -Channel 2)	dZ-2 00.00	1.Adjustment channel 2 display zero with ▲&▼key 2.Press ENkey enter data and into DS-2 setting page Note:Adjust DZ-2 value while minimum display value error
7-4	DS-2 (Display Span Adjust -Channel 2)	dS-2 10.00	1.Adjustment channel 2 display span with ▲&▼key 2.Press ENkey enter data and into DZ-3 setting page Note:Adjust DS-2 value while maximum display value error
7-5	DZ-3 (Display Zero Adjust -Channel 3)	dZ-3 00.00	1.Adjustment channel 3 display zero with ▲&▼key 2.Press ENkey enter data and into DS-3 setting page Note:Adjust DZ-3 value while minimum display value error
7-6	DS-3 (Display Span Adjust -Channel 3)	dS-3 10.00	1.Adjustment channel 3 display span with ▲&▼key 2.Press ENkey enter data and into DZ-4 setting page Note:Adjust DS-3 value while maximum display value error
7-7	DZ-4 (Display Zero Adjust -Channel 4)	dZ-4 00.00	1.Adjustment channel 4 display zero with ▲&▼key 2.Press ENkey enter data and into DS-4 setting page Note:Adjust DZ-4 value while minimum display value error
7-8	DS-4 (Display Span Adjust -Channel 4)	dS-4 10.00	1.Adjustment channel 4 display span with ▲&▼key 2.Press ENkey enter data and into DZ-5 setting page Note:Adjust DS-4 value while maximum display value error
7-9	DZ-5 (Display Zero Adjust -Channel 5)	dZ-5 00.00	1.Adjustment channel 5 display zero with ▲&▼key 2.Press ENkey enter data and into DS-5 setting page Note:Adjust DZ-5 value while minimum display value error
7-10	DS-5 (Display Span Adjust -Channel 5)	dS-5 10.00	1.Adjustment channel 5 display span with ▲&▼key 2.Press ENkey enter data and into DZ-6 setting page Note:Adjust DS-5 value while maximum display value error
7-11	DZ-6 (Display Zero Adjust -Channel 6)	dZ-6 00.00	1.Adjustment channel 6 display zero with ▲&▼key 2.Press ENkey enter data and into DS-6 setting page Note:Adjust DZ-6 value while minimum display value error
7-12	DS-6 (Display Span Adjust -Channel 6)	dS-6 10.00	1.Adjustment channel 6 display span with ▲&▼key 2.Press ENkey enter data and return normal dispaly Note:Adjust DS-6 value while maximum display value error

Appendix	Error Mark description	Error Mark	Analyze & Description
1	A/D Converter error detect	AdEr	1.DCV input signal over range(approx. rated 120%) 2.Inside ADC circuit damage
2	Display over range error detect	doFL	1.Input signal over display range (9999) or over measurable range
3	Display under range error detect	-doF	1.Input signal under display range(-1999) or under measurable range
4	CJC over range error detect	CoFL	1.CJC signal over measurable range(0~125°C)
5	CJC under range error detect	-CoF	1.CJC signal under measurable range(0~125°C)
6	Sensor burnout error detect	oPEn	1.Thermocouple sensor burnout
7	EEPROM error detect	E-00 no YES	1.External interference when EEPROM read/write 2.EEPROM write over 100,000 cycles(guarantee 10 years) Please power reset,if still display E-00,doing below step: 1.E-00 & No alternate display for inquire reset EEPROM 2.Decide Yes with ▲&▼ key,press EN key return normal display 3.EEPROM was reset,Please follow step 1~7 setting again

MM8A-D Modbus RTU Mode Protocol Address Map

Data format 16Bit, sign bit, 8000~7FFF(-32768~32767)

Address	Name	Description	Accep
0000	LOCK	Panel Lock,Input Range 0000~0001(0~1) 0:NO,1:YES	R/W
0001	CH_S	Input Channel Number Select,Input Range 0001~0006(1~6)	R/W
0002	TYPE	Input Range Type,Input Range 0000~000B(0~11)0:25mV,1:50mV,2:0.1V,3:0.5V, 4:1V,5:TYPE K,6:TYPE J,7:TYPE E,8:TYPE T,9:TYPE R,10:TYPE S,11:TYPE B	R/W
0003	DP	Thermocouple Decimal Point,Input Range 0000~0001(0~1) $0:10^{0}$,$1:10^{-1}$	R/W
0004	UNIT	Temperature Unit,Input Range 0000~0001(0~1) 0:°C,1:°F	R/W
0005	CJC	Cold Junction CompenSation,Input Range 0000~0001(0~1) 0:ON,1:OFF	R/W
0006	ADDR	Communication Address,Input Range 0000~00FF(0~255)	R/W
0007	BAUD	Baud Rate,Input Range 0000~0004(0~4) 0:38K4,1:19K2,2:9600,3:4800,4:2400	R/W
0008	PARI	Parity Check,Input Range 0000~0003(0~3) 0:N.8.2,1:N.8.1,2:EVEN,3:ODD	R/W
0009	AVG	Display Average Times,Input Range 0001~000a(1~10)	R/W
000a	LCUT	Low Cut,Input Range FF9D~0063(-99~99)	R/W
000b	DP_1	Channel 1 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
000c	DP_2	Channel 2 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
000d	DP_3	Channel 3 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
000e	DP_4	Channel 4 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
000f	DP_5	Channel 5 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
0010	DP_6	Channel 6 Decimal Point,Input Range 0000~0003(0~3) $0:10^{0}$,$1:10^{-1}$,$2:10^{-2}$,$3:10^{-3}$	R/W
0011	DL_1	Channel 1 Display Low , Input Range F831~270F(-1999~9999)	R/W
0012	DL_2	Channel 2 Display Low , Input Range F831~270F(-1999~9999)	R/W
0013	DL_3	Channel 3 Display Low , Input Range F831~270F(-1999~9999)	R/W
0014	DL_4	Channel 4 Display Low , Input Range F831~270F(-1999~9999)	R/W
0015	DL_5	Channel 5 Display Low , Input Range F831~270F(-1999~9999)	R/W
0016	DL_6	Channel 6 Display Low , Input Range F831~270F(-1999~9999)	R/W
0017	DH_1	Channel 1 Display High, Input Range F831~270F(-1999~9999)	R/W
0018	DH_2	Channel 2 Display High, Input Range F831~270F(-1999~9999)	R/W
0019	DH_3	Channel 3 Display High, Input Range F831~270F(-1999~9999)	R/W
001a	DH_4	Channel 4 Display High, Input Range F831~270F(-1999~9999)	R/W
001b	DH_5	Channel 5 Display High, Input Range F831~270F(-1999~9999)	R/W
001c	DH_6	Channel 6 Display High, Input Range F831~270F(-1999~9999)	R/W
001d	CODE	Pass Code,Input Range 0000~270F(0~9999)	R/W
00ae	DISPLAY1	Channel 1 Normal Display Value,Display Range F831~270F(-1999~9999)	R
00af	DISPLAY2	Channel 2 Normal Display Value,Display Range F831~270F(-1999~9999)	R
00b0	DISPLAY3	Channel 3 Normal Display Value,Display Range F831~270F(-1999~9999)	R
00b1	DISPLAY4	Channel 4 Normal Display Value,Display Range F831~270F(-1999~9999)	R
00b2	DISPLAY5	Channel 5 Normal Display Value,Display Range F831~270F(-1999~9999)	R
00b3	DISPLAY6	Channel 1 Normal Display Value,Display Range F831~270F(-1999~9999)	R