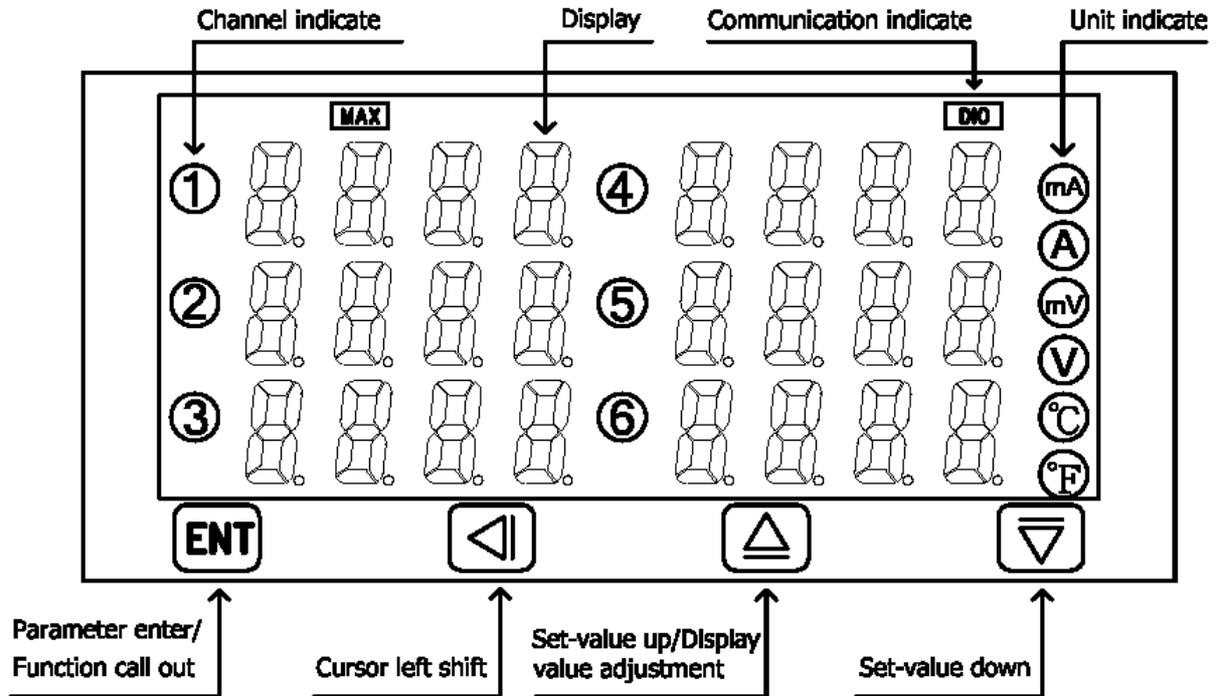## AXE MICROPROCESS 6 CHANNEL ANALOG INPUT PANEL METER MM8A-B

FEATURES

Accuracy 0.05% FS ± 1 digit	RS485 communication interface, Protocol MODBUS RTU MODE
Measuring 6 channel DCA	BAUD RATE: 38400/19200/9600/4800/2400
Programmable display range -1999~9999 digit	Man-machine interface, easy to operate
Input channel number (1~6) can be modified	Flash/EE saving data safekeeping about 10 years
Decimal point (0-3) can be modified	Modified inside parameter must have pass code

Name of Parts

| Channel indicate | Display | Communication indicate | Unit indicate |

| Parameter enter/ Function call out | Cursor left shift | Set-value up/Display value adjustment | Set-value down |

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)	5 4 5	1. Select setting group with ◁ key
	DSP (Display Value Adjust)	d 5 P	2. Press ⊕ key into setting page of selection setting group
	DOP (Communication Setting)	d o P	
4	SYS (System Setting Group)	5 4 5	1. Press ◁ key decide SYS setting group 2. press ⊕ key into CHS setting page
4-1	CHS (Input Channel Number Select) Default = 6	C H - 5 0 0 0 6	1. Decide input channel number with ▲&▽ key(1 to 6) 2. Press ⊕ key enter data and into LCUT setting page
4-2	LCUT (Low Cut) Default = 0	L C U t 0 0 0 0	1. Decide low cut with ◁&▲&▽ key(0-99) 2. Press ⊕ key enter data and into CODE setting page
4-3	CODE (Pass Code) Default = 0	C o d E 0 0 0 0	1. Decide pass code with ◁&▲&▽ key(0-9999) 2. Press ⊕ key enter data and into LOCK setting page
4-4	LOCK (Parameter Lock) Default = NO	L o C k n o	1. Decide parameter lock with ▲&▽ key(NO or YES) 2. Press ⊕ key enter data and return SYS setting group
4-5	SYS (System Setting Group)	5 4 5	1. Select setting group with ◁ key 2. Press ⊕ key into setting page of selection group
5	DSP (Display Value Adjust group)	d 5 P	1. Press ◁ key decide DSP setting group 2. Press ⊕ key into DP-1 setting page
5-1	DP-1 (Decimal Point-Channel 1) Default = 2	d P - 1 0 0 0 2	1. Decide channel 1 decimal point with ▲&▽ key(0-3) 2. Press ⊕ key enter data and into DL-1 setting page
5-2	DL-1 (Display Low Channel 1) Default = 00.00	d L - 1 0 0.0 0	1. Decide channel 1 display low with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DH-1 setting page
5-3	DH-1 (Display High-Channel 1) Default = 10.00	d H - 1 1 0.0 0	1. Decide channel 1 display high with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DP-2 setting page
5-4	DP-2 (Decimal Point-Channel 2) Default = 2	d P - 2 0 0 0 2	1. Decide channel 2 decimal point with ▲&▽ key(0-3) 2. Press ⊕ key enter data and into DL-2 setting page
5-5	DL-2 (Display Low Channel 2) Default = 00.00	d L - 2 0 0.0 0	1. Decide channel 2 display low with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DH-2 setting page
5-6	DH-2 (Display High-Channel 2) Default = 10.00	d H - 2 1 0.0 0	1. Decide channel 2 display high with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DP-3 setting page
5-7	DP-3 (Decimal Point-Channel 3) Default = 2	d P - 3 0 0 0 2	1. Decide channel 3 decimal point with ▲&▽ key(0-3) 2. Press ⊕ key enter data and into DL-3 setting page
5-8	DL-3 (Display Low Channel 3) Default = 00.00	d L - 3 0 0.0 0	1. Decide channel 3 display low with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DH-3 setting page
5-9	DH-3 (Display High-Channel 3) Default = 10.00	d H - 3 1 0.0 0	1. Decide channel 3 display high with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DP-4 setting page
5-10	DP-4 (Decimal Point-Channel 4) Default = 2	d P - 4 0 0 0 2	1. Decide channel 4 decimal point with ▲&▽ key(0-3) 2. Press ⊕ key enter data and into DL-4 setting page
5-11	DL-4 (Display Low Channel 4) Default = 00.00	d L - 4 0 0.0 0	1. Decide channel 4 display low with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DH-4 setting page
5-12	DH-4 (Display High-Channel 4) Default = 10.00	d H - 4 1 0.0 0	1. Decide channel 4 display high with ◁&▲&▽ key (-1999-9999) 2. Press ⊕ key enter data and into DP-5 setting page
5-13	DP-5 (Decimal Point-Channel 5) Default = 2	d P - 5 0 0 0 2	1. Decide channel 5 decimal point with ▲&▽ key(0-3) 2. Press ⊕ key enter data and into DL-5 setting page

5-14	DL-5 (Display Low-Channel 5) Default = 00.00	ㄹㄴ-5 00.00	1. Decide channel 5 display low with ◀&▲&▼ key (-1999~9999) 2. Press ⒩ key enter data and into DH-5 setting page
5-15	DH-5 (Display High-Channel 5) Default = 10.00	ㄹH-5 10.00	1. Decide channel 5 display high with ◀&▲&▼ key (-1999~9999) 2. Press ⒩ key enter data and into DP-6 setting page
5-16	DP-6 (Decimal Point-Channel 6) Default = 2	ㄹP-6 0002	1. Decide channel 6 decimal point with ▲&▼ key(0-3) 2. Press ⒩ key enter data and into DL-6 setting page
5-17	DL-6 (Display Low-Channel 6) Default = 00.00	ㄹㄴ-6 00.00	1. Decide channel 6 display low with ◀&▲&▼ key (-1999~9999) 2. Press ⒩ key enter data and into DH-6 setting page
5-18	DH-6 (Display High-Channel 6) Default = 10.00	ㄹH-6 10.00	1. Decide channel 6 display high with ◀&▲&▼ key (-1999~9999) 2. Press ⒩ key enter data and return DSP setting group
5-19	DSP (Display Value Adjust group)	ㄹSP	1. Select setting group with ◀ key 2. Press ⒩ key into setting page of selection group
6	DOP (Communication setting group)	ㄹoP	1. Press ◀ key decide DOP setting group 2. Press ⒩ key into ADDR setting page
6-1	ADDR (Communication Address setting page) Default =0	Rㄹㄹ- 0000	1. Decide Communication address with ◀&▲&▼ key(0-255) 2. Press ⒩ key enter data and into BALD setting page
6-2	BALD (Communication Baud Rate setting page) Default = 19K2	bRㄴㄹ 19ㄴ2	1. Decide baud rate with ▲&▼ key(38K4/19K2/9600/4800/2400) 2. Press ⒩ key enter data and into PARI setting page
6-3	PARI (Communication Parity Check setting page) Default = n.8.2.	PR-¡ n.8.2.	1. Decide parity check with ▲&▼ key(n82, n81, even, odd) 2. Press ⒩ key enter data and return DOP setting group
6-4	DOP (Communication setting group)	ㄹoP	1. Select setting group with ◀ key 2. Press ⒩ 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)	ㄹP-¡ 00.00	1. Adjustment channel 1 display zero with ▲&▼ key 2. Press ⒩ key 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)	ㄹS-¡ 10.00	1. Adjustment channel 1 display span with ▲&▼ key 2. Press ⒩ key 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)	ㄹP-2 00.00	1. Adjustment channel 2 display zero with ▲&▼ key 2. Press ⒩ key 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)	ㄹS-2 10.00	1. Adjustment channel 2 display span with ▲&▼ key 2. Press ⒩ key 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)	ㄹP-3 00.00	1. Adjustment channel 3 display zero with ▲&▼ key 2. Press ⒩ key 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)	ㄹS-3 10.00	1. Adjustment channel 3 display span with ▲&▼ key 2. Press ⒩ key 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)	ㄹP-4 00.00	1. Adjustment channel 4 display zero with ▲&▼ key 2. Press ⒩ key 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)	ㄹS-4 10.00	1. Adjustment channel 4 display span with ▲&▼ key 2. Press ⒩ key 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)	d P - 5	1. Adjustment channel 5 display zero with ▲&▼ key
		00.00	2. Press ⓔ key 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)	d S - 5	1. Adjustment channel 5 display span with ▲&▼ key
		10.00	2. Press ⓔ key 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)	d P - 6	1. Adjustment channel 6 display zero with ▲&▼ key
		00.00	2. Press ⓔ key 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)	d S - 6	1. Adjustment channel 6 display span with ▲&▼ key
		10.00	2. Press ⓔ key 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	A d E r	1. Input signal over range(approx. rated 120%) 2. Inside ADC circuit damage
2	Display over range error detect	d o F L	1. Input signal over display range(9999)
3	Display under range error detect	– d o F	1. Input signal under display range(-1999)
4	EEPROM error detect	E – 00	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:
		n o	1. E-00 & No alternate display for inquire reset EEPROM 2. Decide Yes with ▲&▼ key, press ⓔ key return normal display
		Y E 5	3. EEPROM was reset, Please follow step 1~7 setting again

NM8A-B Modbus RTU Mode Protocol Address Map
Data format 16Bit, sign bit, 8000-7FFF(-32768-32767)

Address	Name	Description	Accept
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	ADDR	Communication Address, Input Range 0000-00FF(0-255)	R/W
0003	BAUD	Baud Rate, Input Range 0000-0004(0-4) 0: 38K4, 1: 19K2, 2: 9600, 3: 4800, 4: 2400	R/W
0004	PARI	Parity Check, Input Range 0000-0003(0-3) 0: N 8 2, 1: N 8 1, 2: EVEN, 3: ODD	R/W
0005	LCUT	Low Cut, Input Range FF9D-0063(-99-99)	R/W
0006	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
0007	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
0008	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
0009	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
000a	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
000b	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
000c	DL_1	Channel 1 Display Low, Input Range F831~270F(-1999-9999)	R/W
000d	DL_2	Channel 2 Display Low, Input Range F831~270F(-1999-9999)	R/W
000e	DL_3	Channel 3 Display Low, Input Range F831~270F(-1999-9999)	R/W
000f	DL_4	Channel 4 Display Low, Input Range F831~270F(-1999-9999)	R/W
0010	DL_5	Channel 5 Display Low, Input Range F831~270F(-1999-9999)	R/W
0011	DL_6	Channel 6 Display Low, Input Range F831~270F(-1999-9999)	R/W
0012	DH_1	Channel 1 Display High, Input Range F831~270F(-1999-9999)	R/W
0013	DH_2	Channel 2 Display High, Input Range F831~270F(-1999-9999)	R/W
0014	DH_3	Channel 3 Display High, Input Range F831~270F(-1999-9999)	R/W
0015	DH_4	Channel 4 Display High, Input Range F831~270F(-1999-9999)	R/W
0016	DH_5	Channel 5 Display High, Input Range F831~270F(-1999-9999)	R/W
0017	DH_6	Channel 6 Display High, Input Range F831~270F(-1999-9999)	R/W
0018	CODE	Pass Code, Input Range 0000~270F(0-9999)	R/W
0025	DISPLAY1	Channel 1 Normal Display Value, Display Range F831~270F(-1999-9999)	R
0026	DISPLAY2	Channel 2 Normal Display Value, Display Range F831~270F(-1999-9999)	R
0027	DISPLAY3	Channel 3 Normal Display Value, Display Range F831~270F(-1999-9999)	R
0028	DISPLAY4	Channel 4 Normal Display Value, Display Range F831~270F(-1999-9999)	R
0029	DISPLAY5	Channel 5 Normal Display Value, Display Range F831~270F(-1999-9999)	R
002a	DISPLAY6	Channel 6 Normal Display Value, Display Range F831~270F(-1999-9999)	R