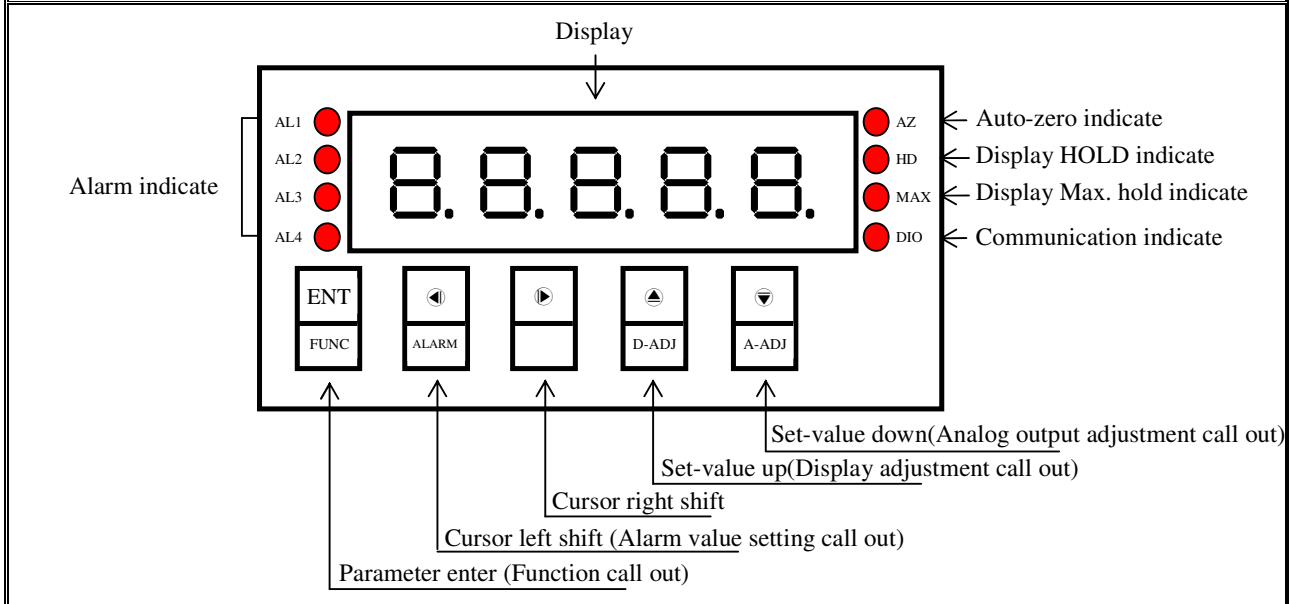


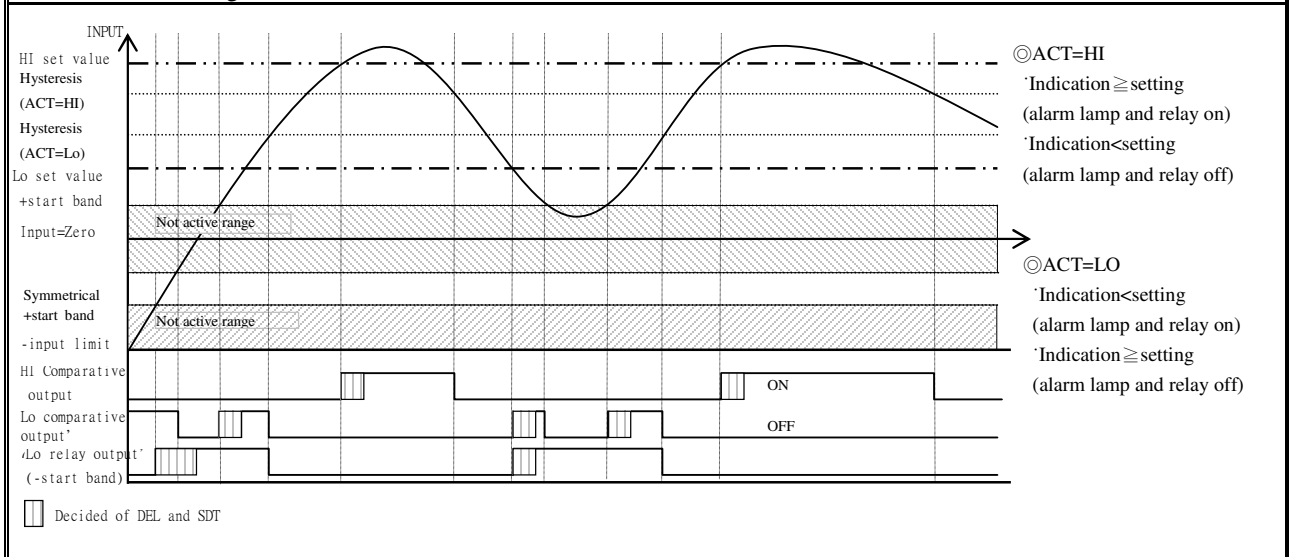
■ Features

- ⊙ Measuring DCA/DCV/ACA/ACV/Potentiometer/Pt-100/Transmitter/Load Cell/Resistor....etc
- ⊙ Accuracy 0.1% F.S.±1 digit
- ⊙ Display range -19999~99999 can be modified
- ⊙ Decimal point can be modified
- ⊙ Display value can Auto-zero and Hold function
- ⊙ Display value can Max. hold function
- ⊙ 4 Alarm function
- ⊙ Display average can be modified (1~99)
- ⊙ 15BIT DAC analog output can be modified,0~10V /4~20mA by inside switch jumper
- ⊙ RS485 communication interface, Photocol MODBUS RTU MODE
- ⊙ BAUD RATE:19200/9600/4800/2400
- ⊙ 0.8" highlight display
- ⊙ Man-machine interface ,easy to operate
- ⊙ EEPROM Saving ,data safekeeping about 10 years
- ⊙ Modified inside parameter must have pass code

■ Name Of Parts



■ Alarm Function Diagram



Key Introduce		Operation Manual	
☉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/right. (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 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)		
▼Key Function	1. In normal display,The key function is call out adjustment analog output(AZERO&ASPAN)page 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)		
▲&▼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	1 2 3 4 5	Press ☉/FUNC key into P.COD setting page
2	P.COD(Pass code input page) Default=0	P. C o d □ □ □ □ □	1. Key in 5 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)	S Y S	1. Select setting group with◀&▶key
	ROP(Alarm setting group)	r o P	2. Press☉key into setting page of selection setting group
	AOP(Analog output setting group)	A o P	
	DOP(Communication setting group)	d o P	
4	SYS(System setting group)	S Y S	1. Press ◀&▶key decide SYS setting group, 2. press☉key into DP setting page
4-1	DP(Decimal Point) Default=0	d P □	1. Decide decimal point position with▲&▼ key (0 to 4) 2. Press☉key enter data and into DSPL setting page
4-2	DSPL(Display Low Scale) Default=0	d S P L □ □ □ □ □	1. Decide display low scale with◀&▲&▼key (-19999~99999) 2. Press☉key enter data and into DSPH setting page
4-3	DSPH(Display High Scale) Default=99999	d S P H 9 9 9 9 9	1. Decide display high scale with◀&▲&▼key (-19999~99999) 2. Press☉key enter data and into AVG setting page
4-4	AVG (Average) Default=1	A v G □ □ □ □	1. Decide display Average times with◀&▲&▼key (1~99) 2. Press☉key enter data and into LCUT setting page
4-5	LCUT (Low Cut) Default=0	L C U T □ □ □ □ □	1. Decide display low cut with◀&▲&▼key (0~99) 2. Press☉key enter data and into CODE setting page
4-6	CODE(Pass Code) Default=0	C o d e □ □ □ □ □	1. Decide Pass code with◀&▲&▼key (0~19999) 2. Press☉key enter data and into LOCK setting page
4-7	LOCK(Panel Lock) Default=NO	L o c k n o	1. Decide panel lock with▲&▼ key (NO or YES) 2. Press☉key enter data and return SYS setting group
4-8	SYS(System setting group)	S Y S	Press◀&▶key decide setting group, press☉key into DP setting page
5	ROP(Alarm setting group)	r o P	Press◀&▶key decide ROP setting group, press☉key into ACT1 setting page
5-1	ACT1(Alarm Active 1 setting page)Default=HI	A C T 1 H I	1. Decide active 1 with ▲&▼key(HI or LO) 2. Press☉key enter data and into ACT2 setting page
5-2	ACT2(Alarm Active 2 setting page)Default=HI	A C T 2 H I	1. Decide active 2 with ▲&▼key(HI or LO) 2. Press☉key enter data and into ACT3 setting page
5-3	ACT3(Alarm Active 3 setting page) Default=HI	A C T 3 H I	1. Decide active 3 with ▲&▼key(HI or LO) 2. Press☉key enter data and into ACT4 setting page

5-4	ACT4(Alarm Active 4 setting page) Default=HI	A C T 4 H I	1. Decide active 4 with ▲&▼key(HI or LO) 2. PressⓂkey enter data and into HYS1 setting page
5-5	HYS1(Alarm Hysteresis 1 setting page1)Default=0	0 0 0 0 0	1. Decide HYS1 with◀&▲&▼key (0~99) 2. PressⓂkey enter data and into HYS2 setting page
5-6	HYS2(Alarm Hysteresis 2 setting page2)Default=0	H Y S 2 0 0 0 0 0	1. Decide HYS2 with◀&▲&▼key (0~99) 2. PressⓂkey enter data and into HYS3 setting page
5-7	HYS3(Alarm Hysteresis 3 setting page3)Default=0	H Y S 3 0 0 0 0 0	1. Decide HYS3 with◀&▲&▼key (0~99) 2. PressⓂkey enter data and into HYS4 setting page
5-8	HYS4(Alarm Hysteresis 4 setting page4)Default=0	H Y S 4 0 0 0 0 0	1. Decide HYS4 with◀&▲&▼key (0~99) 2. PressⓂkey enter data and into DEL1 setting page
5-9	DEL1(Alarm Delay 1 setting page)Default=0	d E L 1 0 0 0 0 0	1. Decide DEL1 with◀&▲&▼key (0~99 sec) 2. PressⓂkey enter data and into DEL2 setting page
5-10	DEL2(Alarm Delay 2 setting page)Default=0	d E L 2 0 0 0 0 0	1. Decide DEL2 with◀&▲&▼key (0~99 sec) 2. PressⓂkey enter data and into DEL3 setting page
5-11	DEL3(Alarm Delay 3 setting page)Default=0	d E L 3 0 0 0 0 0	1. Decide DEL3 with◀&▲&▼key (0~99 sec) 2. PressⓂkey enter data and into DEL4 setting page
5-12	DEL4(Alarm Delay 4 setting page)Default=0	d E L 4 0 0 0 0 0	1. Decide DEL4 with◀&▲&▼key (0~99 sec) 2. PressⓂkey enter data and into SB setting page
5-13	SB(Start band) Default=0	S b 0 0 0 0 0	1. Decide SB with◀&▲&▼key (-99~99) 2. PressⓂkey enter data and into SDT setting page
5-14	SDT(Start Delay Time) Default=0	S d t 0 0 0 0 0	1. Decide SDT with◀&▲&▼key (0~99 sec) 2.PressⓂkey return Alarm Active setting group
5-15	ROP(Alarm setting group)	r o p	Press ◀&▶ key decide setting group
6	AOP(Analog output setting group)	A o p	1.Press◀&▶key select Analog output setting group, 2.PressⓂkey into POLAR setting page
6-1	POLAR(Analog output polar setting) Default=NO	P o L A R n o	1. Decide POLAR with▲&▼ key(NO,YES) 2. pressⓂkey into ANLO setting page note:0(single output DC0-10V), 1(bilateral output DC0~±10V)
6-2	ANLO(Analog Output Zero-According to Display) Default=0	A n L o 0 0 0 0 0	1. Decide ANLO with◀&▲&▼key (-19999~99999) 2. PressⓂkey enter data and into ANHI setting page
6-3	ANHI(Analog Output Span-According to Display) Default=99999	A n H i 9 9 9 9 9	1. Decide ANHI with◀&▶&▲&▼key(-19999~99999) 2.PressⓂkey return Analog output setting group
6-4	AOP(Analog output setting group)	A o p	Press◀&▶key select setting group,
7	DOP(Communication setting group)	d o p	Press◀&▶key decide DOP setting group, pressⓂkey into ADDR setting page
7-1	ADDR(Communication –Address) Default=0	A d d r 0 0 0 0 0	1. Decide address with◀&▲&▼key (0~255) 2. PressⓂkey enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate) Default=19200	b a u d 1 9 2 0 0	1. Decide baud rate with▲&▼key (19200,9600,4800,2400) 2. PressⓂkey enter data and into PARI setting page
7-3	PARI(Communication Parity Check) Default=n.8.2.	P A R I n . 8 . 2	1. Decide parity check with▲&▼key(n.8.2,n.8.1,even,odd) 2. PressⓂkey enter data and return DOP setting group
7-4	DOP(Communication setting group)	d o p	Press◀&▶key select Analog output setting group, Ⓜ
Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	1 2 3 4 5	Press◀/ALARM about 3 sec,into AL1 setting page
8-1	AL1 (Alarm value 1 setting page) Default=0	A L 1 0 0 0 0 0	1.Decide alarm value 1 with◀&▲&▼key 1(-19999~99999) 2. PressⓂkey enter data and into AL2 setting page
8-2	AL2 (Alarm value 2 setting page) Default=0	A L 2 0 0 0 0 0	1. Decide alarm value 2 with◀&▲&▼key (-19999~99999) 2. PressⓂkey enter data and into AL3 setting page












8-3	AL3 (Alarm value 3 setting page)Default=0	AL3 □□□□	1. Decide alarm value 3 with◀&▲&▼key (-1999~9999) 2. PressⓂkey enter data and into AL4 setting page
8-4	AL4 (Alarm value 4 setting page) Default=0	AL4 □□□□	1. Decide alarm value 4 with◀&▲&▼key (-1999~9999) 2. PressⓂkey return normalvalue
Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	12345	Press▲/D-ADJ key about 3 sec, into DZERO adjustment page
9-1	DZERO(Display Zero Adjust) Default=0	dPEr□ □□□□	1. Adjustment display zero with▲&▼key 2. PressⓂkey enter data and into DSPAN adjustment page
9-2	DSPAN(Display Span Adjust) Default=0	dSPR□ □□□□	1. Adjustment display span with▲&▼key 2. PressⓂkey enter data and return normal display
Step	Parameter mark description	Parameter mark	Operation manual
10	Normal display	12345	Press▼/A-ADJ key about 3 sec, into AZERO adjustment page
10-1	AZERO(Analog Output Zero Adjustment page) Default=0	APEr□ □□□□	1. Adjustment analog output zero with◀&▶&▲&▼key(±9999) 2. PressⓂkey enter data and into ASPAN adjustment page
10-2	ASPAN(Analog Output Span Adjustment page) Default=0	ASPR□ □□□□	1. Adjustment analog output span with◀&▲&▼key (±9999) 2. PressⓂkey enter data and return normal display
Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	□ OFL	Input signal over range(120%)
2	Input under error detect	- □ OFL	Input signal under range(-20%)
3	Display over error detect	d OFL	Display over range(9999)
4	Display under error detect	- d OFL	Display over range (-1999)
5	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
6	EEPROM error detect	E-□□ □□ YES	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Ⓜkey return normal display 3. EEPROM was reset, Please follow step 1~10 set again

MMX-A 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 MMX-A IS 00	R
0001	STATUS	STATUS, range 0000~000F(0~15)(0:OFF,1:ON) (Bit0:AL1,Bit1:AL2,Bit2:AL3,Bit3:AL4)	R
0002	ACT	ACT, range 0000~000F(0~15)(0:HI,1:LO,) (Bit0:ACT1,Bit1:ACT2,Bit2:ACT3,Bit3:ACT4)	R/W
0003	FUNC	FUNC, range 0000~0003(0~3)(0:NON,1:AZ,2:HD,3:MAX)	R/W
0004	POLAR	POLAR, range 0000~0001(0~1)0:NO SINGLE SIDE,1:YES DOUBLE SIDE	R/W
0005	DP	DP, range 0000~0004(0~4)0:10 ⁰ ,1:10 ⁻¹ ,2:10 ⁻² ,3:10 ⁻³ ,4:10 ⁻⁴	R/W
0006	LOCK	LCUT, range 0000~0001(0~1)0:NO,1:YES	R/W
0007	BAUD	BAUD, range 0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
0008	PARI	PARI, range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
0009	AVG	AVG, range 0001~0063(1~99)	R/W
000A	LCUT	LCUT, range 0000~0063(0~99)	R/W
000B	ADDR	ADDR, range 0000~00FF(0~255)	R/W
000C	HYS1	HYS1,range 0000~0063(0~99)	R/W
000D	HYS2	HYS2,range 0000~0063(0~99)	R/W
000E	HYS3	HYS3,range 0000~0063(0~99)	R/W
000F	HYS4	HYS4,range 0000~0063(0~99)	R/W
0010	DEL1	DEL1,range 0000~0063(0~99)	R/W
0011	DEL2	DEL2,range 0000~0063(0~99)	R/W
0012	DEL3	DEL3,range 0000~0063(0~99)	R/W
0013	DEL4	DEL4,range 0000~0063(0~99)	R/W
0014	SB	SB, range FF9D~0063(-99~99)	R/W
0015	SDT	SDT, range 0000~0063(0~99)	R/W
0016	CODE	CODE, range 0000~4E1F(0~19999)	R/W
0017	AZERO	AZERO, range D8F1~270F(-9999~9999)	R/W
0018	ASPAN	ASPAN, range D8F1~270F(-9999~9999)	R/W
0019	DSPL	DSPL, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
001A		DSPL, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
001B	DSPH	DSPH, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
001C		DSPH, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
001D	AL1	AL1,range FFFF1E1~0001869F(-19999~99999) high byte	R/W
001E		AL1,range FFFF1E1~0001869F(-19999~99999) low byte	R/W
001F	AL2	AL2,range FFFF1E1~0001869F(-19999~99999) high byte	R/W
0020		AL2,range FFFF1E1~0001869F(-19999~99999) low byte	R/W
0021	AL3	AL3,range FFFF1E1~0001869F(-19999~99999) high byte	R/W
0022		AL3,range FFFF1E1~0001869F(-19999~99999) low byte	R/W
0023	AL4	AL4,range FFFF1E1~0001869F(-19999~99999) high byte	R/W
0024		AL4,range FFFF1E1~0001869F(-19999~99999) low byte	R/W
0025	ANLO	ANLO, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
0026		ANLO, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
0027	ANHI	ANHI, range FFFF1E1~0001869F(-19999~99999) high byte	R/W
0028		ANHI, range FFFF1E1~0001869F(-19999~99999) low byte	R/W
0029	DISPLAY	DISPLAY, range FFFF1E1~0001869F(-19999~99999) high byte	R
002A		DISPLAY, range FFFF1E1~0001869F(-19999~99999) low byte	R

MMX-A Calibrate Step:

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1 2 3 4 5	1. Press  &  key about 3sec.,into INLO setting page
2	INLO(Input low calibrate setting page)	1 2 3 4	1. Input low signal and press  key read calibrate value
		1 2 3 4 5	2.Wait display stability ,press  key enter data and into INHI setting page
3	INHI(Input high calibrate setting page)	1 2 3 4	1. Input high signal and press  key read calibrate value
		1 2 3 4 5	2.Wait display stability , Press  key enter data and into CON setting page
4	CON(Control) Default=non	1 2 3 4	1.  &  key CON (non,AZ,HD,MAX)
		1 2 3 4	2. Press  key enter data and into SYS setting group
5	SYS(System setting group)	1 2 3 4 5	1. Select setting group with  key
	ROP(Alarm setting group)	1 2 3 4	2.Press  key into setting page of selection setting group
	AOP(Analog output setting group)	1 2 3 4	
	DOP(Communication setting group)	1 2 3 4	