AXE MICROPROCESS PANEL CONTROLLER METER(72x72mm) MA726 Series
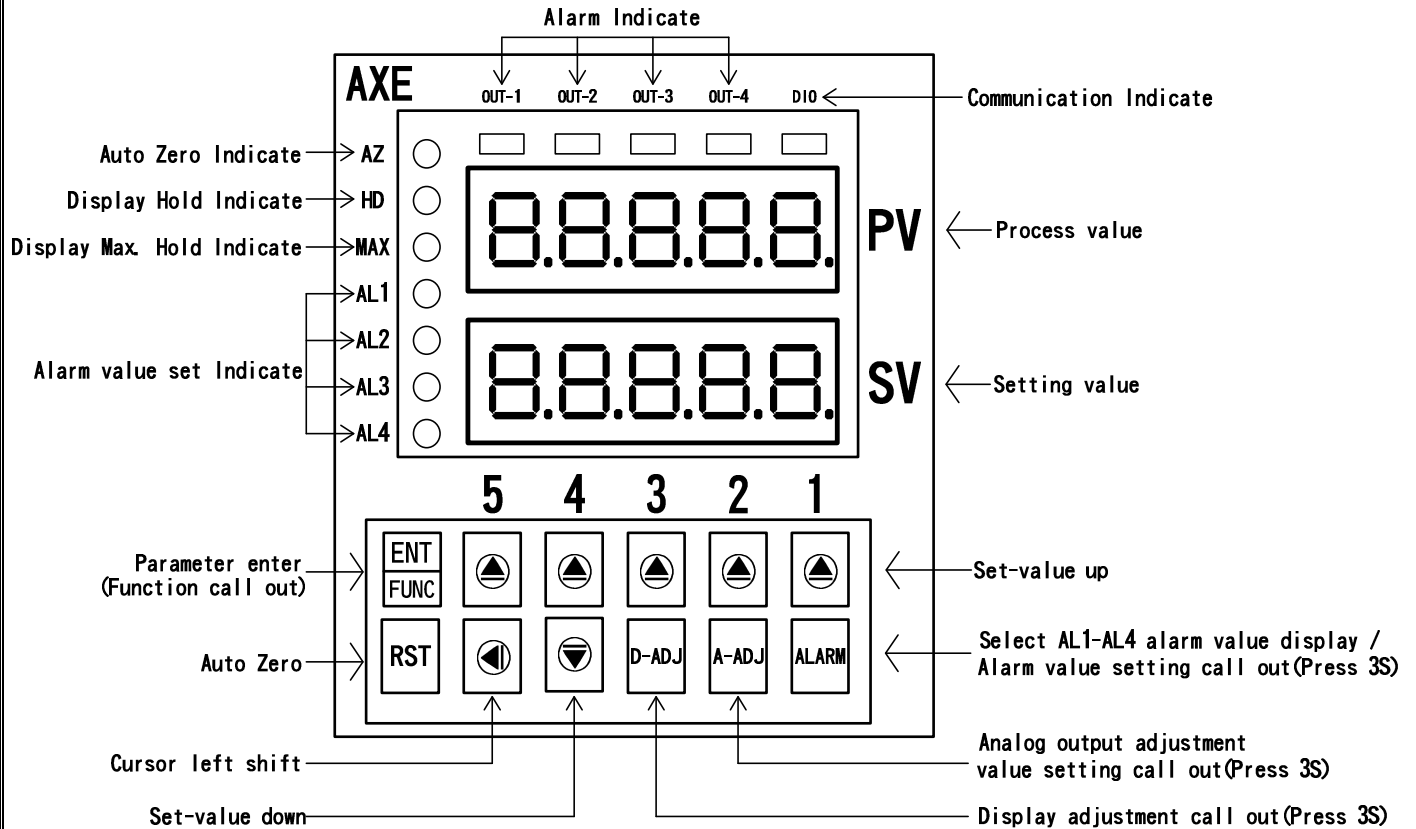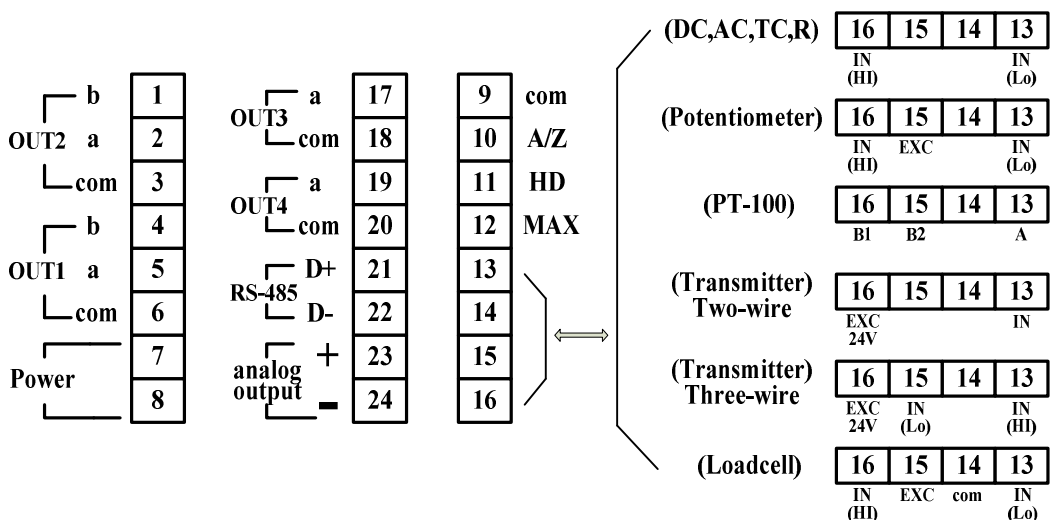
■ Features

◎Measuring DCA/DCV/ACA/ACV/Potentiometer/ Transmitter/Pt-100/Load Cell/Resistor….etc

◎ Accuracy 0.05% 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)

◎16BIT DAC analog output can be modified

◎RS485 communication interface, Protocol MODBUS RTU MODE

◎BAUD RATE:19200/9600/4800/2400

◎0.4"LED highlight display

◎Man-machine interface ,easy to operate

◎EEPROM Saving ,data safekeeping about 10 years

◎Modified inside parameter must have pass code

◎Protection class NEMA4/IP67

■ Name Of Parts

■ Connection 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
ALARM Key Function	In normal display, 1. call out AL1 setting page(Press key about 3 sec)
	2. select AL1~AL4 alarm value display in SV(Press key about 0.2 sec)
D-ADJ Key Function	In normal display, call out Dzero & Dspan setting page(Press key about 3 sec)
A-ADJ Key Function	In normal display, call out Azero & Aspan setting page(Press key about 3 sec)
RST Key Function	The RST key press first time,Display value will be auto-zero(AZ lamp"ON"),Press RST key once again, auto-zero function disable ,(AZ lamp"OFF")
◀ Key Function	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)
Each ▲ Key Function	Into parameter setting page, the parameter mark&data is alternate display, If need modify data can press each ▲ 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	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	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

■ Inside parameter operate procedure

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1 2 3 4 5	Press Ⓝ/FUNC key into P.CODE setting page
2	P.CODE(Pass code input page) Default=0	P.C o d E	1.Key in 5 digit pass code with ◀ & ▲ & ▼ key
		0 0 0 0 0	2.Press Ⓝ key, If the pass code is correct then into setting group,otherwise return normal display
3	SYS(System Setting Group)	S Y S	1. Select setting group with ◀ key
	ROP(Alarm output 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 digital 1 ▲ & ▼ key (0 to 4)
		0	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 per digital ▲ & ▼ & ◀ key (-19999~99999)
		0 0 0 0 0	2. Press Ⓝ key enter data and into DSPH setting page
4-3	DSPH(Display High Scale) Default=99999	d S P H	1. Decide display high scale with per digital ▲ & ▼ & ◀ key (-19999~99999)
		9 9 9 9 9	2. Press Ⓝ key enter data and into AVG setting page
4-4	AVG (Average) Default=6	A u G	1. Decide display Average times with digital 1~2 ▲ & ▼ & ◀ key (1~99)
		0 6	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 digital 1~2 ▲ & ▼ & ◀ key (0~99)
		0 0	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 per digital ▲ & ▼ & ◀ key (0~19999)
		0 0 0 0 0	2. Press Ⓝ key enter data and into LOCK setting page
4-7	LOCK(Panel Lock) Default=NO	L o C k	1. Decide panel lock with digital 1 ▲ & ▼ key (NO or YES)
			2. Press Ⓝ key enter data and return SYS setting group
		n o	

5	ROP(Alarm setting group)	⌐ o P	1.Press ◀ key decide ROP setting group 2.Press Ⓝ key into ACT1 setting page
5-1	ACT1(Alarm 1 Active) Default=HI	ᴀ Ɛ ᵗ ı H ı	1. Decide Alarm 1 Active with digital 1 ▲&▼key(HI or LO) 2.Press Ⓝ key enter data and into ACT2 setting page
5-2	ACT2(Alarm 2 Active) Default=HI	ᴀ Ɛ ᵗ 2 H ı	1. Decide Alarm 2 Active with digital 1 ▲&▼key(HI or LO) 2.Press Ⓝ key enter data and into ACT3 setting page
5-3	ACT1(Alarm 3 Active) Default=HI	ᴀ Ɛ ᵗ 3 H ı	1. Decide Alarm 3 Active with digital 1 ▲&▼key(HI or LO) 2.Press Ⓝ key enter data and into ACT4 setting page
5-4	ACT2(Alarm 4 Active) Default=HI	ᴀ Ɛ ᵗ 4 H ı	1. Decide Alarm 4 Active with digital 1 ▲&▼key(HI or LO) 2.Press Ⓝ key enter data and into HYS1 setting page
5-5	HYS1(Alarm 1 Hysteresis) Default=0	H Y S ı 0 0	1. Decide HYS1 with digital 1~2 ▲&▼&◀key (0~99) 2. Press Ⓝ key enter data and into HYS2 setting page
5-6	HYS2(Alarm 2 Hysteresis) Default=0	H Y S 2 0 0	1. Decide HYS2 with digital 1~2▲&▼&◀key (0~99) 2. Press Ⓝ key enter data and into HYS3 setting page
5-7	HYS3(Alarm 3 Hysteresis) Default=0	H Y S 3 0 0	1. Decide HYS3 with digital 1~2 ▲&▼&◀key (0~99) 2. Press Ⓝ key enter data and into HYS4 setting page
5-8	HYS4(Alarm 4 Hysteresis) Default=0	H Y S 4 0 0	1. Decide HYS4 with digital 1~2 ▲&▼&◀ key (0~99) 2. Press Ⓝ key enter data and into DEL1 setting page
5-9	DEL1(Alarm 1 Delay time) Default=0	d Ɛ L ı 0 0	1. Decide DEL1 with digital 1~2 ▲&▼&◀ key (0~99 sec) 2. Press Ⓝ key enter data and into DEL2 setting page
5-10	DEL2(Alarm 2 Delay time) Default=0	d Ɛ L 2 0 0	1. Decide DEL2 with digital 1~2 ▲&▼&◀ key (0~99 sec) 2. Press Ⓝ key enter data and into DEL3 setting page
5-11	DEL3(Alarm 3 Delay time) Default=0	d Ɛ L 3 0 0	1. Decide DEL3 with digital 1~2 ▲&▼&◀ key (0~99 sec) 2. Press Ⓝ key enter data and into DEL4 setting page
5-12	DEL4(Alarm 4 Delay time) Default=0	d Ɛ L 4 0 0	1. Decide DEL4 with digital 1~2 ▲&▼&◀ 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	1. Decide SB with digital 1~2 ▲&▼&◀ 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	1. Decide SDT with digital 1~2 ▲&▼&◀ key (0~99 sec) 2. Press Ⓝ key enter data and return ROP setting group
6	AOP(Analog output setting group)	ᴀ o P	1.Press ◀ key select AOP setting group 2.Press Ⓝ key into ANLO setting page
6-1	ANLO(Analog Output Zero- According to Display) Default=0	ᴀ n L o 0 0 0 0 0	1. Decide ANLO with per digital ▲&▼&◀ key (-19999~99999) 2. Press Ⓝ key enter data and into ANHI setting page
6-2	ANHI(Analog Output Span- According to Display) Default=99999	ᴀ n H ı 9 9 9 9 9	1. Decide ANHI with per digital ▲&▼&◀ key(-19999~99999) 2. Press Ⓝ key enter data and and return normal value
7	DOP(Communication setting group)	d o P	1.Press ◀ key decide DOP setting group 2.Press Ⓝ key into ADDR setting page
7-1	ADDR(Communication Address) Default=0	ᴀ d d ⌐ 0 0 0	1. Decide ADDR with digital 1~3 ▲&▼&◀ key (0~255) 2. Press Ⓝ key enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate) Default=19200	b ᴀ U d 1 9 2 0 0	1. Decide BAUD with digital 1 ▲&▼ 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 ᴀ ⌐ ı n.8.2.	1. Decide PARI with digital 1 ▲&▼key(n.8.2,n.8.1,even,odd) 2. Press Ⓝ key enter data and return DOP setting group

■ Outside function key operate procedure

Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	1 2 3 4 5	1.Press ALARM key about 3 sec, into AL1 setting page
8-1	AL1 (Alarm 1) Default=0	ᴀ L ı 0 0 0 0 0	1.Decide AL1 with per digital ▲&▼&◀key (-19999~99999) 2. Press Ⓝ key enter data and into AL2 setting page

8-2	AL2 (Alarm 2)	⎐⎐⎐⎐ AL2	1. Decide AL2 with per digital ▲&▼&◀ key (-19999~99999)
	Default=0	00000	2. P Press Ⓝkey enter data and into AL3 setting page
8-3	AL3 (Alarm 3)	AL3	1.Decide AL3 with per digital ▲&▼&◀ key (-19999~99999)
	Default=0	00000	2. Press Ⓝkey enter data and into AL4 setting page
8-4	AL4 (Alarm 4)	AL4	1. Decide AL4 with per digital ▲&▼&◀ key (-19999~99999)
	Default=0	00000	2. P Press Ⓝkey enter data and return normal value

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)	dPEro	1. Adjustment display zero with digital 1 ▲&▼ key
	Default=0	00000	2. Press Ⓝkey enter data and into DSPAN adjustment page
9-2	DSPAN(Display Span Adjust)	dSPAn	1. Adjustment display span with digital 1 ▲&▼key
	Default=0	00000	2. Press Ⓝkey enter data and return normal display

10	Normal display	12345	1.Press A-ADJ key about 3 sec, into AZERO setting page
10-1	AZERO(Analog Output Zero Adjustment page) Default=0	APEro	1.Adjustment analog output zero with digital 1~4▲&▼&◀ key (±6000)
		00000	2. Press Ⓝkey enter data and into ASPAN adjustment page
10-2	ASPAN(Analog Output Span Adjustment page) Default=0	ASPAn	1. Adjustment analog output span with digital 1~4 ▲&▼&◀key (±6000)
		00000	2. Press Ⓝkey enter data and return normal value

Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	ioFL	Input signal over range
2	Input under error detect	-ioFL	Input signal under range
3	Display over error detect	doFL	Display over range(99999)
4	Display under error detect	-doFL	Display under range (-19999)
5	EEPROM error detect	E-00	1. External interference when EEPROM read/write 2.EEPROM write over 1 million times(guarantee 10 years)
		no	Please power reset, if still display E-00,doing following step: a.E-00 & No alternate display for inquire reset EEPROM
		YES	b.Decide Yes with ▲key,press Ⓝ key return normal display c.EEPROM was reset,Please follow step 1~10 set again

MA726 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	Type code judge , MA726 = 00	R
0001	STATUS	Alarm output and Display status,Display Range 0000~00FF(0~255)(0:OFF,1:ON)(Bit0:OUT1,Bit1:OUT2,Bit2:OUT3,Bit3:OUT4,Bit4:DOFL,Bit5:-DOFL,Bit6:IOFL,Bit7:-IOFL)	R
0002	FUNC	Terminal function,Input Range 0000~0007(0~7)(0:OFF,1:ON)(Bit0:AZ,Bit1:HOLD,Bit2:MAX) Note:ONLY Bit0:AZ ENABLE WRITE	R/W
0003	DISPM	SV display indicate,Input Range 0000~0003(0~3) (0:AL1, 1:AL2, 2:AL3, 3:AL4)	R/W
0004	ACT1	Alarm 1 Active,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0005	ACT2	Alarm 2 Active,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0006	ACT3	Alarm 3 Active,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0007	ACT4	Alarm 4 Active,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0008	DP	Decimal Point,Input Range 0000~0004(0~4)0:10^0,1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4}	R/W
0009	LOCK	Panel Lock,Input Range 0000~0001(0~1)0:NO,1:YES	R/W
000A	BAUD	Communication Baud Rate,Input Range 0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
000B	PARI	Communication Parity Check,Input Range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
000C	AVG	Average,Input Range 0001~0063(1~99)	R/W
000D	LCUT	Low Cut,Input Range 0000~0063(0~99)	R/W
000E	ADDR	Communication Address,Input Range 0000~00FF(0~255)	R/W
000F	HYS1	Hysteresis 1,Input Range 0000~0063(0~99)	R/W
0010	HYS2	Hysteresis 2,Input Range 0000~0063(0~99)	R/W
0011	HYS3	Hysteresis 3,Input Range 0000~0063(0~99)	R/W
0012	HYS4	Hysteresis 4,Input Range 0000~0063(0~99)	R/W
0013	DEL1	Alarm 1 Delay time,Input Range 0000~0063(0~99)	R/W
0014	DEL2	Alarm 2 Delay time,Input Range 0000~0063(0~99)	R/W
0015	DEL3	Alarm 3 Delay time,Input Range 0000~0063(0~99)	R/W
0016	DEL4	Alarm 4 Delay time,Input Range 0000~0063(0~99)	R/W
0017	SB	Start band,Input Range FF9D~0063(-99~99)	R/W
0018	SDT	Start Delay Time,Input Range 0000~0063(0~99)	R/W
0019	CODE	Pass Code,Input Range 0000~4E1F(0~19999)	R/W
001A	AZERO	Analog Output Zero Adjust,Input Range E890~1770(-6000~6000)	R/W
001B	ASPAN	Analog Output Span Adjust,Input Range E890~1770(-6000~6000)	R/W
001C	DSPL	Display Low Scale,Input RangeFFFFB1E1~0001869F(-19999~99999)high word	R/W
001D		Display Low Scale,Input RangeFFFFB1E1~0001869F(-19999~99999)low word	R/W
001E	DSPH	Display High Scale,Input RangeFFFFB1E1~0001869F(-19999~99999)high word	R/W
001F		Display High Scale,Input RangeFFFFB1E1~0001869F(-19999~99999)low word	R/W
0020	AL1	Alarm 1,Input RangeFFFFB1E1~0001869F(-19999~99999)high word	R/W
0021		Alarm 1,Input RangeFFFFB1E1~0001869F(-19999~99999)low word	R/W
0022	AL2	Alarm 2,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0023		Alarm 2,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0024	AL3	Alarm 3,Input RangeFFFFB1E1~0001869F(-19999~99999)high word	R/W
0025		Alarm 3,Input RangeFFFFB1E1~0001869F(-19999~99999)low word	R/W
0026	AL4	Alarm 4,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0027		Alarm 4,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0028	ANLO	Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0029		Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
002A	ANHI	Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
002B		Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
002C	AZ	Display Auto zero, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
002D		Display Auto zero, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
002E	HOLD	Display Hold, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
002F		Display Hold, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
0030	MAX	Display maximum Hold, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
0031		Display maximum Hold, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
0032	DISPLAY	Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
0033		Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R