

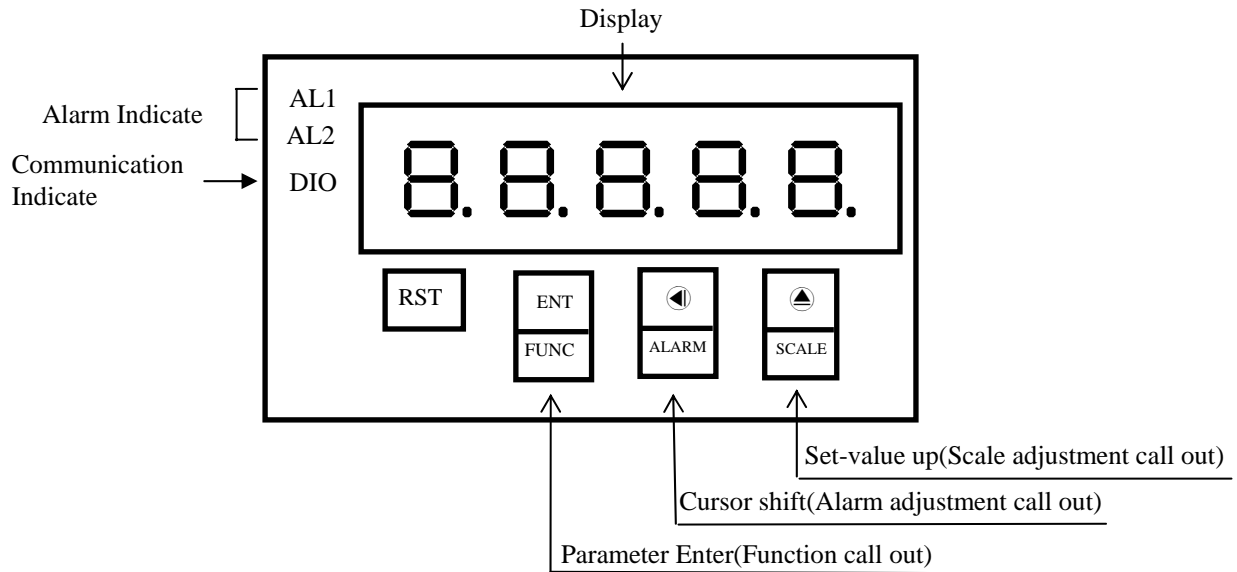
AXE Microprocess Length(Flow) Controller Meter

MMCS Series

FEATURES

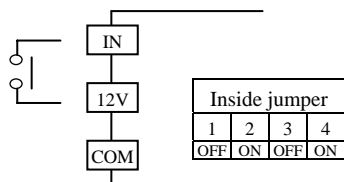
Accept more type sensors(switch,encoder,proximity switch,...etc)finish length/flow control Readout Range from -19999 to 99999 Four counting modes Up.Down,Up/Down,Quadrature Power down saving Decimal Point can be modified Input scaling multiplied 0.0001 to 9.9999 can be modified Reset by panel or connect terminal Quadrature sensing up to 4 times resolution	16BIT DAC analog output can be modified, 0~10V/4~20mA by inside switch jumper Two alarm function Man-machine interface,easy to operate 0.4" highlight display BAUD RATE:19200/9600/4800/2400 RS485 Communication interface,Protocol MODBUS RTU MODE EEPROM Saving,data safekeeping about 10 years Modified inside parameter,must have pass code
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Name of Parts

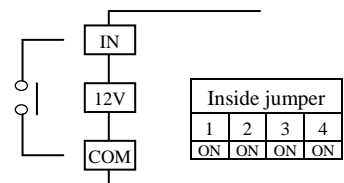


Connect Diagram

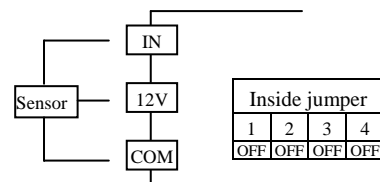
Contact input(PNP)



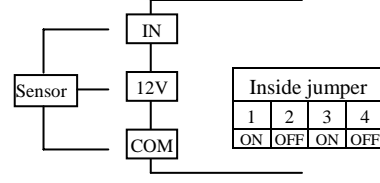
Contact input(NPN)



Sensor input(PNP 12V)



Sensor input(NPN 12V)





Input function jumper table

<table border="1" style="border-collapse: collapse;"> <tr><td style="width: 15px; height: 15px;"> </td></tr> <tr><td style="width: 15px; height: 15px;"> </td></tr> <tr><td style="width: 15px; height: 15px;"> </td></tr> <tr><td style="width: 15px; height: 15px;"> </td></tr> </table>					4 Position 4 ON: B channel 0~50Hz OFF:0~10KHz 3 Position 3 ON: B channel NPN 2 Position 2 ON: A channel 0~50Hz OFF:0~10KHz 1 Position 1 ON: A channel NPN

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. (Key Response about 0.2 sec)		
▲ Key Function	1.In normal display,The key function is call out adjustment display scale 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	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	1 2 3 4 5	Press ☸/FUNC key into P.COD setting page
2	P.COD(Pass code input page)	P.C o d	1.Key in 5 digit pass code with ◀ or ▲ key 2.Press ☸ key,the pass code is right into setting group , otherwise return normal display
		0 0 0 0 0	
3	SYS(System setting group)	S Y S	1.Select setting group with ◀ key 2.Press ☸ key into setting page of selection setting group
	ROP(Alarm setting group)	r o P	
	AOP(Analog output setting group)	A o P	
	DOP(Communication setting group)	d o P	
4	SYS(System setting group)	S Y S	Press ◀ key decide SYS setting group , press ☸ key into Dp setting page
4-1	DP(Decimal Point setting page) Value on EEPROM reset=0	d P	1.Decide decimal point position with ▲ key (0 to 4) 2.Press ☸ key enter data and into TYPE setting page
		0	
4-2	TYPE(Input Type setting page) Value on EEPROM reset=1U2D	t Y P E	1.Decide input type with ▲ key (1U2D/1P2D/1A2B) 2.Press ☸ key enter data and into CODE setting page
		1 U 2 d	
4-3	CODE(Pass Code setting page) Value on EEPROM reset=0	C o d E	1.Decide pass code with ◀ or ▲ key(0~99999) 2.Press ☸ key enter data and into LOCK setting page
		0 0 0 0 0	
4-4	LOCK(Panel Lock setting page) Value on EEPROM reset=NO	L o C k	1.Decide panel lock with ▲ key(NO or YES) 2.Press ☸ key enter data and return SYS setting group
		n o	
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) Value on EEPROM reset=HI	A C t 1	1.Decide active 1 with ▲ key(HI or LO) 2.Press ☸ key enter data and into ACT2 setting page
		H ,	
5-2	ACT2(Alarm Active 2 setting page) Value on EEPROM reset=HI	A C t 2	1.Decide active 2 with ▲ key(HI or LO) 2.Press ☸ key enter data and into HYS1 setting page
		H ,	
5-3	HYS1(Alarm Hysteresis 1 setting page) Value on EEPROM reset=0	H Y S 1	1.Decide Hysteresis 1 with ◀ or ▲ key(0~999) 2.Press ☸ key enter data and into HYS2 setting page
		0 0 0 0 0	
5-4	HYS2(Alarm Hysteresis 2 setting page) Value on EEPROM reset=0	H Y S 2	1.Decide Hysteresis 1 with ◀ or ▲ key(0~999) 2.Press ☸ key enter data and into DEL1 setting page
		0 0 0 0 0	

5-5	DEL1(Alarm Delay 1 setting page) Value on EEPROM reset=0	DEL1 0000.0	1.Decide delay 1 with ◀ or ▶ key(0~99.9 sec) 2.Press Ⓜ key enter data and into DEL2 setting page
5-6	DEL2(Alarm Delay 2 setting page) Value on EEPROM reset=0	DEL2 0000.0	1.Decide delay 2 with ◀ or ▶ key(0~99.9sec) 2.Press Ⓜ key enter data and return ROP setting group
6	AOP(Analog output setting group)	AOP	Press ◀ key decide AOP setting group , press Ⓜ key into ANLO setting page
6-1	ANLO(A/O Zero According to Display setting page)Value on EEPROM reset=0	ANLO 0000.0	1.Decide ANLO with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into ANHI setting page
6-2	ANHI(A/ O Span According to Display setting page)Value on EEPROM reset=99999	ANHI 99999	1.Decide ANHI with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into AZERO adjustment page
6-3	AZERO(Analog Output Zero Adjustment page) Value on EEPROM reset=0	AZERO 0000.0	1.Adjustment analog output zero with ◀ or ▶ key(±5999) 2.Press Ⓜ key enter data and into ASPAN adjustment page
6-4	ASPAN(Analog Output Span Adjustment page) Value on EEPROM reset=0	ASPAN 0000.0	1.Adjustment analog output span with ◀ or ▶ key(±5999) 2.Press Ⓜ key enter data and return AOP setting group
7	DOP(Communication setting group)	DOP	press ◀ key decide DOP setting group,press Ⓜ key into ADDR setting page
7-1	ADDR(Communication –Address setting page) Value on EEPROM reset=0	ADDR 0000.0	1.Decide address with ◀ or ▶ key(0~255) 2.Press Ⓜ key enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate setting page)Value on EEPROM reset=19200	BAUD 19200	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 setting page)Value on EEPROM reset=n82	PARI n.8.2	1.Decide parity check with ▶ key(n82,n81,even,odd) 2.Press Ⓜ key enter data and return DOP setting group *If parity check setting is non , sometime STOP BIT must set 2 BIT
Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	12345	Press ◀/ALARM key about 3 sec,into AL1 1setting page
8-1	AL1 (Alarm value 1 setting page) Value on EEPROM reset=0	AL1 0000.0	1.Decide alarm value 1 with ◀ or ▶ key(-19999~99999) 2.Press Ⓜ key enter data and into AL2 setting page
8-2	AL2 (Alarm value 2 setting page) Value on EEPROM reset=0	AL2 0000.0	1.Decide alarm value 2 with ◀ or ▶ key(-19999~99999) 2.Press Ⓜ key enter data and return normal display
Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	12345	Press ▶/SCALE key about 3 sec,into SCALE setting page
9-1	SCALE (Display Scale setting page) Value on EEPROM reset=1	SCALE 1.0000	1.Decide scale with ◀ or ▶ key(0.0001~9.9999) 2.Press Ⓜ key enter data and return normal display

Appendix	Error Mark description	Error Mark	Analyze & Description
1	Display positive over error detect	DOFL	Input signal over display range(99999)
2	Display negative over error detect	-DOFL	Input signal under display range(-19999)

3	EEPROM error detect	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  key,press  key return normal display 3. EEPROM was reset,Please follow step 1~9 set again
		no	
		YES	

MMCS 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	DP	Decimal point position,range0000~0004(0~4)0:10 ⁰ ,1:10 ⁻¹ ,2:10 ⁻² ,3:10 ⁻³ ,4:10 ⁻⁴	R/W
0002	TYPE	Input type,range0000~0002(0~2)0:1U2D,1:1P2D,2:1A2B	R/W
0004	ACT1	Alarm active 1,range0000~0001(0~1)0:HI,1:LO	R/W
0006	ACT2	Alarm active 2,range0000~0001(0~1)0:HI,1:LO	R/W
0008	HYS1	Alarm hysteresis 1,range0000~03E7(0~999)	R/W
000A	HYS2	Alarm hysteresis 2,range0000~03E7(0~999)	R/W
000C	DEL1	Alarm delay 1,range0000~03E7(0~999)	R/W
000E	DEL2	Alarm delay 2,range0000~03E7(0~999)	R/W
0010	ADDR	Communication address,range0000~00FF(0~255)	R/W
0012	BAUD	Communication baud rate,range0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
0014	PARI	Communication parity check,range0000~0003(0~3)0:N82,1:N81,2:EVEN,3:ODD	R/W
0016	AZERO	AZERO,range E891~176F(-5999~5999)	R/W
0018	ASPAN	ASPAN,range E891~176F(-5999~5999)	R/W
001A	LOCK	Panel lock,range0000~0001(0~1)0:NO,1:YES	R/W
001C	CODE	Pass code,range00000000~0001869F(0~99999)	R/W
0020	SCALE	Display scale,range00000001~0001869F(1~99999)	R/W
0024	ANLO	ANLO,rangeFFFFB1E1~0001869F(-19999~99999)	R/W
0028	ANHI	ANHI,rangeFFFFB1E1~0001869F(-19999~99999)	R/W
002C	AL1	Alarm value 1,rangeFFFFB1E1~0001869F(-19999~99999)	R/W
0030	AL2	Alarm value 2,rangeFFFFB1E1~0001869F(-19999~99999)	R/W
0034	COUNTER	Input PULSE,rangeFFFFB1E1~0001869F(-19999~99999)	R
0038	Non	non	R
003A	Non	non	R
003C	Non	non	R
003E	Non	non	R
0040	Non	non	R
0042	Non	non	R
0044	Non	non	R
0046	DISPLAY	Display value,rangeFFFFB1E1~0001869F(-19999~99999)	R