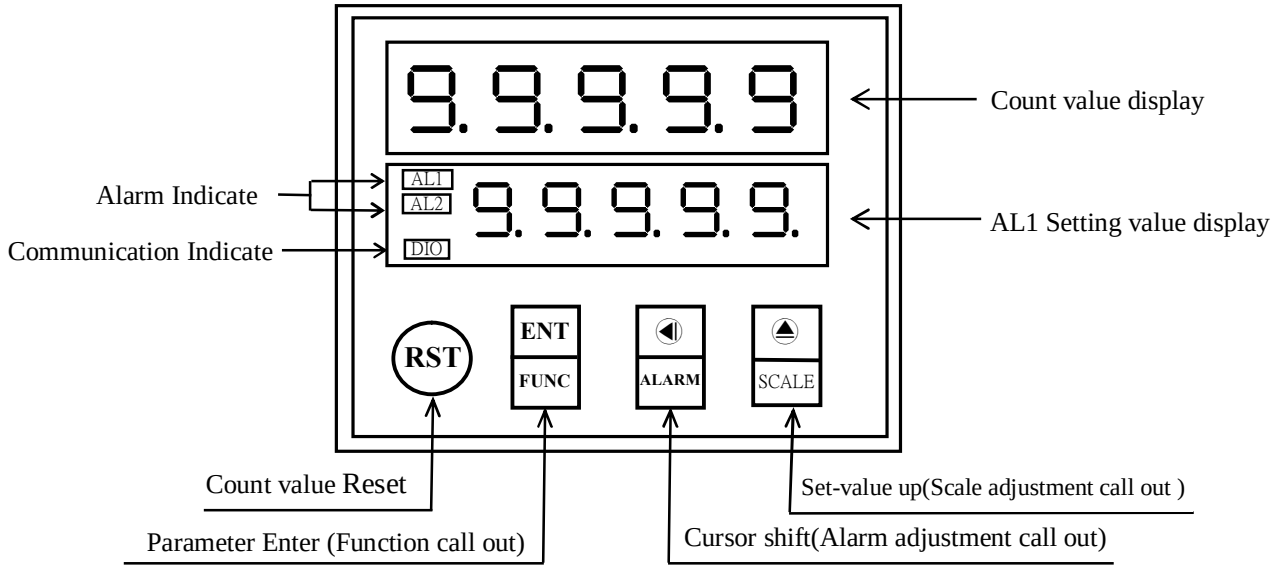
AXE High Speed Microprocess Length,Flow Controller Meter(48x48mm) MMC48 Series

■FEATURES

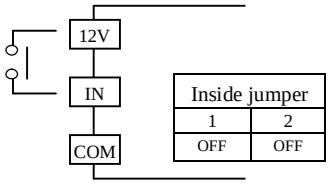
◎ Accepts input rates up to 50KHz
◎ Accept more type sensors(switch,encoder ,proximity switch,é etc) finish length/flow control
◎ Readout Range from -19999 to 99999
◎ Five counting modes,Front/after edge Up,Up/Down, direct-Up/Down ,Quadrature-Up/Down can be modified
◎ Power down saving
◎ Decimal Point 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,
◎ Two alarm function
◎ RS485 Communication interface,Protocol MODBUS RTU MODE
◎ BAUD RATE:38400/19200/9600/4800/2400
◎ 0.4" 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

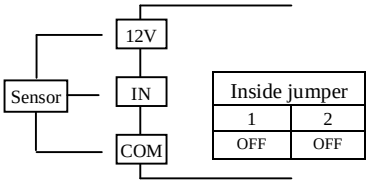


■Connect Diagram

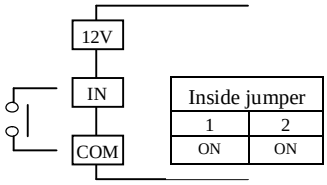
◎ Contact input (PNP)



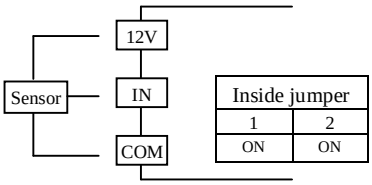
◎ Sensor input (PNP 5V/12V)



◎ Contact input (NPN)



◎ Sensor input (NPN 5V/12V)



■ Inside jumper illustrates

1 Position 1 ON : IN1 input NPN,OFF = PNP
2 Position 2 ON : IN2 input NPN,OFF = PNP

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.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 ◀ 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 ▲ 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),If the setting value have negative,Shift cursor(twinkle express) to the leftest and Press▲ key can positive / negative number alternate display
◀&▲ 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,but if in Setting page the modify data will be lost

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	12345	Press ENT/FUNC key into P.CODE setting page
2	P.CODE(Pass code setting page)	P.CodE 00000	1.Key in 5 digit pass code with ◀ or ▲ key 2.Press ENT key,If the pass code is right into setting group , otherwise return normal display
3	SYS(System setting group)	SYS	1. Select setting group with ◀ key 2. Press ENT key into setting page of selection setting group
	ROP(Alarm setting group)	roP	
	AOP(Analog output setting group)	AoP	
	DOP(Communication setting group)	doP	
4	SYS(System setting group)	SYS	1.Press ◀ key decide SYS setting group , press ENT key into Dp setting page
4-1	DP(Decimal Point setting page) Default = 0	dP 0.	1. Decide decimal point position with ▲ key (0 to 4) 2. Press ENT key enter data and into TYPE setting page
4-2	TYPE(Input Type setting page) Default = 1U2D	tYPE 1U2d	1.Decide input type with ▲ key (1U2G/1G2U/1U2D/1P2D/1A2B) 2.Press ENT key enter data and into CNTS setting page
4-3	CNTS(Count Rates Select) Default = 50KHZ	CntS 50kHz	1.Decide Count Rates with ▲ key (50HZ,50KHZ) 2.Press ENT key enter data and into CODE setting page
4-4	CODE(Pass Code setting page) Default = 0	CodE 00000	1.Decide pass code with ◀ or ▲ key(0~99999) 2.Press ENT key enter data and into LOCK setting page
4-5	LOCK(Panel Lock setting page) Default = NO	LoCk no	1.Decide panel lock with ▲ key(NO or YES) 2.Press ENT key enter data and return SYS setting group
5	ROP(Alarm setting group)	roP	1.Press ◀ key decide ROP setting group,press ENT key into ACT1 setting page
5-1	ACT1(Alarm Active 1 setting page) Default = HI	ACt 1 Hi	1.Decide active 1 with ▲ key(HI or LO) 2.Press ENT key enter data and into ACT2 setting page
5-2	ACT2(Alarm Active 2 setting page) Default = HI	ACt2 Hi	1.Decide active 2 with ▲ key(HI or LO) 2.Press ENT key enter data and into HYS1 setting page
5-3	HYS1(Alarm Hysteresis 1 setting page) Default = 0	HyS 1 000	1.Decide Hysteresis 1 with ◀ or ▲ key(0~999) 2.Press ENT key enter data and into HYS2 setting page
5-4	HYS2(Alarm Hysteresis 2 setting page) Default = 0	HyS2 000	1.Decide Hysteresis 2 with ◀ or ▲ key(0~999) 2.Press ENT key enter data and into DEL1 setting page
5-5	DEL1(Alarm Delay 1 setting page) Default = 0	dEL 1 000.0	1.Decide delay 1 with ◀ or ▲ key(-99.9~99.9 sec) 2.Press ENT key enter data and into DEL2 setting page Note : -0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time

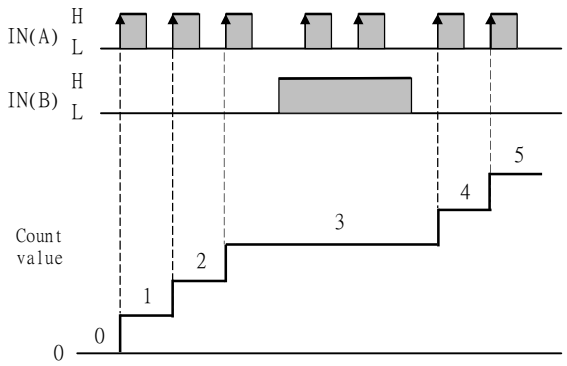
5-6	DEL2(Alarm Delay 2 setting page) Default = 0	dEL2 000.0	1.Decide delay 2 with ◀ or ▲ key(-99.9~99.9 sec) 2.Press ENT key enter data and return ROP setting group Note : -0.1 ~ -99.9 sec = Alarm active time 0.1 ~ 99.9 sec = Alarm delay time
6	AOP(Analog output setting group)	AoP	1.Press ◀ key decide AOP setting group , press ENT key into ANLO setting page
6-1	ANLO(A/O Zero According to Display setting page) Default = 0	AnLo 00000	1.Decide ANLO with ◀ or ▲ key(-19999~99999) 2.Press ENT key enter data and into ANHI setting page
6-2	ANHI(A/ O Span According to Display setting page) Default = 99999	AnHi 99999	1.Decide ANHI with ◀ or ▲ key(-19999~99999) 2.Press ENT key enter data and into AZERO setting page
6-3	AZERO(Analog Output Zero Adjustment page) Default = 0	AZEro 00000	1.Adjustment analog output zero with ◀ or ▲ key(±5999) 2.Press ENT key enter data and into ASPAN adjustment page
6-4	ASPAN(Analog Output Span Adjustment page) Default = 0	ASPAn 00000	1.Adjustment analog output span with ◀ or ▲ key(±5999) 2.Press ENT key enter data and return AOP setting group
7	DOP(Communication setting group)	doP	1.Press ◀ key decide DOP setting group,press ENT key into ADDR setting page
7-1	ADDR(Communication ï Address setting page) Default = 0	Addr 000	1.Decide address with ◀ or ▲ key(0~255) 2.Press ENT key enter data and into BAUD setting page Note:If the setting value greater then 255,it will be return to zero.
7-2	BAUD(Communication Baud Rate setting page) Default = 19200	bAUd 19200	1.Decide baud rate with ▲ key(38400,19200,9600,4800,2400) 2.Press ENT key enter data and into PARI setting page
7-3	PARI(Communication Parity Check setting page) Default = n82	PAri n.8.2.	1.Decide parity check with ▲ key(n.8.2.,n.8.1.,even,odd) 2.Press ENT key enter data and return DOP setting group
Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	12345	1.Press ◀/ALARM key about 3 sec,into AL1 setting page
8-1	AL1 (Alarm value 1 setting page) Default = 0	AL 1 00000	1.Decide alarm value 1 with ◀ or ▲ key(-19999~99999) 2.Press ENT key enter data and into AL2 setting page
8-2	AL2 (Alarm value 2 setting page) Default = 0	AL2 00000	1.Decide alarm value 2 with ◀ or ▲ key(-19999~99999) 2.Press ENT key enter data and return normal display
Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	12345	Press ▲/D-ADJ key about 3 sec,into SCALE setting page
9-1	SCALE (Display Scale setting page) Default = 1.0000	SCALE 1.0000	1.Decide display scale with ◀ or ▲ key(0.0001~9.9999) 2.Press ENT 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 no YES	1.External interference when EEPROM read/write 2.EEPROM write over 100000 times(guarantee 10 years) Please power reset,if still display E-00,doing following step: 1. E-00 & No display for inquire reset EEPROM 2. Decide Yes with ▲ key ,press ENT key return normal display 3. EEPROM was reset,Please follow step 1~9 set again

■ Input Type and Count Value

UP(Increment)Type

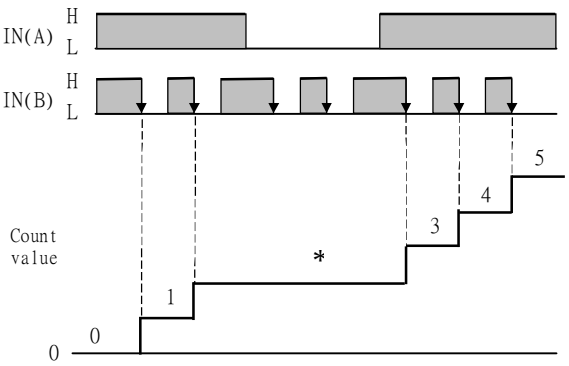
1U2G(PNP)

IN(A):Count input; IN(B):Prohibit(gate)input



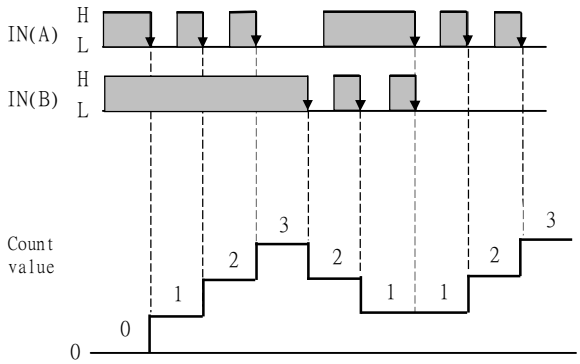
1G2U(NPN)

IN(A):Prohibit(gate)input; IN(B):Count input

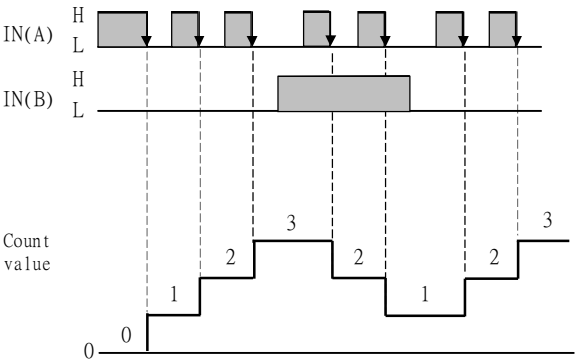


UP/DOWN Type

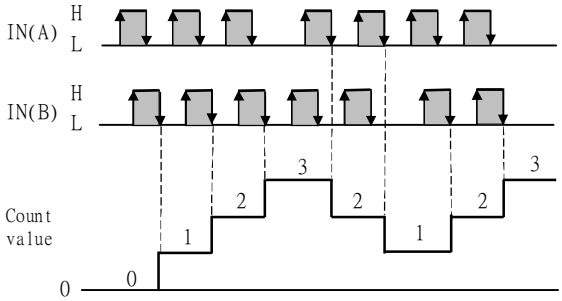
1U2D



1P2D



1A2B(x4 mode)



MMC48 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,Input Range 0000~0004(0~4)(0:10^{0},1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4})	R/W
0001	TYPE	Input Type,Input Range 0000~0004(0~4)(0:1U2G,1:1G2U,2:1U2D,3:1P2D,4:1A2B)	R/W
0002	LOCK	Panel Lock,Input Range 0000~0001(0~1)(NO/YES)	R/W
0003	CNTS	Count Rates Select,Input Range 0000~0001(0~1)(0:50HZ,1::50KHZ)	R/W
0004	ACT1	Alarm Active 1,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0005	ACT2	Alarm Active 2,Input Range 0000~0001(0~1)(0:HI,1:LO),	R/W
0006	HYS1	Alarm hysteresis 1,Input Range 0000~03E7(0~999)	R/W
0007	HYS2	Alarm hysteresis 2,Input Range 0000~03E7(0~999)	R/W
0008	DEL1	Alarm Delay 1,Input Range FC19~03E7(-99.9~99.9)	R/W
0009	DEL2	Alarm Delay 2,Input Range FC19~03E7(-99.9~99.9)	R/W
000A	ADDR	Communication Address,Input Range 0000~00FF(0~255)	R/W
000B	BAUD	Communication Baud Rate,Input Range 0000~0004(0~4)(0:38400,1:19200,2:9600,3:4800,4:2400)	R/W
000C	PARI	Communication Parity Check,Input Range 0000~0003(0~3)(0:N82,1:N81,2:EVEN,3:ODD)	R/W
000D	A_ZERO	Analog Output Zero Adjust,Input Range E891~176F(-5999~5999)	R/W
000E	A_SPAN	Analog Output Span Adjust,Input Range E891~176F(-5999~5999)	R/W
000F	CODE	Pass Code,Input Range 00000000~0001869F(0~99999)high word	R/W
0010		Pass Code,Input Range 00000000~0001869F(0~99999)low word	R/W
0011	SCALE	Scale,Input Range 00000001~0001869F(0.0001~9.9999)high word	R/W
0012		Scale,Input Range 00000001~0001869F(0.0001~9.9999)low word	R/W
0013	ANLO	Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0014		Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0015	ANHI	Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0016		Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0017	AL1	Alarm 1,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0018		Alarm 1,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0019	AL2	Alarm 2,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
001A		Alarm 2,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
001B	DISP	Display Value,Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
001C		Display Value,Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
001D	STATUS	Alarm Status,Display Range 0000~000F(0~15)Bit0:AL1,Bit1:AL2,Bit2:DOFL,Bit3:-DOFL	R
001E	RST	Write = 0001(Function 06), Count Value Reset	W