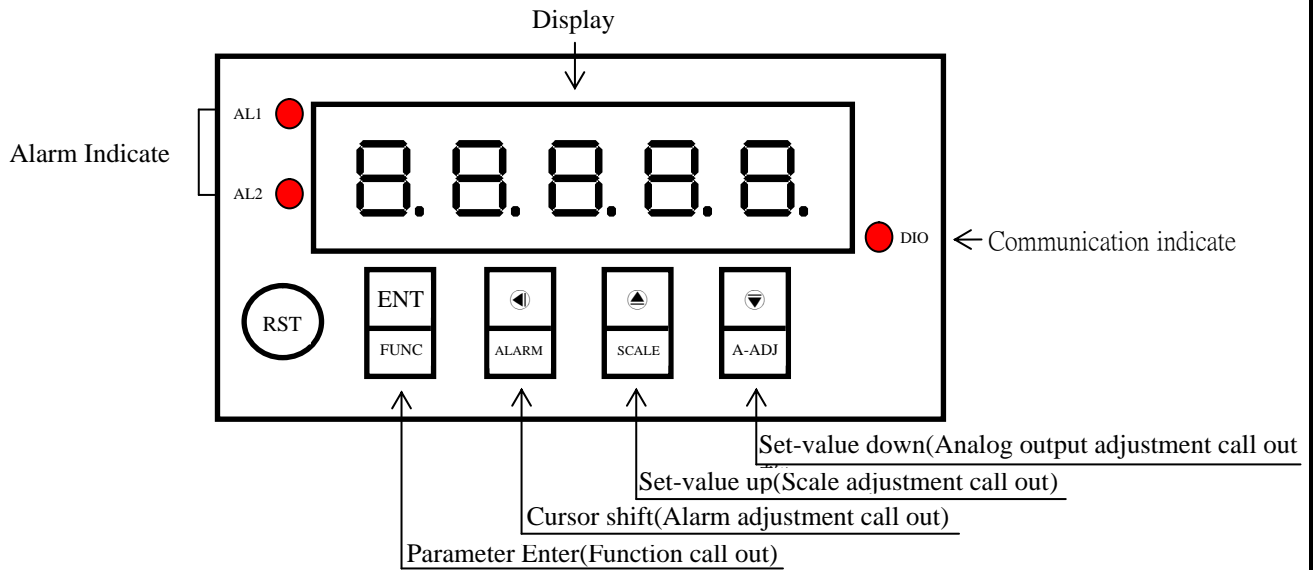


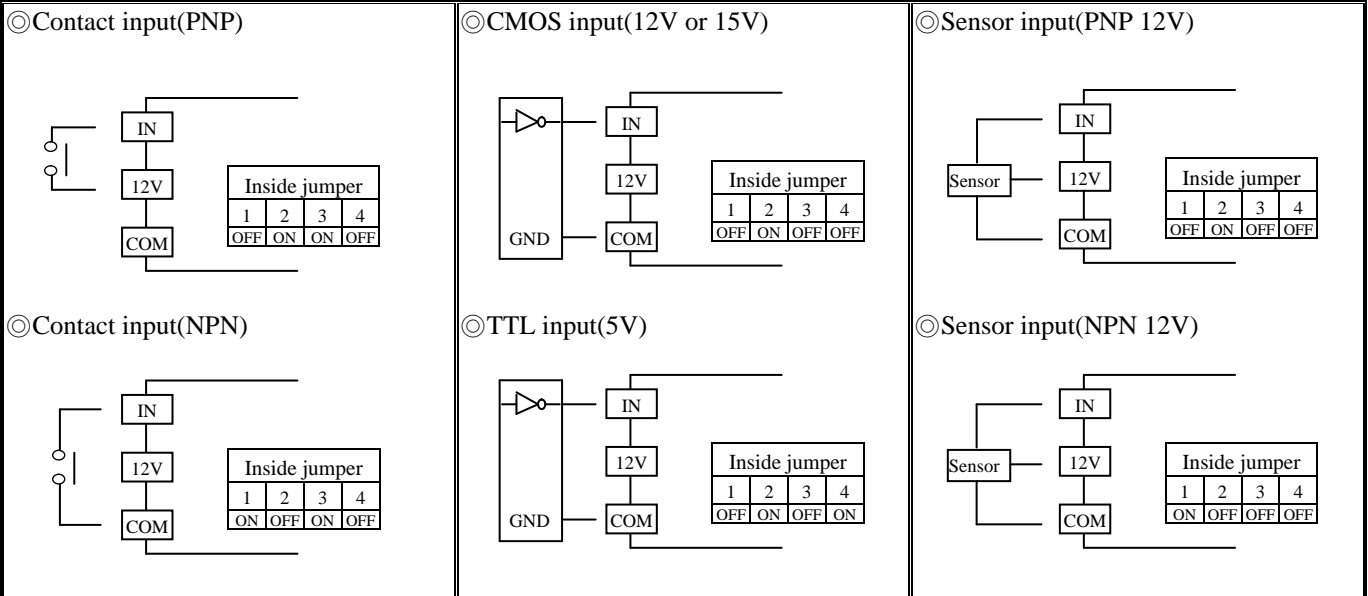
**Features**

- ⊙ Accept more type sensors(switch,encoder,proximity switch ,i etc)finish RPM/LINE SPEED control
- ⊙ Accuracy 0.03% F.S.
- ⊙ Input range(0~30KHz)
- ⊙ Readout range(-19999~99999)
- ⊙ RPM or LINE and LINE-SPEED unit can be modified
- ⊙ Daul input math function B/A,(B/A)-1,1-(B/A),B/(A+B)
- ⊙ Input pulse per revolution can be modified (1~99999)
- ⊙ Diameter(LINE-SPEED)/scale(RPM) can be modified (0.0001~9.9999)
- ⊙ 16BIT DAC analog output can be modified
- ⊙ Two alarm function
- ⊙ RS485 communication interface,Protocol MODBUS RTU MODE
- ⊙ BAUD RATE:19200/9600/4800/2400
- ⊙ 0.56" highlight display
- ⊙ Decimal point can be modified
- ⊙ Display avrage times can be modified (1~99)
- ⊙ 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**



**Input function jumper table**

<input type="checkbox"/>	<input type="checkbox"/>	4	Position 4	ON: TTL	OFF:CMOS
<input type="checkbox"/>	<input type="checkbox"/>	3	Position 3	ON: 0~50Hz	OFF:0~30KHz
<input type="checkbox"/>	<input type="checkbox"/>	2	Position 2	ON: PNP	
<input type="checkbox"/>	<input type="checkbox"/>	1	Position 1	ON: 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	1.In normal display,The key function is call out adjustment analog output ZERO&SPAN 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,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⬆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)Default=0	d P	1.Decide decimal point position with⬆or⬇key (0 to 4) 2.PressⓂkey enter data and into TYPE setting page
		0.	
4-2	TYPE(Display Type) Default=RPM	t Y P E	1.Decide display type with⬆or⬇key(RPM/LINE) 2.PressⓂkey enter data,If select LINE into UNIT setting page, otherwise into PPR-A setting page
		r P ñ	
4-3	UNIT(Line Speed Unit) Default=METER	U n i t	1.Decide line speed unit with ⬆or⬇key(METER/FOOT/YARD) 2.PressⓂkey enter data and into PPR-A setting page
		ñ E t E r	
4-4	PPR-A(Pulse Per Revolution -A) Default=1	P P r - A	1.Decide pulse per revolution-A with⏪&⬆&⬇key(1~99999) 2.PressⓂkey enter data and into PPR-B setting page
		0 0 0 0 1	
4-5	PPR-B(Pulse Per Revolution -B) Default=1	P P r - b	1.Decide pulse per revolution-B with⏪&⬆&⬇key(1~99999) 2.PressⓂkey enter data and into MODE setting page
		0 0 0 0 1	
4-6	MODE(mode) Default=A	ñ o d e	1.Decide display mode with⬆&⬇key A (Display frequency of A) B (Display frequency of B) B-A (Display frequency of B-A) (B/A)x100 (display input (B/A)*100) (B/A-1)x100 [display input (B/A-1)*100] (B/(A+B))x100 [display input (B/(A+B))*100] (1-B/A)x100 [display input (1-B/A)*100] 2. PressⓂkey enter data and into TBASE setting page
		A	

4-7	TBASE (Sampling Time Base) Default=0.1	T B A S E	1.Decide sampling time base with ◀&▶&▼key(0.1~99.9 sec) 2.Press Ⓜkey enter data and into AVG setting page
		0 0 0 0 . 1	
4-8	AVG (Display Average times) Default=5	A V G	1.Decide display average times with ◀&▶&▼key(1~99) 2.Press Ⓜkey enter data and into CODE setting page
		0 0 0 0 5	
4-9	CODE(Pass Code) Default=0	C O D E	1.Decide pass code with ◀&▶&▼key(0~99999) 2.Press Ⓜkey enter data and into LOCK setting page
		0 0 0 0 0	
4-10	LOCK(Panel Lock) Default=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 ) Default =HI	A C T 1	1.Decide active 1 with ▶or▼key(HI or LO) 2.Press Ⓜkey enter data and into ACT2 setting page
		H ,	
5-2	ACT2(Alarm Active 2 setting page ) Default =HI	A C T 2	1.Decide active 2 with ▶or▼key(HI or LO) 2.Press Ⓜkey enter data and into HYS1 setting page
		H ,	
5-3	HYS1(Alarm Hysteresis 1 setting page) Default =0	H Y S 1	1.Decide Hysteresis 1 with ◀or▶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) Default =0	H Y S 2	1.Decide Hysteresis 2 with ◀or▶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) Default =0	d E L 1	1.Decide delay 1 with ◀or▶or▼key(0~99.9 sec) 2.Press Ⓜkey enter data and into DEL2 setting page
		0 0 0 0 . 0	
5-6	DEL2(Alarm Delay 2 setting page) Default =0	d E L 2	1.Decide delay 2 with ◀or▶or▼key(0~99.9sec) 2.Press Ⓜkey enter data and return ROP setting group
		0 0 0 0 . 0	
6	AOP(Analog output setting group)	A o p	Press ◀key decide AOP setting group , press Ⓜkey into ANLO setting page
6-1	ANLO(A/O Zero According to Display setting page) Default=0	A n L o	1.Decide ANLO with ◀or▶or▼key(-19999~99999) 2.Press Ⓜkey enter data and into ANHI setting page
		0 0 0 0 0	
6-2	ANHI(A/ O Span According to Display setting page) Default =99999	A n H ,	1.Decide ANHI with ◀or▶or▼key(-19999~99999) 2.Press Ⓜkey enter data and return AOP setting group
		9 9 9 9 9	
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	A d d r	1. Decide ADDR with ◀&▶&▼key (0~255) 2. Press Ⓜkey enter data and into BAUD setting page
		0 0 0 0 0	
7-2	BAUD(Communication Baud Rate) Default=19200	b A U D	1. Decide BAUD with ▶&▼key (19200,9600,4800,2400) 2. Press Ⓜkey enter data and into PARI setting page
		1 9 2 0 0	
7-3	PARI(Communication Parity Check) Default=n.8.2.	P A R ,	1. Decide PARI with ▶&▼key(n.8.2,n.8.1,even,odd) 2. Press Ⓜkey enter data and return DOP setting group
		n . 8 . 2 .	
Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	1 2 3 4 5	Press ◀/ALARM key about 3 sec,into AL1 setting page

8-1	AL1 (Alarm value 1 setting page) Default =0	AL1	1.Decide alarm value 1 with ◀ or ▲ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into AL2 setting page
		00000	
8-2	AL2 (Alarm value 2 setting page) Default =0	AL2	1.Decide alarm value 2 with ◀ or ▲ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and return normal display
		00000	
Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	12345	Press ▲/SCALE key about 3 sec,into SCL-A setting page
9-1	SCL-A (Display Scale A setting page) Default =1	SCL-A	1.Decide SCL-A with ◀ or ▲ or ▼ key(0.0001~9.9999) 2.Press Ⓜ key enter data and into SCL-B setting page
		1.0000	
9-2	SCL-B (Display Scale B setting page) Default =1	SCL-B	1.Decide SCL-B with ◀ or ▲ or ▼ key(0.0001~9.9999) 2.Press Ⓜ key enter data and return normal display RPM(scale = 0.0001~9.9999), LINE-SPEED(rotation diameter = 0.0001~9.9999M)
		1.0000	
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	AZERO	1.Adjustment analog output zero with ◀ or ▲ or ▼ key(±6000) 2.Press Ⓜ key enter data and into ASPAN adjustment page
		00000	
10-2	ASPAN(Analog Output Span Adjustment page) Default =0	ASPAN	1.Adjustment analog output span with ◀ or ▲ or ▼ key(±6000) 2.Press Ⓜ key enter data and return normal display
		00000	
Appendix	Error Mark description	Error Mark	Analyze & Description
1	Input over range error detect	10FL	Input signal over range(0~30KHz)
2	Display over range error detect	doFL	Input signal over display range (over 99999 or under -19999)
3	EEPROM error detect	E-00	1.External interference when EEPROM read/write 2.EEPROM write over 1 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
		no	
		YES	

# MMX-R Modbus RTU Mode Protocol Address Map

Data format 16Bit/32Bit,sign bit

8000~7FFF( 632768~32767 )/80000000~7FFFFFFF(-2147483648~2147483647)

Address	Name	Description	Accep
0000	PARI	Bit 0 and 1,PARI, Input Range 00:N82,01:N81,10:EVEN,11:ODD	R/W
	BAUD	Bit 2 and 3, BAUD, Input Range 01:19200,01:9600,10:4800,11:2400	R/W
	TYPE	Bit 4 ,TYPE, Input Range 0:RPM,1:LINE	R/W
	UNIT	Bit 5 and 6, UNIT, Input Range 00:METER,01:FOOT,10:YARD	R/W
	ACT1	Bit 7, ACT1, Input Range 0:HI,1:LO	R/W
0001	DP	Bit 0 ,1, 2, DP, Input Range 000:10 <sup>0</sup> ,001:10 <sup>-1</sup> ,010:10 <sup>-2</sup> ,011:10 <sup>-3</sup> ,100:10 <sup>-4</sup>	R/W
	LOCK	Bit 3 ,LOCK, Input Range 0:NO,1:YES	R/W
	MODE	Bit 4,5,6, MODE, Input Range 000:A , 001:B , 010:B-A , 011:B/A , 100:B/A-1,101:B/(A+B),110:1-B/A	R/W
	ACT2	Bit 7, ACT2, Input Range 0:HI,1:LO	R/W
0002	AVG	AVG, Input Range 0001~0063(0~99)	R/W
0004	ADDR	ADDR, Input Range 0000~00FF(0~255)	R/W
0006	TBASE	TBASE, Input Range 0001~03E7(1~999)	R/W
0008	HYS1	HYS1, Input Range 0000~03E7(0~999)	R/W
000A	HYS2	HYS2, Input Range 0000~03E7(0~999)	R/W
000C	DEL1	DEL1, Input Range 0000~03E7(0~999)	R/W
000E	DEL2	DEL2, Input Range 0000~03E7(0~999)	R/W
0010	AZERO	AZERO, Input Range E890~1770(-6000~6000)	R/W
0012	ASPAN	ASPAN, Input Range E890~1770(-6000~6000)	R/W
0014	PPR-A	PPR-A, Input Range 00000001~0001869F(1~99999)	R/W
0018	CODE	CODE, Input Range 00000000~0001869F(0~99999)	R/W
001C	SCL-A	SCALE-A, Input Range 00000001~0001869F(1~99999)	R/W
0020	AL1	AL1, Input Range FFFFB1E1~0001869F(-19999~99999)	R/W
0024	AL2	AL2, Input Range FFFFB1E1~0001869F(-19999~99999)	R/W
0028	ANLO	ANLO, Input Range FFFFB1E1~0001869F(-19999~99999)	R/W
002C	ANHI	ANHI , Input Range FFFFB1E1~0001869F(-19999~99999)	R/W
0030	DISPLAY	DISPLAY,Display Range FFFFB1E1~0001869F(-19999~99999)	R
0034	PPR-B	PPR-B, Input Range 00000001~0001869F(1~99999)	R/W
0038	SCL-B	SCALE-B, Input Range 00000001~0001869F(1~99999)	R/W