

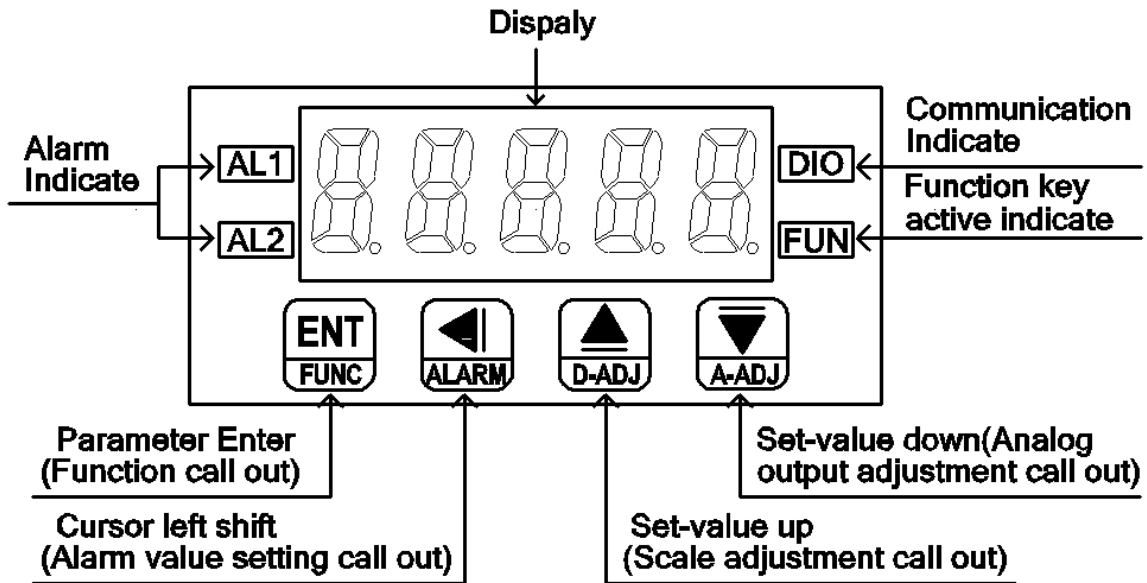
AXE SLIM TYPE FREQUENCY ISOLATED TRANSMITTER & CONTROLLER METER RELAY SMFTR Series

Features

Accept more type sensors(switch,encoder,proximity switch, etc)finish frequency isolated transmit
 Accuracy 0.03% F.S.
 Frequency input range(0.01~50KHz), Readout range(0~99999)
 Programmable display value/According output Decimal point
 Display scale decimal point can be modified
 Display scale can be modified(1~99999)
 Sampling time base can be modified(0.1~99.9 sec)
 Display avrage times can be modified(1~99)

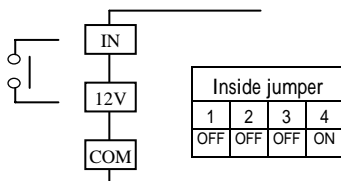
16 BIT DAC analog output
 RS485 communication interface,Protocol MODBUS RTU MODE
 BAUD RATE:19200/9600/4800/2400
 0.268 " LED highlight display
 Man-machine interface,easy to operate
 EEPROM Saving,data safekeeping about 10 years
 Modified inside parameter,must have pass code

Name of Parts

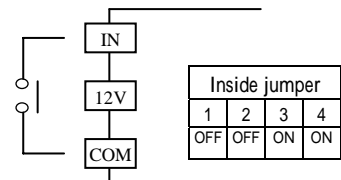


Connect Diagram

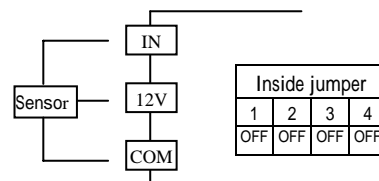
Contact input (PNP)



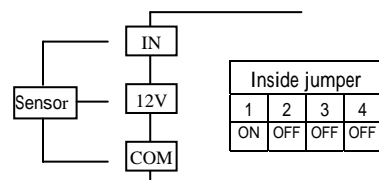
Contact input (NPN)



Sensor input (PNP 12V)



Sensor input (NPN 12V)



Input function jumper table

	1	Position 1	Sensor input (CPS=50000)	ON: NPN	OFF: PNP
	2	Position 2	Sensor input (CPS=50000)	ON: 0~50Hz	OFF: 0~50KHz
	3	Position 3	Contact input (CPS=50)	ON: NPN	OFF: PNP
	4	Position 4	Contact input (CPS=50)	ON: 0~50Hz	OFF: 0~50KHz

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 ◀ 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.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)
▼ 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 ▼ 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	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

Inside parameter operate procedure

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	1 2 3 4 5	1.Press [ENT]/FUNC key into P.COD setting page
2	P.COD(Pass Code) Default = 0	P . C O D	1.Key in 5 digit pass code with ◀&▲&▼ key 2.Press [ENT] key,If the pass code is correct then 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 [ENT] key into setting page of selection setting group
	ROP(Alarm output 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	1.Press ◀ key decide SYS setting group 2.Press [ENT] key into CPS setting page
4-1	CPS(Counter Pulse/Second) Default = 50000	C P S	1. Decide Counter Pulse/Second with ▲&▼ key (50/50000) 2.Press [ENT] key enter data and into DP setting page
		5 0 0 0 0	
4-2	DP(Decimal Point) Default = 0	d P	2. Decide decimal point position with ▲&▼ key (0 to 4) 2.Press [ENT] key enter data and into S.DP setting page
		0.	
4-3	S.DP(SCALE Decimal Point) Default = 0	S . d P	1.Decide SCALE Decimal Point with ▲&▼ key (0 to 4) 2.Press [ENT] key enter data and into SCALE setting page
		0.	
4-4	SCALE(Display Scale) Default = 1	S C A L E	1.Decide display scale with ◀&▲&▼ key (1~99999) 2.Press [ENT] key enter data and into TBASE setting page
		0 0 0 0 1	
4-5	TBASE(Time Base) Default = 0.1	t b a s e	1.Decide Time Base with ◀&▲&▼ key (0.1~99.9 sec) 2.Press [ENT] key enter data and into AVG setting page
		0 0 0 0 . 1	
4-6	AVG(Average) Default = 5	A V G	1.Decide display Average times with ◀&▲&▼ key (1~99) 2.Press [ENT] key enter data and into CODE setting page
		0 0 0 0 5	
4-7	CODE(Pass Code) Default = 0	C o d e	1.Decide Pass code with ◀&▲&▼ key (0~99999) 2.Press [ENT] key enter data and into LOCK setting page
		0 0 0 0 0	
4-8	LOCK(Panel Lock) Default = NO	L o C K	1.Decide panel lock with ▲&▼ key (NO or YES) 2.Press [ENT] key enter data and return SYS setting group
		n o	
5	ROP(Alarm Output setting group)	r o P	1.Press ◀ key decide ROP setting group 2.Press [ENT] key into ACT1 setting page
5-1	ACT1(Alarm 1 Active) Default = HI	A C T 1	1.Decide Alarm 1 Active with ▲&▼ key (HI or LO) 2.Press [ENT] key enter data and into ACT2 setting page
		H I	
5-2	ACT2(Alarm 2 Active) Default = HI	A C T 2	1.Decide Alarm 2 Active with ▲&▼ key (HI or LO) 2.Press [ENT] key enter data and into HYS1 setting page
		H I	

5-3	HYS1(Alarm 1 Hysteresis) Default = 0	H Y S 1	1.Decide Alarm 1 Hysteresis with ◀&▲&▼ key (0~999) 2.Press Ⓜ key enter data and into HYS2 setting page
		0 0 0 0 0	
5-4	HYS2(Alarm 2 Hysteresis) Default = 0	H Y S 2	1.Decide Alarm 2 Hysteresis with ◀&▲&▼ key (0~999) 2.Press Ⓜ key enter data and into DEL1 setting page
		0 0 0 0 0	
5-5	DEL1(Alarm 1 Delay time) Default = 0	d E L 1	1.Decide Alarm 1 Delay time with ◀&▲&▼ key (0~99.9 sec) 2.Press Ⓜ key enter data and into DEL2 setting page
		0 0 0 0 . 0	
5-6	DEL2(Alarm 2 Delay time) Default = 0	d E L 2	1.Decide Alarm 2 Delay time with ◀&▲&▼ key (0~99.9 sec) 2.Press Ⓜ key enter data and return ROP setting group
		0 0 0 0 . 0	

6	AOP(Analog Output setting group)	A 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	A n L O	1.Decide Analog Output Zero-According to Display with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key enter data and into ANHI setting page
		0 0 0 0 0	
6-2	ANHI(Analog Output Span-According to Display) Default = 99999	A n H I	1.Decide Analog Output Span-According to Display with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key 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 address 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 rate 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 I	1. Decide parity check 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	1.Press ◀/ALARM about 3 sec, into AL1 setting page
8-1	AL1 (Alarm 1) Default = 0	A L 1	1.Decide alarm 1 value with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key enter data and into AL2 setting page
		0 0 0 0 0	
8-2	AL2 (Alarm 2) Default = 0	A L 2	1.Decide alarm 2 value with ◀&▲&▼ key (0~99999) 2.Press Ⓜ key enter data and return normal display
		0 0 0 0 0	

Step	Parameter Mark Description	Parameter Mark	Operation Manual
9	Normal display	1 2 3 4 5	1.Press ▼/A-ADJ key about 3 sec, into AZERO adjustment page
9-1	AZERO(Analog Output Zero Adjust) Default = 0	A Z E R O	1.Adjust analog output zero with ◀&▲&▼ key (±6000) 2.Press Ⓜ key enter data and into ASPAN adjustment page
		0 0 0 0 0	
9-2	ASPAN(Analog Output Span Adjust) Default = 0	A S P A N	1.Adjust analog output span with ◀&▲&▼ key (±6000) 2.Press Ⓜ key enter data and return normal display
		0 0 0 0 0	

Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	i o F L	1.Input signal over range(0~50KHz)
2	Display over error detect	d o F L	1.Display over range(99999)
4	EEPROM error detect	E - 0 0	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 below step: a.E-00 & No alternate display for inquire reset EEPROM b.Decide Yes with ▲&▼ key,press Ⓜ key return normal display c.EEPROM was reset,Please follow step 1~9 setting again
		n o	
		Y E S	

SMFTR 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	ACT1	Alarm 1 Active, Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0001	ACT2	Alarm 2 Active, Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0002	CPS	Counter Pulse/Second, Input Range 0000~0001(0~1) 0:50Hz,1:50000Hz	R/W
0003	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
0004	SDP	SCALE 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
0005	LOCK	Panel Lock, Input Range 0000~0001(0~1)0:NO,1:YES	R/W
0006	BAUD	Communication Baud Rate, Input Range 0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
0007	PAR1	Communication Parity Check, Input Range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
0008	AVG	Average, Input Range 0001~0063(1~99)	R/W
0009	TBASE	Time Base, Input Range 0000~03E7(1~999)	R/W
000A	ADDR	Communication Address, Input Range0000~00FF(0~255)	R/W
000B	HYS1	Alarm 1 Hysteresis, Input Range0000~03E7(0~999)	R/W
000C	HYS2	Alarm 2 Hysteresis, Input Range0000~03E7(0~999)	R/W
000D	DEL1	Alarm 1 Delay time, Input Range0000~03E7(0~999)	R/W
000E	DEL2	Alarm 2 Delay time, Input Range0000~03E7(0~999)	R/W
000F	AZERO	Analog Output Zero Adjust, Input RangeE890~1770(-6000~6000)	R/W
0010	ASPAN	Analog Output Span Adjust, Input RangeE890~1770(-6000~6000)	R/W
0011	CODE	Pass Code, Input Range00000000~0001869F(0~99999)high word	R/W
0012		Pass Code, Input Range00000000~0001869F(0~99999)low word	R/W
0013	SCALE	Display Scale, Input Range00000001~0001869F(1~99999)high word	R/W
0014		Display Scale, Input Range00000001~0001869F(1~99999)low word	R/W
0015	AL1	Alarm 1, Input Range00000000~0001869F(0~99999)high word	R/W
0016		Alarm 1, Input Range00000000~0001869F(0~99999)low word	R/W
0017	AL2	Alarm 2, Input Range00000000~0001869F(0~99999)high word	R/W
0018		Alarm 2, Input Range00000000~0001869F(0~99999)low word	R/W
0019	ANLO	Analog Output Zero-According to Display, Input Range00000000~0001869F(0~99999)high word	R/W
001A		Analog Output Zero-According to Display, Input Range00000000~0001869F(0~99999)low word	R/W
001B	ANHI	Analog Output Span-According to Display, Input Range00000000~0001869F(0~99999)high word	R/W
001C		Analog Output Span-According to Display, Input Range00000000~0001869F(0~99999)low word	R/W
001D	DISPLAY	Normal display, Display Range 00000000~0001869F(0~99999)high word	R
001E		Normal display, Display Range 00000000~0001869F(0~99999)low word	R
001F	STATUS	Alarm & display status, Display Range 0000~03FF(0~1023), Bit 0:Alarm 1, Bit 1: Alarm 2, Bit 2:DOFL, Bit 3:IOFL	R