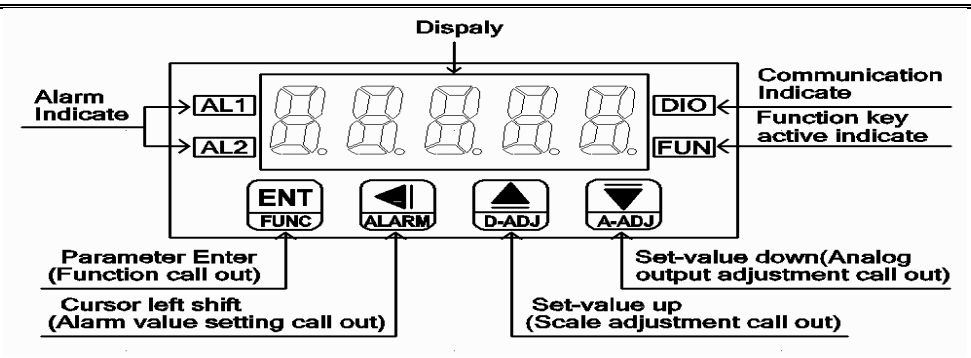
AXE SLIM TYPE SPECICAL FUNCTION ISOLATED TRANSMITTER & CONTROLLER METER RELAY SSFTR Series

■ Features

◎Specical function Ramp buffer/Delay buffer/Maximum hold	◎16 Bit DAC analog output function
/Minimun hold/Hold/Track	◎RS485 communication interface,Protocol MODBUS RTU MODE
◎Accuracy 0.05% FS ± 1 digit	◎BAUD RATE:19200/9600/4800/2400
◎Programmable display range -19999~99999 digit	◎0.268" LED highlight display
◎Decimal point can be modified	◎Man-machine interface ,easy to operate
◎Programmable Display average times (1~99)	◎EEPROM Saving ,data safekeeping about 10 years
◎Two Alarm provide with Active delay and hysteresis function	◎Modified inside parameter must have pass code

■ Name Of Parts



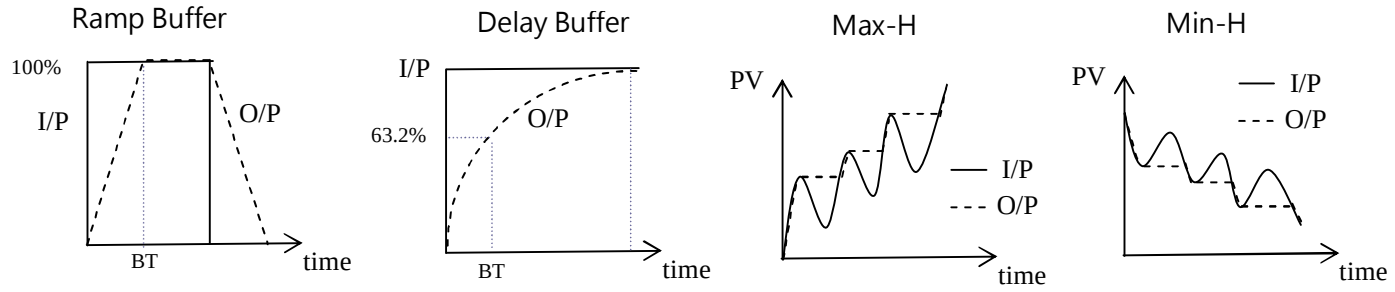
Note:When the normally displayed, Press the ▲& ▼ key at the same time for more than 5 seconds to clear the current maximum hold/minimum hold value and renew the maximum hold/minimum hold value.

■ Alarm Function

◎ACT = HI
- ●Display value ≧ setting value + DEL(Delay time) → RELAY ON
- ●Display value < setting value - HYS(Hysteresis) → RELAY OFF

◎ACT = LO
- ●Display value < setting value + DEL(Delay time) → RELAY ON
- ●Display value ≧ setting value + HYS(Hysteresis) → RELAY OFF

■ Description of Special Function Mode (SF)



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.In normal display,The key function is call out adjustment display value (DZERO&DSPAN) 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 be 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 be 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 2.When the normally displayed, Press the ▲&▼ key at the same time for more than 5 seconds to clear the current maximum hold/minimum hold value and renew the maximum hold/minimum hold value.
No key in anything	1.In setting group or setting page no key in anything about 2 minutes, return normal display

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■ Inside parameter operate procedure

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	12345	1.Press ENT/FUNC key into P.COD setting page
2	P.COD(Pass Code) Default = 0	P.Cod 00000	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
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 output 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 2.Press ENT key into SF setting page
4-1	SF(Special Function) Default =RAMP	SF rAmP	1.Decide special function with▲&▼key(Ramp,Delay,Max-H,Min-H,Hold) 2.Press ENT key enter data and into BT setting page Note:Ramp = Ramp buffer, Delay = Delay buffer
4-2	BT(Buffer time) Default = 2.0 sec.	bt 0002.0	1. Decide Buffer time with ◀&▲&▼ key (0.5 to 99.9 sec.) 2. Press ENT key enter data and into DP setting page Note:When SF=Max-H/Min-H/Hold ,this page does not exist
4-3	DP(Decimal Point) Default = 0	dP 0.	3. Decide decimal point position with ▲& ▼ key (0 to 4) 2.Press ENT key enter data and into DSPL setting page
4-4	DSPL(Display Lo Scale) Default = 0	dSPL 00000	1.Decide display low scale with ◀&▲&▼ key (-19999~99999) 2.Press ENT key enter data and into DSPH setting page
4-5	DSPH(Display Hi Scale) Default = 99999	dSPH 99999	1.Decide display high scale with ◀&▲&▼ key (-19999~99999) 2.Press ENT key enter data and into AVG setting page
4-6	AVG(Average) Default = 8	AuG 00008	1.Decide display Average times with ◀&▲&▼ key (1~99) 2.Press ENT key enter data and into LCUT setting page Note: When SF=Delay function, AVG setting has no effect
4-7	LCUT(Low Cut) Default = 0	LCUt 00000	1.Decide display low cut with ◀&▲&▼ key (0~99) 2.Press ENT key enter data and into CODE setting page Note:If display less then the setting,will be show 0,LCUT=0 function disable
4-8	CODE(Pass Code) Default = 0	CodE 00000	1.Decide Pass code with ◀&▲&▼ key (0~99999) 2.Press ENT key enter data and into LOCK setting page
4-9	LOCK(Panel Lock) 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 Output setting group)	roP	1.Press ◀ key decide ROP setting group 2.Press ENT key into ACT1 setting page
5-1	ACT1(Alarm 1 Active) Default = HI	ACt1 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 2 Active) 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 1 Hysteresis) Default = 0	HYS1 00000	1.Decide HYS1 with ◀&▲&▼ key (0~999) 2.Press ENT key enter data and into HYS2 setting page
5-4	HYS2(Alarm 2 Hysteresis) Default = 0	HYS2 00000	1.Decide HYS2 with ◀&▲&▼ key (0~999) 2.Press ENT key enter data and into DEL1 setting page
5-5	DEL1(Alarm 1 Delay time) Default = 0	dEL1 00000	1.Decide DEL1 with ◀&▲&▼ key (0~99 sec) 2.Press ENT key enter data and into DEL2 setting page
5-6	DEL2(Alarm 2 Delay time) Default = 0	dEL2 00000	1.Decide DEL2 with ◀&▲&▼ key (0~99 sec) 2.Press ENT key enter data and return ROP setting group

6	AOP(Analog Output setting group)	AoP	1.Press ◀ key select AOP setting group, 2.Press ENT key into ANLO setting page
6-1	ANLO(Analog Output Zero-According to Display) Default = 0	AnLo 00000	1.Decide ANLO with ◀&▲&▼ key (-19999~99999) 2.Press ENT key enter data and into ANHI setting page
6-2	ANHI(Analog Output Span-According to Display) Default = 99999	AnHi 99999	1.Decide ANHI with ◀&▲&▼ key (-19999~99999) 2.Press ENT key return AOP setting group

7	DOP(Communication setting group)	doP	1.Press ◀ key decide DOP setting group 2.Press ENT key into ADDR setting page
7-1	ADDR(Communication Address) Default = 0	Addr 00000	1. Decide address with ◀&▲&▼ key (0~255) 2. Press ENTkey enter data and into BAUD setting page
7-2	BAUD(Communication Baud Rate) Default = 19200	bAUd 19200	1. Decide baud rate with ▲&▼ key (19200,9600,4800,2400) 2. Press ENT key enter data and into PARI setting page
7-3	PARI(Communication Parity Check) Default = n.8.2.	PAr. 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 about 3 sec, into AL1 setting page
8-1	AL1 (Alarm 1) Default = 0	AL 1 00000	1.Decide Alarm 1 value with ◀&▲&▼ key (-19999~99999) 2.Press ENT key enter data and into AL2 setting page
8-2	AL2 (Alarm 2) Default = 0	AL2 00000	1.Decide Alarm 2 value with ◀&▲&▼ key (-19999~99999) 2.Press ENTkey enter data and return normal display

Step	Parameter Mark Description	Parameter Mark	Operation Manual
9	Normal display	12345	1.Press ▲/D-ADJ key about 3 sec,into DZERO adjustment page
9-1	DZERO(Display Zero Adjust) Default = 0	dZEro 00000	1.Adjust Display Zero with ▲&▼ key 2.Press ENT key enter data and into DSPAN adjustment page
9-2	DSPAN(Display Span Adjust) Default = 0	dSPAn 99999	1.Adjust Display Span with ▲&▼ key 2.Press ENT key enter data and return normal display

Step	Parameter Mark Description	Parameter Mark	Operation Manual
10	Normal display	12345	1.Press ▼/A-ADJ key about 3 sec, into AZERO adjustment page
10-1	AZERO(Analog Output Zero Adjust) Default = 0	AZEro 00000	1.Adjust analog output zero with ◀&▲&▼key (±6000) 2.Press ENT key enter data and into ASPAN adjustment page
10-2	ASPAn(Analog Output Span Adjust) Default = 0	ASPAn 00000	1.Adjust analog output span with ◀&▲&▼key (±6000) 2.Press ENTkey enter data and return normal display

Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	. oFL	1.Input signal over range
2	Display over error detect	doFL	Display over range(99999)
3	Display under error detect	-doFL	Display under range (-19999)
4	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 below step: a.E-00 & No alternate display for inquire reset EEPROM
		YES	b.Decide Yes with ▲or▼ key,press ENT key return normal display c.EEPROM was reset,Please follow step 1~10 set again

SSFTR 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	SF	Special Function,Input Range 0000~0004(0~4)(0:Ramp,1:Delay,2:Max-H,3:Min-H,4:HOLD	R/W
0001	ACT1	Active 1,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0002	ACT2	Active 2,Input Range 0000~0001(0~1)(0:HI,1:LO)	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	LOCK	Panel Lock,Input Range 0000~0001(0~1)0:NO,1:YES	R/W
0005	BAUD	Communication Baud Rate,Input Range 0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
0006	PARI	Communication Parity Check,Input Range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN,3:ODD	R/W
0007	AVG	Average,Input Range 0001~0063(1~99)	R/W
0008	LCUT	Low Cut,Input Range 0000~0063(0~99)	R/W
0009	ADDR	Communication Address,Input Range 0000~00FF(0~255)	R/W
000A	DEL1	Delay 1,Input Range 0000~0063(0~99)	R/W
000B	DEL2	Delay 2,Input Range 0000~0063(0~99)	R/W
000C	HYS1	Hysteresis 1,Input Range 0000~03E7(0~999)	R/W
000D	HYS2	Hysteresis 2,Input Range 0000~03E7(0~999)	R/W
000E	BT	Buffer time,Input Range 0005~03E7(5~999)	R/W
000F	AZERO	Analog Output Zero Adjust,Input Range E890~1770(-6000~6000)	R/W
0010	ASPAN	Analog Output Span Adjust,Input Range E890~1770(-6000~6000)	R/W
0011	CODE	Pass Code,Input Range 00000000~0001869F(0~99999)high word	R/W
0012		Pass Code,Input Range 00000000~0001869F(0~99999)low word	R/W
0013	DSPL	Display Lo Scale,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0014		Display Lo Scale,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0015	DSPH	Display Hi Scale,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0016		Display Hi Scale,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	ANLO	Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
001C		Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
001D	ANHI	Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
001E		Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
001F	DISPLAY	Display Value,Display Range, FFFFB1E1~0001869F(-19999~99999)high word	R
0020		Display Value,Display Range, FFFFB1E1~0001869F(-19999~99999)low word	R
0021	STATUS	Alarm status,Display Range 0000~03FF(0~1023) Bit 0:Alarm 1,Bit 1:Alarm 2,Bit 2:DOFL,Bit 3: -DOFL ,Bit 4: IOFL,Bit 5: -IOFLS	R