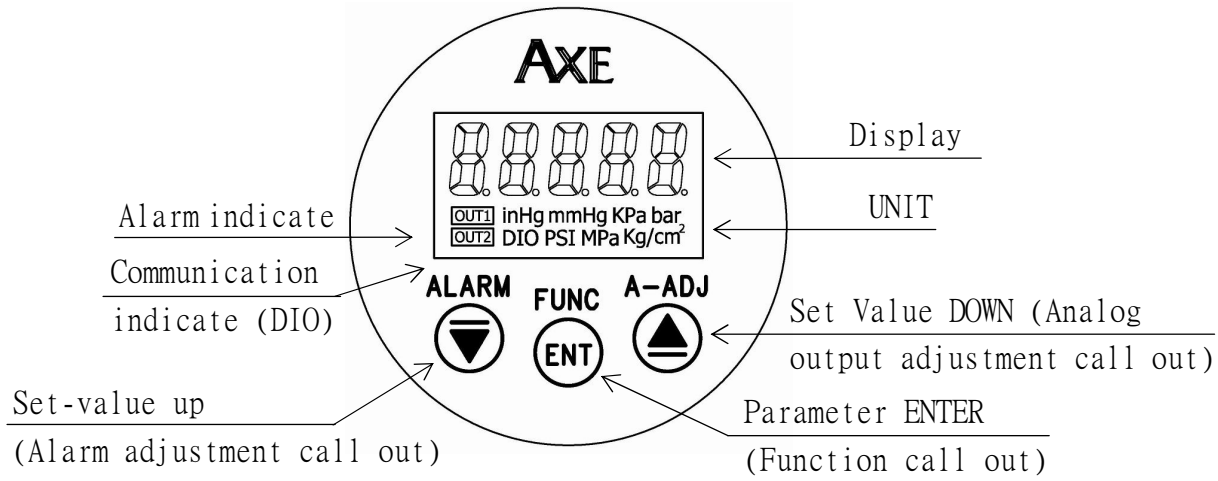
AXE DIGITAL PRESSURE GAUGE

SPD3 series

■ Features

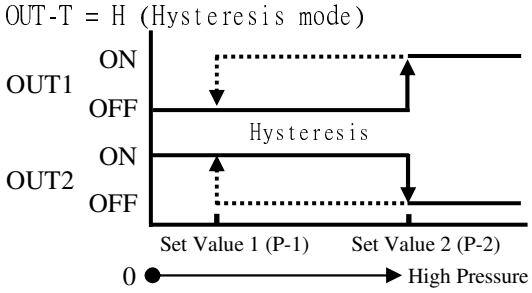
◎Auto change red or green display, when alarm status changes
◎Accuracy ±0.25% F.S.
◎Thick film strain gauge on ceramic and stainless steel (SUS316)
◎Pressure range from -1 to 250bar
◎Display pressure unit bar,Kg/cm^2,KPa,MPa,PSI,mmHg,inHg can be modified
◎Dual alarm function (optional)
◎16bit DAC analog output function (optional)
◎Digital RS-485 interface function (optional)
◎Protection class NEMA4/IP65

■ Name Of Parts

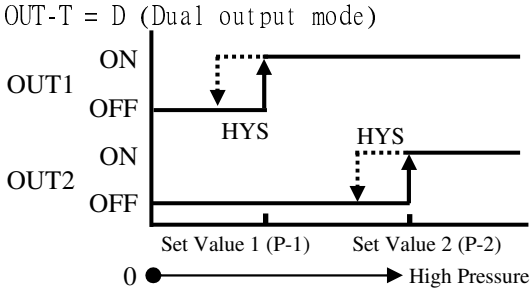


■ Alarm Output Type

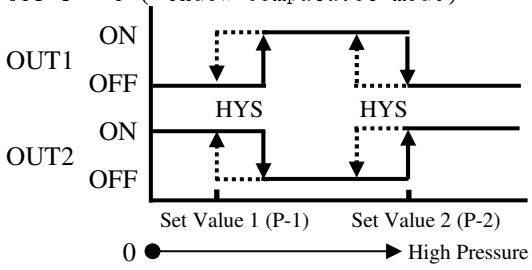
OUT-T = H (Hysteresis mode)



OUT-T = D (Dual output mode)



OUT-T = C (Window comparator mode)



Key Introduce	Operation Manual
㊎ Key Function	1.In normal display, The key function is call out setting page 2.In parameter setting page, The key function is data Enter , and go to next page
▲ 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 up key into setting procedure, The display is lock parameter data, press and hold, the parameter data will increment.
▼ Key Function	1.In normal display, The key function is call out alarm 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, press and hold , the parameter data will increment.
No Key in anything	In any setting page no key in anything about 2 minutes, return normal display

Step	Parameter Mark Description	Parameter Mark	Operation Manual
1	Normal display	12345	Press ㊎/Func key 3sec into PCODE setting page
1-1	P.COD(Pass code input page)	P.Cod 0	1.Key in 5 digit pass code with ▲&▼ key 2.Press ㊎ key, the pass code is right into RANGE page, otherwise return normal display
1-2	RANGE(Input range display)	rAnGE -1. 10.	1.Display input range(-1~2/-1~10/-1~50/0~250 Bar) 2.Press ㊎ key enter data and into UNIT setting page
1-3	UNIT(Display Unit) Default=bar	Uni t bAr	1. Decide display init with ▲&▼ key(bar, Kg/cm^2, KPa, MPa, PSI, mmHg, inHg) 2. Press ㊎ key enter data and into DP setting page
1-4	DP(Decimal point position) Default=2	dP 2.	1. Decide decimal point position with ▲&▼ key(0~4) 2. Press ㊎ key enter data and into LCUT setting page
1-5	LCUT(Display Low Cut) Default=0	LCUt 00000	1. Decide Display Low Cut with ▲&▼ key(0~999) 2. Press ㊎ key enter data and into IDC-T setting page
1-6	IDC-T(Display time) Default=0.5	idC-t 0.5	1. Decide display time with ▲&▼ key (0.1~9.9 sec) 2. Press ㊎ key enter data and into OUT-T setting page
1-7	Alarm output type OUT-T(Output type) Default=H	oUt-t H	1. Decide output type with ▲&▼ key (H, C, D) 2. Press ㊎ key enter data and into ANLO setting page
1-8	ANLO(Analog Output Zero According to Display) Default=0	AnLo 00000	1.Adjustment analog output zero with ▲&▼ key (-19999~99999) 2.Press ㊎ key enter data and into ANHI setting page
1-9	ANHI(Analog Output Span According to Display) Default=10000	AnHi 10000	1.Adjustment analog output span with ▲&▼ key (-19999~99999) 2.Press ㊎ key enter data and into ADDR setting page
1-10	ADDR(Communication Address setting page) Default=0	Addr 00000	1.Decide address with ▲&▼ key(0~255) 2.Press ㊎ key enter data and into BAUD setting page
1-11	BAUD(Communication Baud Rate setting page)Value on Default=19200	bAUd 19200	1.Decide baud rate with ▲&▼ key(19200,9600,4800,2400) 2.Press ㊎ key enter data and into PARI setting page
1-12	PARI(Communication Parity Check setting page)Default=n82	PAri n.8.2.	1.Decide parity check with ▲&▼ key(n82,n81,even,odd) 2.Press ㊎ key enter data and in to CODE setting page
1-13	CODE(Pass Code) Default=0	CodE 00000	1.Decide Pass code with ▲&▼ key (0~99999) 2.Press ㊎ key enter data and into LOCK setting page
1-14	LOCK(Panel Lock) Default=NO	LoCK no	1.Decide panel lock with ▲ or ▼ key (NO or YES) 2.Press ㊎ key enter data and return to normal display

Step	Parameter Mark Description	Parameter Mark	Operation Manual
2	Normal display	12345	Press ▼/A-ADJ key about 5 sec, into P-1 setting page
2-1	P-1(Set value 1)	P-1	1. Decide Set value 1 with ▲&▼ key (-19999~99999)
		12345	2..Press ENT key enter data and in to P-2 setting page
2-2	P-2(Set value 2)	P-2	1. Decide Set value 2 with ▲&▼ key (-19999~99999)
		12345	2..Press ENT key enter data and in to HYS setting page
2-3	Alarm output Hysteresis HYS(Hysteresis) Default=0	HYS	1. Decide output Hysteresis with ▲&▼ key (0~999)
		0	2. Press ENT key enter data and return to normal display

Step	Parameter mark description	Parameter mark	Operation manual
3	Normal display	12345	Press ▲/A-ADJ key about 5 sec, into AZERO adjustment page
3-1	AZERO(Analog output Zero Adjust)	AZERo	1.Adjustment analog output zero with ▲&▼ key
		00000	2. Press ENT key enter data and into ASPAN adjustment page
3-2	ASPAN(Analog output Span Adjust)	ASPAn	1.Adjustment analog output span with ▲&▼ key
		00000	2. Press ENT key enter data and into DZERO adjustment page
3-3	DZERO(Display Zero Adjust)	dZEro	1.Adjustment display zero with ▲&▼ key
		00000	2.Press ENT key enter data and into DSPAN setting page
3-4	DSPAN(Display Span Adjust)	dSPAn	1.Adjustment display span with ▲&▼ key
		00000	2.Press ENT key enter data and return to normal display

Appendix	Error Mark Description	Error Mark	Analyze & Description
1	Input over error detect	InoFL	Input signal over range(120%)
2	Input under error detect	-InoFL	Input signal under range(-20%)
3	Display over error detect	doFL	Display over range(99999)
4	Display under error detect	-doFL	Display under range(-19999)
5	A/D Converter error detect	AdEr	1. Input signal over range (180%) 2. Inside circuit damage Please moving input signal if still display ADER, please contact us
6	EEPROM error detect	E-00	1. Internal flash memory read/write 2. Flash memory write about 100 thousand times(guarantee 10 years) Please power reset, if still display E-00,doing following step: 1. E-00 & No alternate display for inquire reset FLASH memory 2. Decide Yes with ▲ or ▼ key, press ENT key return normal display 3. Flash memory was reset, Please follow step 1~12 set again
		no	
		YES	

Pressure Units Conversion Table						
bar	Kg/cm^2	KPa	MPa	PSI	mmHg	inHg
1	1.01972	100	0.1	14.5036	750.062	29.53

SPD3 Modbus RTU Mode Protocol Address Map

ata format 16/32Bit,sign bit 8000~7FFF(－32768~32767)/80000000~7FFFFFFF(-2147483648~2147483647)

Address	Name	Description	Accep
0000	RANGE	Pressure range, range 0000~0003(0~3) 0:-1~2bar, 1:-1~10bar, 2:-1~50bar, 3:0~250bar	R
0001	UNIT	Display unit, range 0000~0006(0~6) 0:bar, 1:Kg/cm^2, 2:Kpa, 3:Mpa, 4:mmHg, 5:PSI, 6:inHg	R/W
0002	DP	DP, range 0000~0004(0~4)0:10^0,1:10^{-1},2:10^{-2},3:10^{-3},4:10^{-4}	R/W
0003	OUT_T	OUT-T, range 0000~0002(0~2) 0:H, 1:C, 2:D	R/W
0004	ADDR	ADDR, range 0000~00FF(0~255)	R/W
0005	BAUD	BAUD, range 0000~0003(0~3)0:19200,1:9600,2:4800,3:2400	R/W
0006	PARI	PARI, range 0000~0003(0~3)0:N.8.2.,1:N.8.1.,2:EVEN(E81),3:ODD(O81)	R/W
0007	LOCK	LOCK, range 0000~0001(0~1) 0:NO 1:YES	R/W
0008	LCUT	LCUT, range 0000~03E8(0~999)	R/W
0009	IDC_T	IDC_T, range 0001~0063(1~99)	R/W
000A	HYS	HYS, range 0000~03E7(0~999)	R/W
000B	AZERO	AEZRO, range 0000~4E20(0~20000)	R/W
000C	ASPAN	ASPAN, range 4E20~FFFF(20000~65535)	R/W
000D	CJC	CJC, range FC19~03E7(-999~999), if temperature is 25.0℃ value is 250, 00FA(HEX)	R/W
000E	ANLO	ANLO, range FFFFB1E1~0001869F(-19999~99999)	R/W
0010	ANHI	ANHI, range FFFFB1E1~0001869F(-19999~99999)	R/W
0012	CODE	CODE, range 00000000~0001869F(0~99999)	R/W
0014	P-1	P-1, range FFFFB1E1~0001869F(-19999~99999)	R/W
0016	P-2	P-2, range FFFFB1E1~0001869F(-19999~99999)	R/W
001C	DISPLAY	DISPLAY, range FFFFB1E1~0001869F(-19999~99999)	R