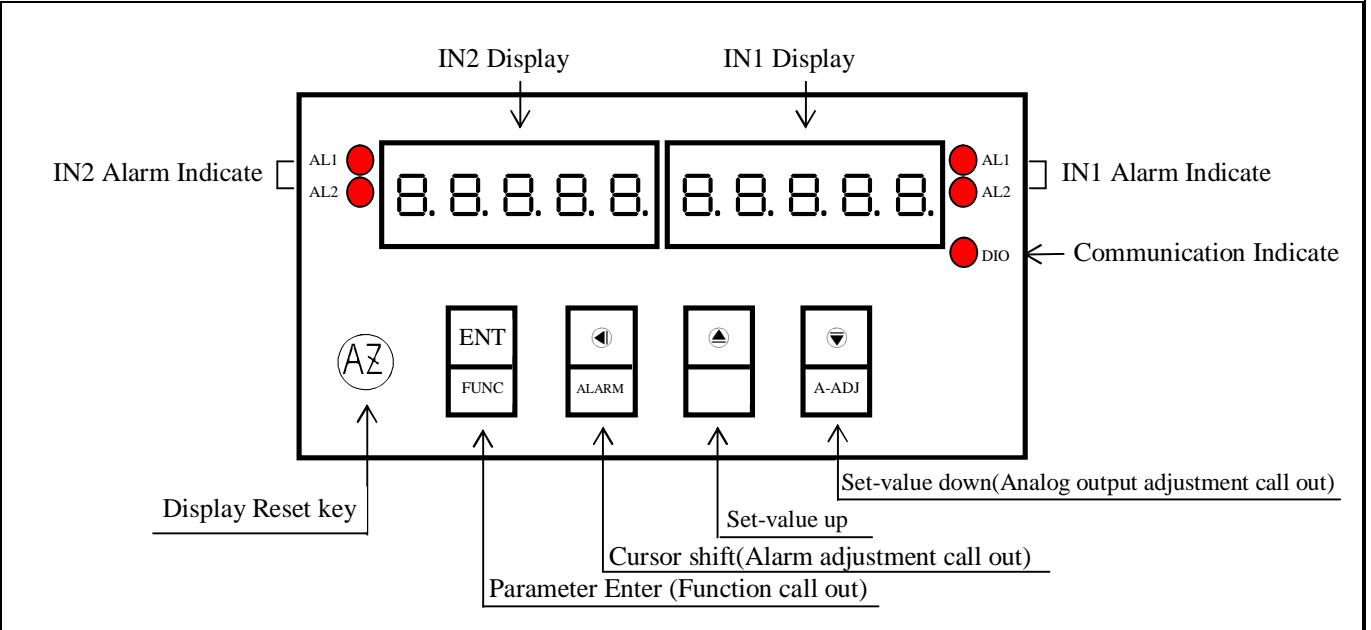


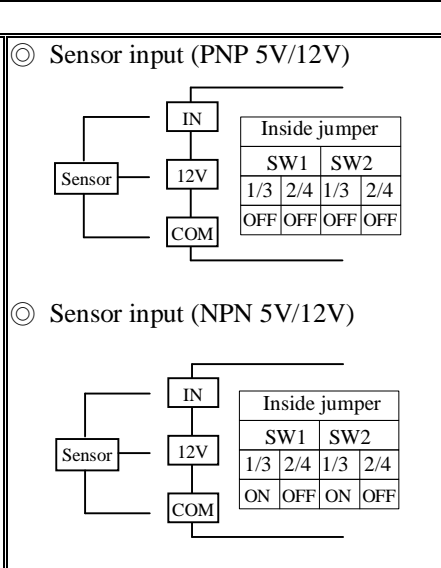
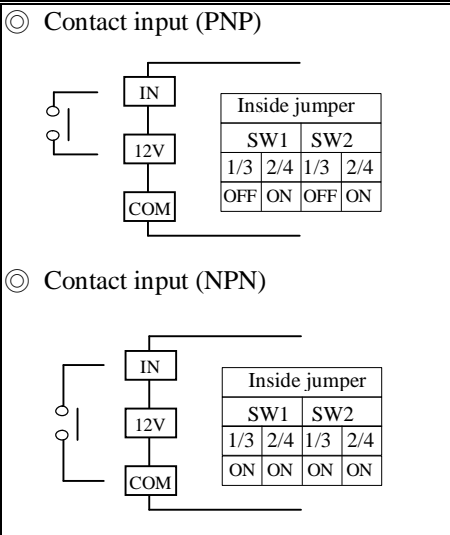
**FEATURES**

- ⊙ Dual input measuring and display sensor signal
- ⊙ Readout Range from -19999 to 99999
- ⊙ Three counting modes: 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
- ⊙ 2 set independent alarm outputs with delay/hysteresis function
- ⊙ RS485 Communication interface, Protocol MODBUS RTU  
MODE
- ⊙ BAUD RATE: 38400/19200/9600/4800/2400
- ⊙ 0.4" LED highlight display
- ⊙ Man-machine interface, easy to operate
- ⊙ EEPROM Saving, data safekeeping about 10 years
- ⊙ Modified inside parameter, must have pass code

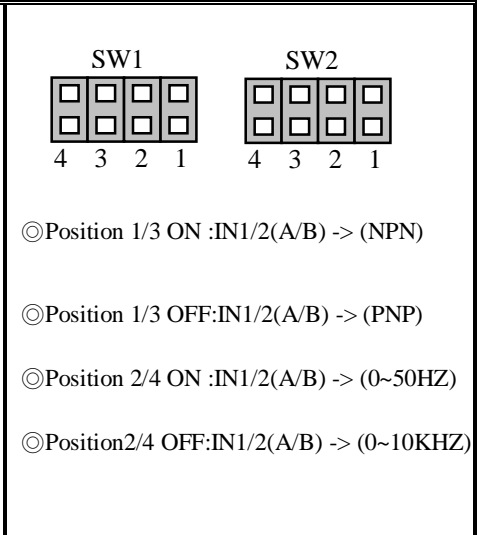
**Name of Parts**



**Connect Diagram**



**Input function jumper table**



**Alarm Function description**

- ⊙ When ACT=HI,DEL= 0 :  
Display value > Setting value(AL) + Hysteresis (HYS) → (Relay on)  
Display value <= Setting value(AL) - Hysteresis (HYS) → (Relay off)
- ⊙ When ACT=LO,DEL= 0 :  
Display value >= Setting value(AL) + Hysteresis (HYS) → (Relay off)  
Display value < Setting value(AL) - Hysteresis (HYS) → (Relay on)
- ⊙ When ACT=HI,DEL= 1 ~ 99 sec.:  
Display value > Setting value(AL) + Hysteresis (HYS) + Delay time(DEL) → (Relay on)  
Display value <= Setting value(AL) - Hysteresis (HYS) → (Relay off)
- ⊙ When ACT=LO,DEL= 1 ~ 99 sec.:  
Display value >= Setting value(AL) + Hysteresis (HYS) → (Relay off)  
Display value < Setting value(AL) - Hysteresis (HYS) + Delay time(DEL) → (Relay on)
- ⊙ When ACT=HI,DEL= -1 ~ -99 sec.:  
Display value > Setting value(AL) + Hysteresis (HYS) → (Relay one shoot(DEL) and then off)  
Display value <= Setting value(AL) - Hysteresis (HYS) → (Relay restore normal after the procedure)
- ⊙ When ACT=LO,DEL= -1 ~ -99 sec.:  
Display value >= Setting value(AL) + Hysteresis (HYS) → (Relay restore normal after the procedure)  
Display value < Setting value(AL) - Hysteresis (HYS) → (Relay one shoot(DEL) and then off)

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.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 AZERO&ASPAN 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	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	1 2 3 4 5	Press ☺/FUNC key into P.CODE setting page
2	P.CODE(Pass code input page)	P . C O D E	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	
	DOP(Communication setting group)	d o P	
	AOP(Analog output setting group)	A o P	
4	SYS(System setting group)	S Y S	Press ◀ key decide SYS setting group , press ☺ key into DP1 setting page
4-1	DP1(Decimal Point IN-1) Default = 0	d P 1	1. Decide Decimal Point IN-1 with ▲ or ▼ key (0 to 4) 2. Press ☺ key enter data and into DP2 setting page
		0.	
4-2	DP2(Decimal Point IN-2) Default = 0	d P 2	3. Decide Decimal Point IN-2 with ▲ or ▼ key (0 to 4) 4. Press ☺ key enter data and into TYPE setting page
		0.	
4-3	TYPE(Input Type) Default = 1U2D	t y P E	1. Decide input type with ▲ or ▼ key (1U2D,1P2D,1A2B) 2. Press ☺ key enter data and into SCL-A setting page
		1 U 2 d	
4-4	SCL-A (Scale-A) Default = 1.0000	S C L - A	1. Decide Scale-A with ◀ or ▲ or ▼ key (0.0001~9.9999) 2. Press☺key enter data and into SCL-B setting page
		1.0000	
4-5	SCL-B (Scale-B) Default = 1.0000	S C L - b	1. Decide Scale-B with ◀ or ▲ or ▼ key (0.0001~9.9999) 2. Press☺key enter data and into CODE setting page
		1.0000	
4-6	CODE(Pass Code) Default = 0	C o d e	1. Decide pass code with ◀ or ▲ or ▼ key(0~99999) 2. Press ☺ key enter data and into LOCK setting page
		0 0 0 0 0	
4-7	LOCK(Panel Lock) Default = NO	L o C K	1. Decide panel lock with ▲ or ▼ 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 ACT1.1 setting page

5-1	ACT1.1(Alarm Active 1-1) Default = HI	ACT 1.1 HI	1.Decide Alarm Active 1-1 with ▲ or ▼ key(HI or LO) 2.Press Ⓜ key enter data and into ACT1.2 setting page
5-2	ACT1.2(Alarm Active 1-2) Default = HI	ACT 1.2 HI	1.Decide Alarm Active 1-2 with ▲ or ▼ key(HI or LO) 2.Press Ⓜ key enter data and into ACT2.1 setting page
5-3	ACT2.1(Alarm Active 2-1) Default = HI	ACT 2.1 HI	1.Decide Alarm Active 2-1 with ▲ or ▼ key(HI or LO) 2.Press Ⓜ key enter data and into ACT2.2 setting page
5-4	ACT2.2(Alarm Active 2-2) Default = HI	ACT 2.2 HI	1.Decide Alarm Active 2-2 with ▲ or ▼ key(HI or LO) 2.Press Ⓜ key enter data and into HYS1.1 setting page
5-5	HYS1.1(Alarm Hysteresis 1-1) Default = 0	HYS 1.1 0000	1.Decide Hysteresis 1-1 with ◀ or ▲ or ▼ key(0~999) 2.Press Ⓜ key enter data and into HYS1.2 setting page
5-6	HYS1.2(Alarm Hysteresis 1-2) Default = 0	HYS 1.2 0000	1.Decide Hysteresis 1-2 with ◀ or ▲ or ▼ key(0~999) 2.Press Ⓜ key enter data and into HYS2.1 setting page
5-7	HYS2.1(Alarm Hysteresis 2-1) Default = 0	HYS 2.1 0000	1.Decide Hysteresis 2-1 with ◀ or ▲ or ▼ key(0~999) 2.Press Ⓜ key enter data and into HYS2.2 setting page
5-8	HYS2.2(Alarm Hysteresis 2-2) Default = 0	HYS 2.2 0000	1.Decide Hysteresis 2-2 with ◀ or ▲ or ▼ key(0~999) 2.Press Ⓜ key enter data and into DEL1.1 setting page
5-9	DEL1.1(Alarm Delay 1-1) Default = 0	DEL 1.1 0000	1.Decide Alarm Delay 1-1 with ◀ or ▲ or ▼ key(-99~99 sec) 2.Press Ⓜ key enter data and into DEL1.2 setting page Note:-1 ~ -99 sec = Alarm active time 1 ~ 99 sec = Alarm delay time
5-10	DEL1.2(Alarm Delay 1-2) Default = 0	DEL 1.2 0000	1.Decide Alarm Delay 1-2 with ◀ or ▲ or ▼ key(-99~99 sec) 2.Press Ⓜ key enter data and into DEL2.1 setting page Note:-1 ~ -99 sec = Alarm active time 1 ~ 99 sec = Alarm delay time
5-11	DEL2.1(Alarm Delay 2-1) Default = 0	DEL 2.1 0000	1.Decide Alarm Delay 2-1 with ◀ or ▲ or ▼ key(-99~99 sec) 2.Press Ⓜ key enter data and into DEL2.2 setting page Note:-1 ~ -99 sec = Alarm active time 1 ~ 99 sec = Alarm delay time
5-12	DEL2.2(Alarm Delay 2-2) Default = 0	DEL 2.2 0000	1.Decide Alarm Delay 2-2 with ◀ or ▲ or ▼ key(-99~99sec) 2.Press Ⓜ key enter data and return ROP setting group Note:-1 ~ -99 sec = Alarm active time 1 ~ 99 sec = Alarm delay time
6	DOP(Communication setting group)	d o p	press ◀ key decide DOP setting group,press Ⓜ key into ADDR setting page
6-1	ADDR(Communication Address) Default = 0	ADDR 0000	1.Decide Communication address with ◀ or ▲ or ▼ key(0~255) 2.Press Ⓜ key enter data and into BAUD setting page
6-2	BAUD(Communication Baud Rate) Default = 19200	BAUD 19200	1.Decide baud rate with ▲ or ▼ key(38400,19200,9600,4800,2400) 2.Press Ⓜ key enter data and into PARI setting page
6-3	PARI(Communication Parity Check) Default = n82	PARI n.8.2.	1.Decide parity check with ▲ or ▼ key(n82,n81,even,odd) 2.Press Ⓜ key enter data and return DOP setting group
7	AOP(Analog output setting group)	A o p	Press ◀ key decide AOP setting group , press Ⓜ key into AO.SEL setting page
7-1	AO.SEL(Analog Output Select) Default = IN1	AO.SEL IN1	1.Decide Analog Output Select with ▲ or ▼ key(IN1 or IN2) 2.Press Ⓜ key enter data and into ANLO setting page
7-2	ANLO(Analog Output Zero-	ANLO	1.Decide Analog Output Zero-According to Display with ◀ or ▲ or

	According to Display) Default = 0	0 0 0 0 0	▼ key(-19999~99999) 2.Press Ⓜ key enter data and into ANHI setting page
7-3	ANHI(Analog Output Span- According to Display) Default = 99999	A n H , 9 9 9 9 9	1.Decide Analog Output Span-According to Display with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and return AOP setting group
Step	Parameter mark description	Parameter mark	Operation manual
8	Normal display	1 2 3 4 5	Press ◀/ALARM key about 3 sec,into AL1-1 setting page
8-1	AL1-1 (IN1 Alarm value 1-1) Default = 0	A L 1 - 1 0 0 0 0 0	1.Decide IN1 alarm value 1-1 with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into AL1-2 setting page
8-2	AL1-2 (IN1 Alarm value 1-2) Default = 0	A L 1 - 2 0 0 0 0 0	1.Decide IN1 alarm value 1-2 with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into AL2-1 setting page
8-3	AL2-1 (IN2 Alarm value 2-1) Default = 0	A L 2 - 1 0 0 0 0 0	1.Decide IN2 alarm value 2-1 with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and into AL2-2 setting page
8-4	AL2-2 (IN2 Alarm value 2-2) Default = 0	A L 2 - 2 0 0 0 0 0	1.Decide IN2 alarm value 2-2 with ◀ or ▶ or ▼ key(-19999~99999) 2.Press Ⓜ key enter data and return normal display
Step	Parameter mark description	Parameter mark	Operation manual
9	Normal display	1 2 3 4 5	Press ▼/A-ADJ key about 3 sec, into AZERO adjustment page
9-1	AZERO(Analog Output Zero Adjustment page) Default = 0	A Z E R O 0 0 0 0 0	1.Adjustment analog output zero with ◀ or ▶ or ▼ key(±6000) 2.Press Ⓜ key enter data and into ASPAN adjustment page
9-2	ASPAN(Analog Output Span Adjustment page) Default = 0	A S P A N 0 0 0 0 0	1.Adjustment analog output span with ◀ or ▶ or ▼ key(±6000) 2.Press Ⓜ key enter data and return normal display
Appendix	Error Mark description	Error Mark	Analyze & Description
1	Display positive overflow detection error	d o F L	Input signal exceeds the maximum display range(99999)
2	Display negative overflow detection error	- d o F L	Input signal is below the minimum display range(-19999)
3	EEPROM error detect	E - 0 0 n o y e s	1.External interference during 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 to return normal display EEPROM was reset,Please follow steps 1~9 set again

## MMCD 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	DP1	IN1 Decimal Point,Input Range 0000~0004(0~4)(0:10 <sup>0</sup> ,1:10 <sup>-1</sup> ,2:10 <sup>-2</sup> ,3:10 <sup>-3</sup> ,4:10 <sup>-4</sup> )	R/W
0001	DP2	IN2 Decimal Point,Input Range 0000~0004(0~4)(0:10 <sup>0</sup> ,1:10 <sup>-1</sup> ,2:10 <sup>-2</sup> ,3:10 <sup>-3</sup> ,4:10 <sup>-4</sup> )	R/W
0002	TYPE	Input Type,Input Range 0000~0002(0~2)(0:1U2D,1:1P2D,2:1A2B)	R/W
0003	LOCK	Panel Lock,Input Range 0000~0001(0~1)(0:NO,1:YES)	R/W
0004	ACT1.1	Alarm Active 1-1,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0005	ACT1.2	Alarm Active 1-2,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0006	ACT2.1	Alarm Active 2-1,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0007	ACT2.2	Alarm Active 2-1,Input Range 0000~0001(0~1)(0:HI,1:LO)	R/W
0008	HYS1.1	Alarm Hysteresis 1-1,Input Range 0000~03E7(0~999)	R/W
0009	HYS1.2	Alarm Hysteresis 1-2,Input Range 0000~03E7(0~999)	R/W
000A	HYS2.1	Alarm Hysteresis 2-1,Input Range 0000~03E7(0~999)	R/W
000B	HYS2.2	Alarm Hysteresis 2-2,Input Range 0000~03E7(0~999)	R/W
000C	DEL1.1	Alarm Delay 1-1,Input Range FF9D~0063(-99~99)	R/W
000D	DEL1.2	Alarm Delay 1-2,Input Range FF9D~0063(-99~99)	R/W
000E	DEL2.1	Alarm Delay 2-1,Input Range FF9D~0063(-99~99)	R/W
000F	DEL2.2	Alarm Delay 2-2,Input Range FF9D~0063(-99~99)	R/W
0010	ADDR	Communication Address,Input Range 0000~00FF(0~255)	R/W
0011	BAUD	Communication Baud Rate,Input Range 0000~0004(0~4)(0:38400,1:19200,2:9600,3:4800,4:2400)	R/W
0012	PARI	Communication Parity Check,Input Range 0000~0003(0~3)(0:N82,1:N81,2:EVEN,3:ODD)	R/W
0013	AO.SEL	Analog Output Select,Input Range 0000~0001(0~1)(0:IN1,1:IN2)	R/W
0014	A_ZERO	Analog Output Zero Adjust,Input Range E890~1770(-6000~6000)	R/W
0015	A_SPAN	Analog Output Span Adjust,Input Range E890~1770(-6000~6000)	R/W
0016	CODE	Pass Code,Input Range 00000000~0001869F(0~99999)high word	R/W
0017		Pass Code,Input Range 00000000~0001869F(0~99999)low word	R/W
0018	SCL-A	Scale-A,Input Range 00000001~0001869F(1~99999)high word	R/W
0019		Scale-A,Input Range 00000001~0001869F(1~99999)low word	R/W
001A	SCL-B	Scale-B,Input Range 00000001~0001869F(1~99999)high word	R/W
001B		Scale-B,Input Range 00000001~0001869F(1~99999)low word	R/W
001C	AL1-1	IN1 Alarm value 1-1,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
001D		IN1 Alarm value 1-1,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
001E	AL1-2	IN1 Alarm value 1-2,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
001F		IN1 Alarm value 1-2,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0020	AL2-1	IN2 Alarm value 2-1,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0021		IN2 Alarm value 2-1,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0022	AL2-2	IN2 Alarm value 2-2,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0023		IN2 Alarm value 2-2,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0024	ANLO	Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0025		Analog Output Zero According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0026	ANHI	Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)high word	R/W
0027		Analog Output Span According to Display,Input Range FFFFB1E1~0001869F(-19999~99999)low word	R/W
0028	DISP1	IN1 Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
0029		IN1 Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
002A	DISP2	IN2 Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)high word	R
002B		IN2 Display Value, Display Range FFFFB1E1~0001869F(-19999~99999)low word	R
002C	STATUS	Display & Alarm Status, Display Range 0000~00FF(0~255) ,Bit0:AL1-1,Bit1:AL1-2,Bit2:AL2-1, Bit3:AL2-2,Bit4:DISP1 DOFL,Bit5:DISP1 -DOFL,Bit6:DISP2 DOFL,Bit7:DISP2 -DOFL	R
002D	RST	Write = 0001(Function 06) The displayed value will be reset	W