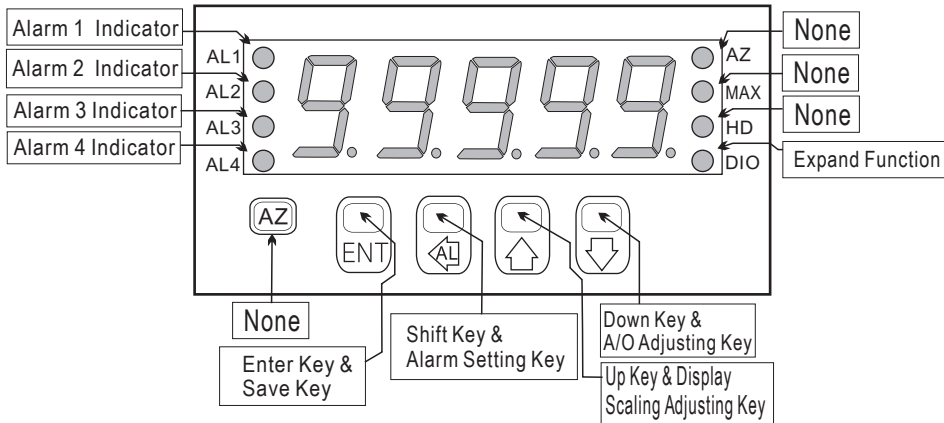


\*Please understand key indicators & functions at the first operation.

FRONT PANEL & KEY FUNCTIONS



Key Name	Symbol	Descriptions
Enter Key & Save Key	ENT	1. In the measuring status, press this key can enter to parameter pages. 2. In the parameter setting, press this key can save the value & go to next parameter.
Shift Key & Alarm Setting Key	AL	1. In the measuring status, press this key for 3 sec can enter to alarm setting page (The selecting digit will be flashed) 2. In the parameter setting, press this key can move the cursor left.
Up Key & Display Scaling Adjusting Key	↑	1. In the measuring status, press this key for 3 sec can enter to display scaling adjustment 2. In the parameter setting, press this key can increase the digits.
Down Key & A/O Adjusting Key	↓	1. In the measuring status, press this key for 3 sec can enter to analog output adjustment. 2. In the parameter setting, press this key can decrease the digits.

- \*\*1. The following block charts are parameters codes, parameter codes & parameters will alternate flashing if the parameters can be modified.
- 2. To modify the parameters, please press  $\leftarrow \uparrow \downarrow \rightarrow$ , and press ENT to save the parameter after the modification.
- 3. Please don't forget the new pass code after modification.
- 4. In any pages, press  $\uparrow$  &  $\downarrow$ , or don't press any keys for 2 minutes that will back to measuring status.

GENERAL MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
<b>Alarm Setpoint</b>			
Power ON	10000	Measuring Status	Present value for measurement.
Press $\leftarrow$ for 3 sec	AL 1	Alarm 1 Setpoint (AL1)	Press $\leftarrow \uparrow \downarrow$ to modify alarm 1 setpoint.
Press ENT	AL 2	Alarm 2 Setpoint (AL2)	Press $\leftarrow \uparrow \downarrow$ to modify alarm 2 setpoint.
Press ENT	AL 3	Alarm 3 Setpoint (AL3)	Press $\leftarrow \uparrow \downarrow$ to modify alarm 3 setpoint.
Press ENT	AL 4	Alarm 4 Setpoint (AL4)	Press $\leftarrow \uparrow \downarrow$ to modify alarm 4 setpoint.
Press ENT	<b>Scaling Adjustment</b>		
Power ON	10000	Measuring Status	Present value for measurement.
Press $\leftarrow$ for 3 sec	SCALE	Scale Coefficient Adjustment (SCALE)	Press $\leftarrow \uparrow \downarrow$ to modify scale coefficient 1 (0.0001 ~ 9.9999). PS: 1. In Frequency & RPM types, this coefficient can be modified for display value. (Please refer to Scaling Formula) 2. In Line-Speed type, this coefficient means "diameter" of the roll, the unit will be changed by selecting display unit. EX: If the display unit is "Meter", the diameter is also showed "Meter".
Press ENT	<b>Analog Output: "ZERO" &amp; "SPAN" Adjustment</b>		
Power ON	10000	Measuring Status	Present value for measurement.
Press $\leftarrow$ for 3 sec	AZEro	A/O Zero Adjustment (AZEro)	Press $\leftarrow$ to select adjusting speed rate, press $\uparrow \downarrow$ to modify the A/O zero. PS: To use this function to adjust the real A/O zero.
Press ENT	ASPA n	A/O Span Adjustment (ASPA n)	Press $\leftarrow$ to select adjusting speed rate, press $\uparrow \downarrow$ to modify the A/O span. PS: To use this function to adjust the real A/O span.

Remark: 1. There are 4 parameter groups of "System Setting Group(SYS)", "Alarm Setting Group(roP)", "Analog Output Setting Group (AoP)" & "RS485 Setting Group(doP)" for modification.  
2. Press  $\leftarrow$  to select each group page, and press ENT to enter each group or parameter page for modification or saving the parameters.  
3. Some of optional functions of parameter pages still exist, but the functions are disable.

PROGRAMMING MODE OPERATING PROCEDURES

Block Charts	Display	Descriptions	Default
<b>Parameter Group Setting Procedures</b>			
Power ON	10000	Measuring Status	Present value for measurement.
Press ENT	P.Cod	Pass Code (P.Cod)	Press $\leftarrow \uparrow \downarrow$ to enter pass code.
Press ENT	P.Code Correct	Pass code is correct that will enter to parameter groups. Pass code is wrong that will back to measuring status.	
NO	Back to measuring status		
YES	555 (SYS)	System Setting Group	
Press $\leftarrow$	roP	Alarm Setting Group	
Press $\leftarrow$	AoP	A/O Setting Group	
Press $\leftarrow$	doP	RS485 Setting Group	

	Display	Descriptions	Default
	<b>555</b>	<b>System Setting Group Procedures</b>	
	System Setting Page (SYS)		
Press ENT	<b>dP</b>	Decimal Point Setting (dP) Press $\uparrow$ $\downarrow$ to select decimal point (0, 1, 2, 3, 4). EX: if the value shows "0.00" that means the decimal point is 2 digits.	Customers specify
Press ENT	<b>tYPE</b>	Input Type Setting (tYPE) Press $\uparrow$ $\downarrow$ to modify the input type. (RPM/Linear-Speed/Frequency)	Customers specify
Press ENT	<b>Unit</b>	Line-Speed Unit Setting (Unit) Press $\uparrow$ $\downarrow$ to modify the unit of line-speed (Meter/Foot/Yard). <b>PS: Line-Speed type available</b>	Customers specify
Press ENT	<b>PPr</b>	PPR Setting (PPr) Press $\leftarrow$ $\uparrow$ $\downarrow$ to modify ppr (1~99999).	0000 1
Press ENT	<b>tbASE</b>	Sampling Time Base (tbASE) Press $\leftarrow$ $\uparrow$ $\downarrow$ to modify sampling time base (0.1~999.9 sec).	0000. 1
Press ENT	<b>AVG</b>	Display Average Setting (AVG) Press $\leftarrow$ $\uparrow$ $\downarrow$ to modify display average (1~99). PS: Please use this function for stable display value when input signal is unstable.	00005
Press ENT	<b>CodE</b>	Pass Code Setting (CodE) Press $\leftarrow$ $\uparrow$ $\downarrow$ to modify pass code (0~19999). PS: Please don't forget the new pass code after modification.	00000
Press ENT	<b>LoCK</b>	Key Lock Setting (LoCK) Press $\uparrow$ $\downarrow$ to lock the keys, using key lock function only can view the parameters, but cannot modify any values. PS: no (unlock), YES ("ENT" unlock, others lock).	no
		<b>Alarm Setting Group Procedures</b>	
	<b>roP</b>	<b>The following steps are only available for alarm output.</b>	
Press ENT	<b>ACt1</b>	Alarm 1 (ACt1)	Hi
	<b>ACt2</b>	Alarm 2 (ACt2)	
	<b>ACt3</b>	Alarm 3 (ACt3)	
	<b>ACt4</b>	Alarm 4 (ACt4)	
Press ENT	<b>HYS1</b>	Hysteresis 1 (HYS1)	00000
	<b>HYS2</b>	Hysteresis 2 (HYS2)	
	<b>HYS3</b>	Hysteresis 3 (HYS3)	
	<b>HYS4</b>	Hysteresis 4 (HYS4)	
Press ENT	<b>dEL1</b>	Delay Time 1 (dEL1)	00000
	<b>dEL2</b>	Delay Time 2 (dEL2)	
	<b>dEL3</b>	Delay Time 3 (dEL3)	
	<b>dEL4</b>	Delay Time 4 (dEL4)	

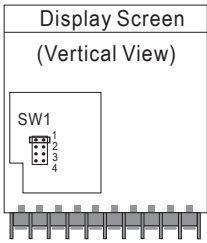
	Display	Descriptions	Default
	<b>RoP</b>	<b>A/O Setting Group Procedures</b>	
	A/O Setting Page (AoP)		
Press ENT	<b>PoLAr</b>	A/O Polarity Setting (PoLAr) Press $\uparrow$ $\downarrow$ to select output for positive or negative pole. PS: Voltage output, NO: positive pole output (0~+10V) YES: positive & negative pole output (-10~+10V)	no
Press ENT	<b>AnLo</b>	A/O Low Scale Setting (AnLo) Press $\leftarrow$ $\uparrow$ $\downarrow$ to adjust A/O low scale to correspond to the display value. EX: A/O is 0~10V, the display is 10.0 to output 0V, this value must be set for 10.0.	00000
Press ENT	<b>AnHi</b>	A/O Hi Scale Setting (AnHi) Press $\leftarrow$ $\uparrow$ $\downarrow$ to adjust A/O hi scale to correspond to the display value. EX: A/O is 0~10V, the display is 90.0 to output 10V, this value must be set for 90.0.	99999
		<b>RS485 Setting Group Procedures</b>	
	<b>doP</b>	<b>The following steps are only available for RS-485.</b>	
Press ENT	<b>Addr</b>	Address Setting (Addr) Press $\leftarrow$ $\uparrow$ $\downarrow$ to modify address (0~255).	00000
Press ENT	<b>bAUD</b>	Baud Rate Setting (bAUD) Press $\uparrow$ $\downarrow$ to select baud rate (38400/19200/9600/4800).	19200
Press ENT	<b>PARi</b>	Parity Setting (PARi) Press $\uparrow$ $\downarrow$ to select parity (n.8.2/n.8.1/even/odd).	n.8.2
Press ENT	<b>FrAmE</b>	Frame Setting (FrAmE) Press $\uparrow$ $\downarrow$ to select frame type. (NO:Hi→Lo, YES:Lo→Hi)	no

## ERROR CODE OF SELF-DIAGNOSIS

Display	Descriptions
<b>1oFL</b>	Input signal is over input range (0~100KHz).
<b>doFL</b>	Input signal is over display range (99999).
<b>E-00</b>	EEPROM reading/writing suffers the interference (about 1 million times).

\*\*Please check the wiring connection is correct first, if the problem still exist, please return the meter to the factory.

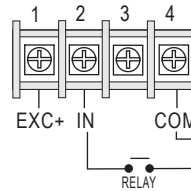
# INPUT SIGNAL MODIFICATION



**\*\*To Select the pin to modify the input signal for different sensors.**  
**PS: In dual input type, excitation power must be the same.**

SW1	JUMPER	DEFINITION
● ●	1	Open: 12V; Close: 5V
● ●	2	Open: 10 KHz; Close: 400Hz
● ●	3	Open: NPN; Close: PNP
● ●	4	Open: PNP; Close: NPN

**\*\*Connection:**

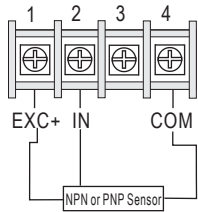


**Relay Contact: NPN 400 Hz**

JUMPER	SW1/SW2
1	● ●
2	■ ● ●
3	● ●
4	■ ● ●

**\*\*For relay input type, please select NPN 400 Hz.**

**\*\*Connection:**



**NPN (5V): 400 Hz**

JUMPER	SW1/SW2
1	■ ● ●
2	■ ● ●
3	● ●
4	■ ● ●

**NPN (5V): 10 KHz**

JUMPER	SW1/SW2
1	■ ● ●
2	■ ● ●
3	● ●
4	■ ● ●

**NPN (12V): 400 Hz**

JUMPER	SW1/SW2
1	● ●
2	■ ● ●
3	● ●
4	■ ● ●

**NPN (12V): 10 KHz**

JUMPER	SW1/SW2
1	● ●
2	● ●
3	■ ● ●
4	■ ● ●

**PNP (5V): 400 Hz**

JUMPER	SW1/SW2
1	■ ● ●
2	■ ● ●
3	■ ● ●
4	● ●

**PNP (5V): 10 KHz**

JUMPER	SW1/SW2
1	■ ● ●
2	● ●
3	■ ● ●
4	● ●

**PNP (12V): 400 Hz**

JUMPER	SW1/SW2
1	● ●
2	■ ● ●
3	■ ● ●
4	● ●

**PNP (12V): 10 KHz**

JUMPER	SW1/SW2
1	● ●
2	● ●
3	■ ● ●
4	● ●

## MODBUS RTU MODE PROTOCOL ADDRESS TABLE

Data: 16Bit/32Bit, +/- is 8000~7FFF (-32768~32767), 80000000~7FFFFFFF(-2147483648~2147483647)				
Modbus	HEX	Name	Descriptions	Act
40001	0000	ID	Model number identification; DC5H-R is "01"	R
40002	0001	STATUS	Current alarm output status display; range: 0000~00F0 (0~240) (0:OFF, 1:ON) (Bit7:AL4, Bit6:AL3, Bit5:AL2, Bit4:AL1)	R
40003	0002	DP	Decimal point setting; 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
40004	0003	TYPE	Input type setting; range: 0000~0002 (0~2) 0:RPM, 1:Liner-Speed, 2:Frequency	R/W
40005	0004	UNIT	Linear-Speed unit setting; range: 0000~0002 (0~2) 0:Meter, 1:Foot, 2:Yard	R/W
40006	0005	LOCK	Key lock setting; range: 0000~0001 (0~1) 0:NO, 1:YES	R/W
40007	0006	FRAME	Frame setting; range 0000~0001(0~1) 0:NO, 1:YES	R/W
40008	0007	ACT1	Alarm 1 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40009	0008	ACT2	Alarm 2 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40010	0009	ACT3	Alarm 3 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40011	000A	ACT4	Alarm 4 act setting; range 0000~0001(0~1) 0:Hi, 1:Lo	R/W
40012	000B	BAUD	Baud rate setting; range: 0000~0003 (0~3) 0:38400, 1:19200, 2:9600, 3:4800	R/W
40013	000C	PARI	Parity setting; range: 0000~0003 (0~3), 0:N.8.2., 1:N.8.1., 2:EVEN, 3:ODD	R/W
40014	000D	POLAR	Analog output polarity setting; range: 0000~0001 (0~1) 0:NO, 1:YES	R/W
40015	000E	AVG	Display average setting; range: 0001~0063 (1~99)	R/W
40016	000F	ADDR	Address setting; range: 0000~00FF (0~255)	R/W
40017	0010	DEL1	Alarm 1 act delay time setting; range: 0000~0063 (0~99)	R/W
40018	0011	DEL2	Alarm 2 act delay time setting; range: 0000~0063 (0~99)	R/W
40019	0012	DEL3	Alarm 3 act delay time setting; range: 0000~0063 (0~99)	R/W
40020	0013	DEL4	Alarm 4 act delay time setting; range: 0000~0063 (0~99)	R/W
40021	0014	TBASE	Sampling time base setting; range: 0001~270F (1~9999)	R/W
40022	0015	HYS1	Alarm 1 hysteresis setting; range: 0000~270F (0~9999)	R/W
40023	0016	HYS2	Alarm 2 hysteresis setting; range: 0000~270F (0~9999)	R/W
40024	0017	HYS3	Alarm 3 hysteresis setting; range: 0000~270F (0~9999)	R/W
40025	0018	HYS4	Alarm 4 hysteresis setting; range: 0000~270F (0~9999)	R/W
40026	0019	AZERO	Analog output zero setting; range: D8F1~270F (-9999~9999)	R/W
40027	001A	ASPAN	Analog output span setting; range: D8F1~270F (-9999~9999)	R/W
40028	001B	CODE	Pass code setting; range: 0000~4E1F (0~19999)	R/W
40029	001C	PPR	PPR setting; range: 00000001~0001869F (0~199999) Hi Bit	R/W
40030	001D		PPR setting; range: 00000001~0001869F (0~199999) Low Bit	R/W
40031	001E	SCALE	Display scaling setting; range: 00000001~0001869F (0~199999) Hi Bit	R/W
40032	001F		Display scaling setting; range: 00000001~0001869F (0~199999) Low Bit	R/W
40033	0020	AL1	Alarm 1 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit	R/W
40034	0021		Alarm 1 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit	R/W

Modbus	HEX	Name	Descriptions	Act
40035	0022	AL2	Alarm 2 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit	R/W
40036	0023		Alarm 2 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit	R/W
40037	0024	AL3	Alarm 3 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit	R/W
40038	0025		Alarm 3 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit	R/W
40039	0026	AL4	Alarm 4 setpoint setting; range: 00000000~0001869F(0~99999) Hi Bit	R/W
40040	0027		Alarm 4 setpoint setting; range: 00000000~0001869F(0~99999) Low Bit	R/W
40041	0028	ANLO	Analog output low scale setting; range: 00000000~0001869F (0~99999) Hi Bit	R/W
40042	0029		Analog output low scale setting; range: 00000000~0001869F (0~99999) Low Bit	R/W
40043	002A	ANHI	Analog output hi scale setting; range: 00000000~0001869F (0~99999) Hi Bit	R/W
40044	002B		Analog output hi scale setting; range: 00000000~0001869F (0~99999) Low Bit	R/W
40045	002C	DISPLAY	Current display; range: 00000000~0001869F (0~99999) Hi Bit	R
40046	002D		Current display; range: 00000000~0001869F (0~99999) Low Bit	R