1 Functions and characteristics

● Basic functions: add-count, subtract-count, add-subtract-count

● Various sensors can be connected: photoelectric coupler, proximity switch, linear displacement grating sensor, encoder, etc

●Six-bit LED display: - 1999-9999, decimal point position arbitrary settings;

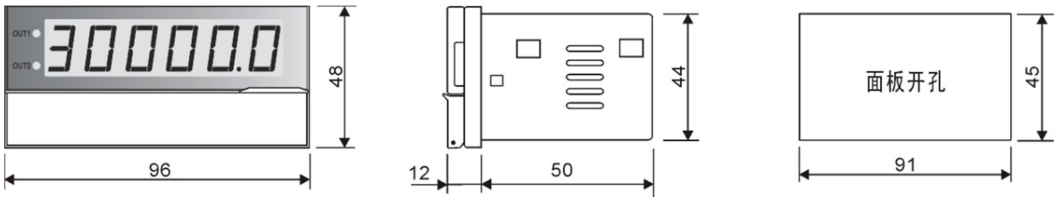
● Five input modes and twelve output modes;

● With power failure memory function, memory/memory can be set。

2 Main technical specifications

Display mode	Red high brightness digital tube (word height 14.2mm)	Sensor Power	12VDC ±5% ,60mA
Range	-199999 ～ 999999, Decimal point position can be set	Relay output	Output mode: N、F、C、R、K1、P、Q、A、K2、D、 L、H Delay range: 0.01 ～ 99.99s Or keep output contact rating: 2A/250VAC/30VDC(Resistive load) Switch delay: ≤10ms
Limit display	HHHHHH、LLLLLL		
Input	UP、DOWN、UP/DOWN A B C,		
Counting speed	A total of three levels of settings: 30Hz/1kHz/30kHz, on-off ratio 1:1 The maximum speed of UP/DOWN-C mode is 15 kHz		
Input signal	IN-1, IN-2, RST High level 4-30V, low level 0-1V	Power	85-264VAC 50/60Hz consumption ≤4W
Power failure memory	EEPROM, 100,000 erases	Use environment	Temperature 0-50 C, relative humidity less than 85% RH

3 Shape size and panel opening size



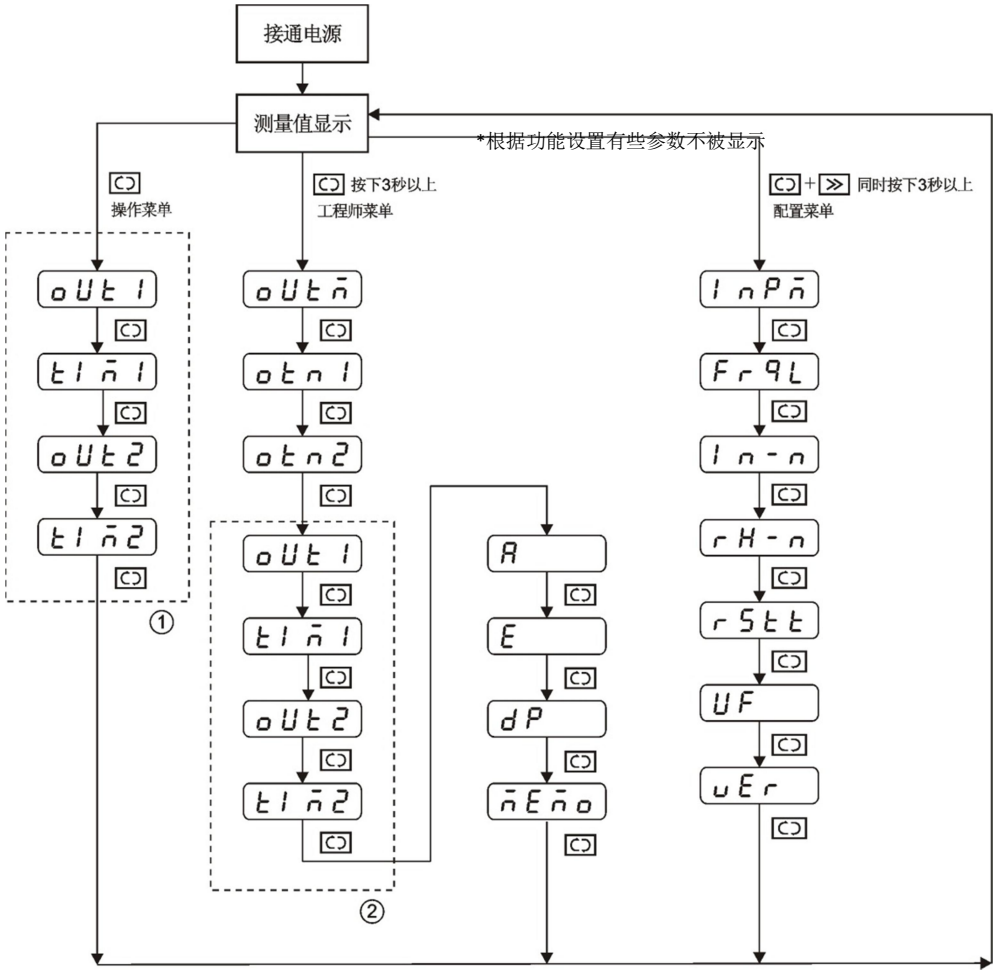
4 Panel and key operation

: data : switch : increase and reset

Functional parameters are distributed in operation menu, engineer menu and configuration menu. The entry method of each menu is described in the following figure.

After entering the menu, press Select the parameters that need to be modified, press Enter the Modified State, press and Changing parameter values, press The changed parameter values are stored in memory and the parameter symbols are redisplayed

When setting parameters, the button is not pressed within 10 seconds, and will automatically return to the measurement display state. The parameter values being modified will not be saved



①②The position of output parameters is determined by the value of UF parameters.

5 Parameter description

Code	Name	Set range	Default	Explain
oUt 1 OUT1	Set 1	-199999 ～999999	1000	When the current value reaches the set value of 1, output according to the corresponding output mode OUT1 signal
tI n 1 TIM1	OUT1 Delay Time	0.00 ～ 99.99s	0.00s	Output duration of OUT1 set to 0
oUt 2 OUT2	Set 2	-199999 ～999999	2000	When the current value reaches the set value of 2, OUT2 outputs the signal according to the corresponding output mode.
tI n2 TIM2	OUT2 Delay Time	0.01 ～ 99.99s	0.50s	OUT2 Output duration
oUtn OUTM	Output mode	N、F、C、R、K1、P、Q、A、K2、D、L、H	F	See "8. Output mode"
otn 1 OTN1	OUT1Output Logic Reverse	OFF、ON	OFF	OFF: Output Conduction when Count Value reaches Set Value ON: Output disconnection when count value reaches set value
otn2 OTN2	OUT2Output Logic Reverse	OFF、ON	OFF	
A A	Rate A	1 ～ 999999	1	Rate = A ×10^{-E} = Display = pulses NO. ×RATE ①
E E	Rate E	0 ～ 9	0	
dP DP	Decimal point position	0 0.0 0.00 0.000 0.0000 0.00000	0	Decimal Point Position of Counting Value and Decimal Point Position of Related Parameters

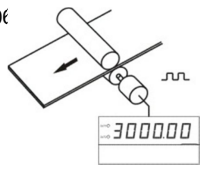
Code	Name	Set range	Default	Explain
nEno MEMO	failure memory	OFF、ON	ON	OFF: No Memory of Blackout ON: Memorize counting values and output status before power outage
InPn INPM	Input mode	UP、 DOWN 、 UD-A、UD-B、 UD-C	UD-B	UD-A: UP/DOWN A UD-B: UP/DOWN B UD-C: UP/DOWN C See "7. Input mode and count value"
FrqL FRQL	Counting speed	LO、 MD、 HI	LO	Frequency range allowed by counter When no voltage contacts are input, LO should be set. ②
In-n IN-N	Input IN-1、IN-2 Logical reverse	OFF、ON	ON	OFF: Rising edge counting or high level validity ON: Descent edge counting or low level validity When there is no voltage contact input, it should be set to ON.
rH-n RH-N	Input RST Logical reverse	OFF、ON	ON	
rStt RSTT	Input RST width	1ms 、 20ms	20ms	Minimum width of external reset signal
UF UF	Output parameter position	0 ～ 2	0	0: data OUT1、TIM1、OUT2、TIM2 Place it in the action menu 1: data OUT1、OUT2 Place it in the action menu TIM1、TIM2 Place it in the action menu 2:data OUT1、TIM1、OUT2、TIM Place it in the action menu
uEr VER	Software version	-	-	Display Instrument Software Version, Can't be Modified

① ex：use 512P/R code, Perimeter ② FRQL

200mm。Rate $= \frac{200}{512} = 0.390$

Set：A=390625, E=6, DP=2

$\left(\frac{A}{10^E} = \frac{390625}{10^6} = 0.390625\right)$



参数值	输入频率范围	导通/断开脉冲宽度
HI	0～30kHz(15kHz)	最小16μs
MD	0～1kHz	最小480μs
LO	0～30Hz	最小16ms

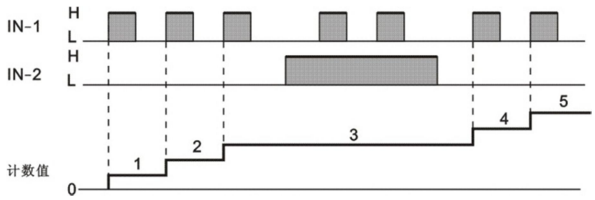
When the input mode is UP/DOWN C, the input frequency of HI ranges from 0 kHz to 15 kHz.

In other input modes, HI input frequency ranges from 0 to 30 kHz.

6 Input mode and count value

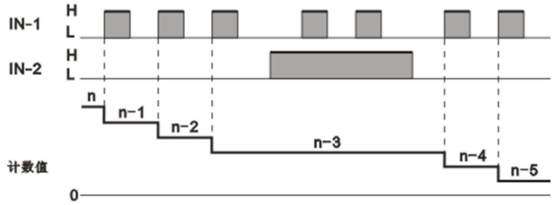
UP mode (plus count)

IN-1:Counterinput,IN-2:Noinput

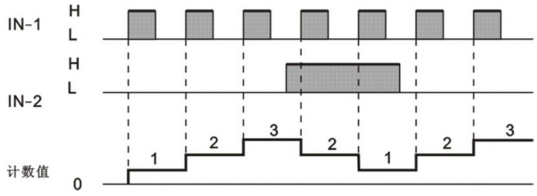


DOWN mode (subtraction)

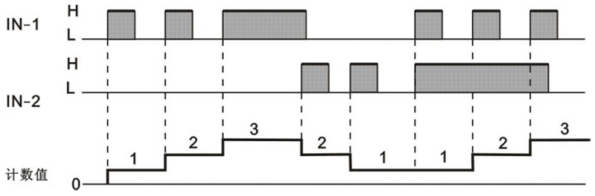
IN-1:Counterinput,IN-2:Noinput



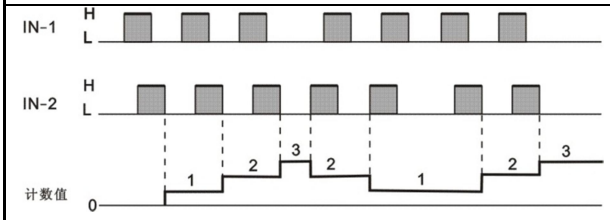
UP/DOWN A mode (instruction input plus minus count)



UP/DOWN B mode (independent input plus minus count)



UP/DOWN C mode (phase difference input plus minus count)

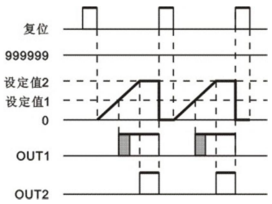
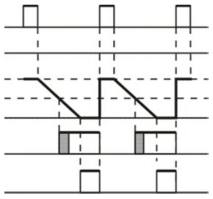
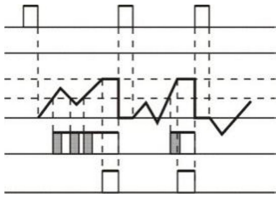
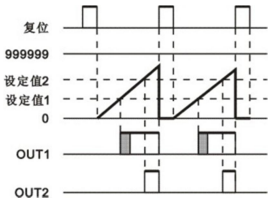
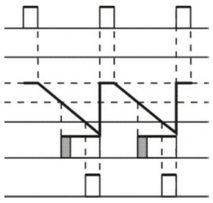
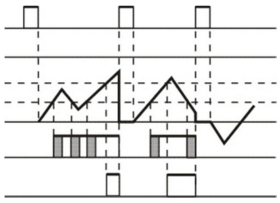
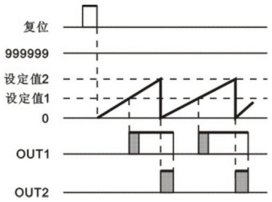
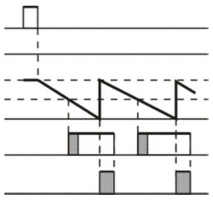
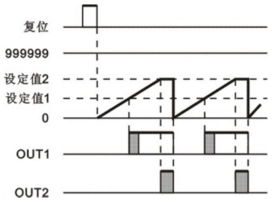
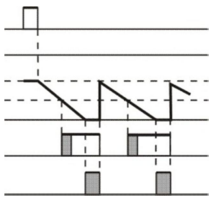
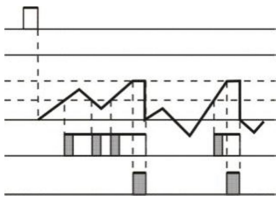
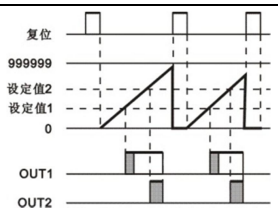
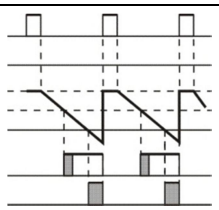
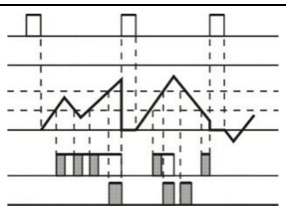


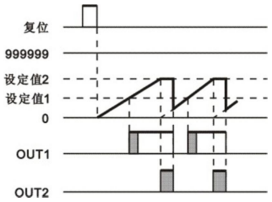
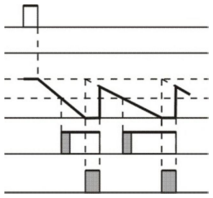
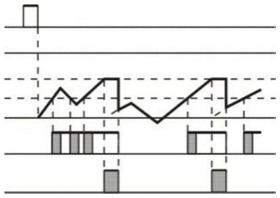
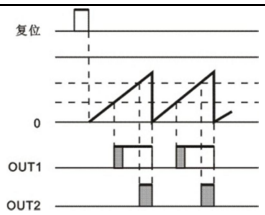
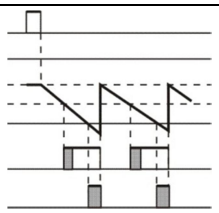
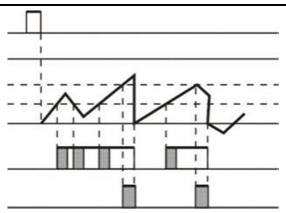
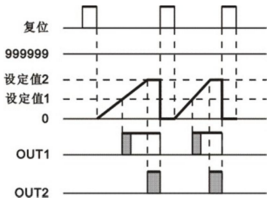
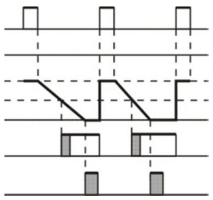
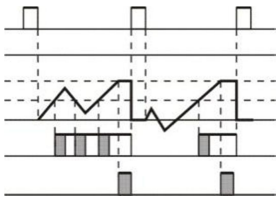
Meaning of H and L symbols:

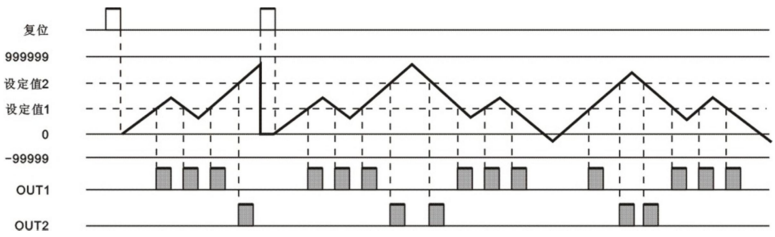
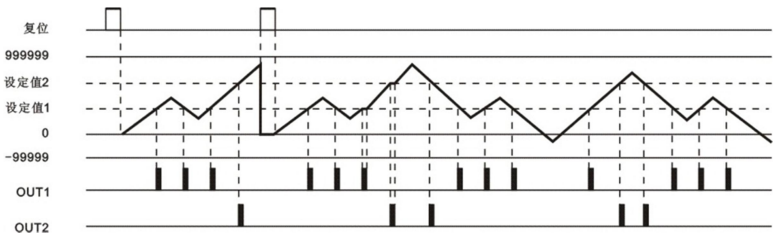
Input	Voltage-free contact input IN-N=ON	Voltage input IN-N=OFF
H	short circuit	4-30VDC
L	open circuit	0-1VDC

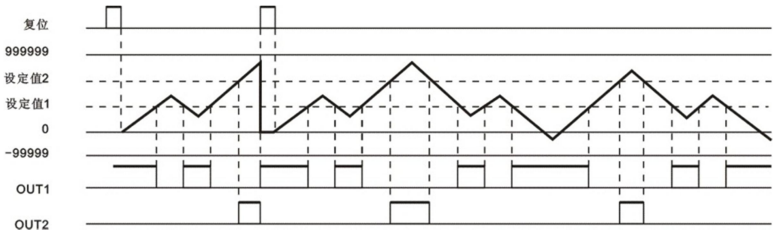
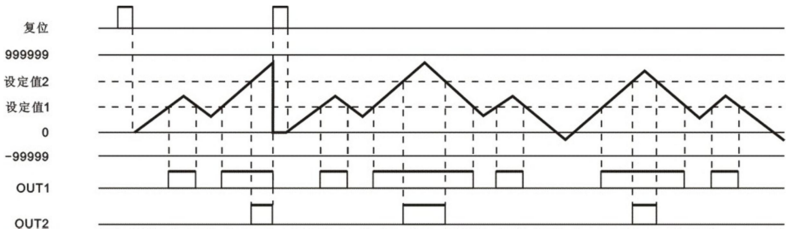
7 Output mode

Fixed time/hold output optional Maintain output Fixed-time output Equal output

Out	Input mode			After the count value reaches the set value 2
	UP	DOWN	UP/DOWN A.B.C	
N				The count remains until the reset signal arrives
F				The counter continues to count until the reset signal arrives.
C				Counting values immediately return to reset start state, OUT2 output delay Close simultaneously with OUT1 self-retaining output
R				The counting value is maintained during the OUT2 output time, and then returns to the reset start state. The OUT2 output and OUT1 self-retaining output are closed at the same time
K1				The counter continues to count, the output delay of OUT2 and OUT1 are closed at the same time, and the count is restarted after the reset signal arrives.

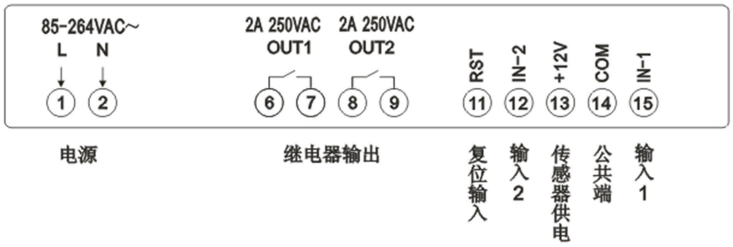
P				The display value is maintained, the actual count value immediately returns to the reset start state, and the OUT2 output delays and OUT1 self-maintained output are closed at the same time.
Q				The counter continues to count. After the OUT2 output delay, the count value immediately returns to the reset start state. OUT1 keeps the output and closes at the same time.
A				The count value remains until the reset signal arrives

Out	Input mode UP/DOWN A.B.C	Notes
K2		When the count value equals the set value, the output is delayed.
D		When the count value equals the set value, the output will be closed immediately when the count value is not equal to the set value.

L		When the count value is less than or equal to the set value 1, the OUT1 output keeps the count value greater than or equal to the set value 1. When equal to set value 2, OUT2 output remains unchanged
H		When the count value is greater than or equal to the set value 1, the OUT1 output is maintained. When the count value is greater than or equal to the set value 2, the OUT2 output remains unchanged

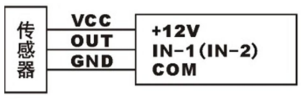
8 Wiring instructions

The arrangement of instrument terminals is shown as follows:

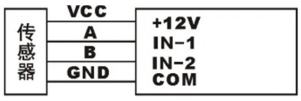


* The instrument is equipped with NPN sensor. If you need to use PNP sensor, please contact the company for customization.

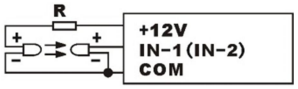
The connection mode of reset input RST is the same as IN-1 (IN-2).



接近开关、光电开关

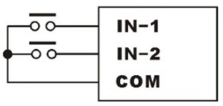


双相输出传感器、编码器

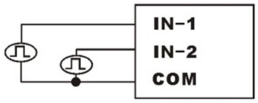


R:360Ω ～ 1KΩ (12V)
120Ω ～ 330Ω (5V)

光电对管



无电压触点



电压脉冲信号

In-1, IN-2 and RST input terminals are internally connected with pull-up resistors, so when the terminals are not connected (suspended), the input is in a high level state.