

ALC 77 HIGH SPEED ENCODER COUNTER

- 72x72 mm sized,
- 300 KHz speed,
- 2 lines, 7 digits display,
- Counting Encoder A and B signals in quadrature mode,
- Functional Z (Reset) input,
- Functional HOLD input,
- 2 double contact relays outputs,
- Preset-1 may depend on Preset-2,
- Prescale can be adjustable (0,000001 to 9999999),
- Decimal point can be select between 1. and 6. digits,
- 5 VDC or 12 VDC encoder supply output,
- 11 several output mode,
- Adds OFFSET to count value,
- Password protection



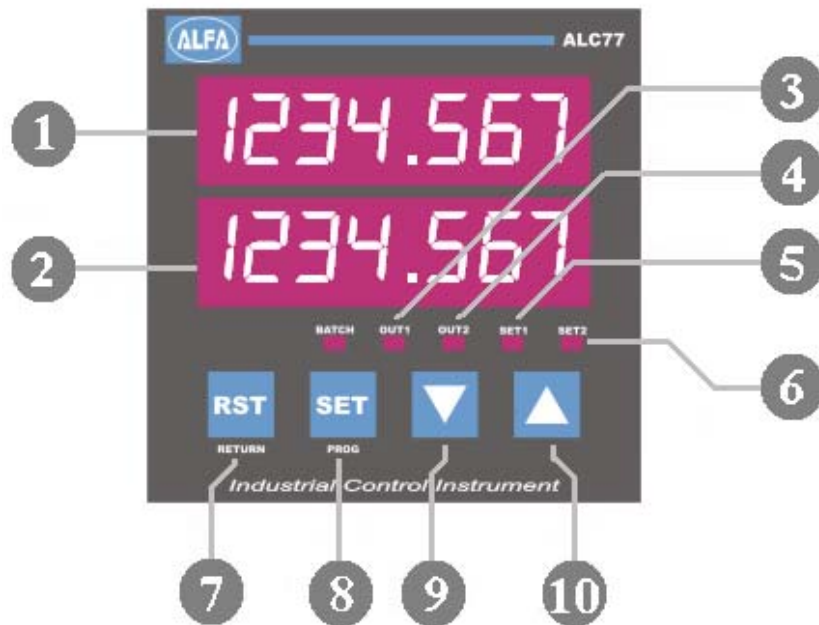
TECHNICAL SPECIFICATIONS :

| | |
|-----------------------------------|---|
| Housing | |
| Dimensions | 72x72x96 mm |
| Weight | < 0,5 kg |
| Box | Suitable for flush-panel mounting |
| Relative Humidity | 80% up to 31°C decreasing linearly 50% at 40°C. |
| Operating Temperature | 0...50 ° C |
| Storage Temperature | -10...60 ° C |
| Protection Class | IP 60 front panel, IP 20 rear panel |
| Electrical Characteristics | |
| Power Supply | 230 VAC 50 Hz, 24 VAC or 24 VDC (depend on request) |
| Power Consumption | Max. 5,5 VA |
| Connections | 2,5 mm ² screw-terminals connection |
| Inputs | |
| Counting Frequency | 300 KHz (Quadrature mode) |
| Input Channels | A, B counting inputs; Z external reset input; external HOLD input |
| Z (Reset Input) | Selectable in Rise or Fall edge triggering (From software) |
| HOLD Input | Selectable in Rise or Fall edge triggering (From software) |
| Outputs | |
| Out-1 (Control Output) | Relay: 250 VAC, 3 A (for Resistive load) COM, NO and NC |
| Out-2 (Control Output) | Relay: 250 VAC, 3 A (for Resistive load) COM, NO and NC |
| Sensor Supply Output | 5 VDC or 12 VDC, 200 mA |

WARNING:

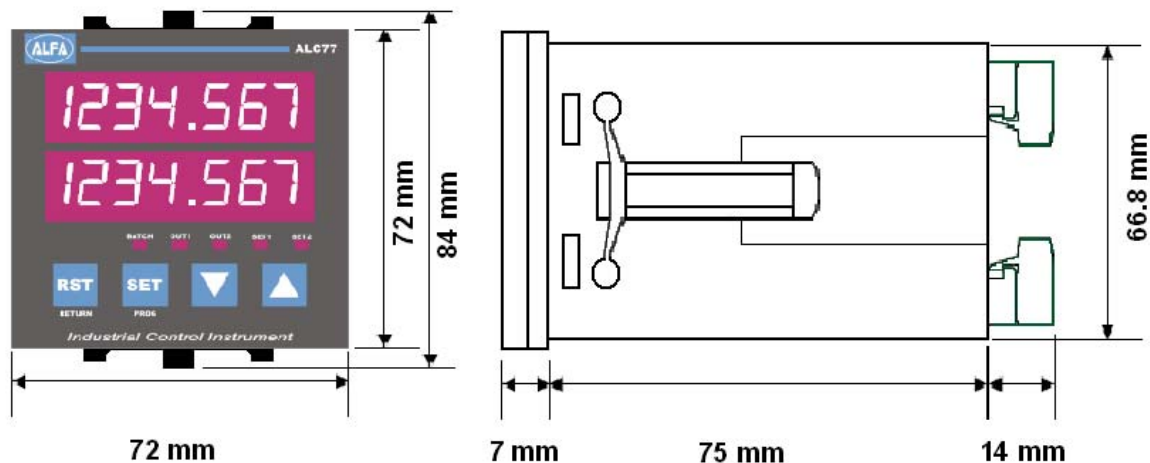
1. Use shielded sensor cable and connect shield to ground. Keep all signal cables away from circuit breakers, inductive loads, devices/cables emitting electrical noise and power cables.
2. Keep device away from circuit breakers, devices/cables emitting electrical noise and power cables. Take precautions against environmental conditions like humidity, vibration, pollution and high/low temperature during installation.
3. Use a fuse (i.e 220VAC) on supply input of the device. Use appropriate cables for supply connections. Apply safety regulations during installation.
4. While cleaning the device, solvents (thinner, benzene, acid etc.) or corrosive materials must not be used.
5. Do not use the device in locations subject to corrosive and flammable gases.

FRONT PANEL DESCRIPTIONS:

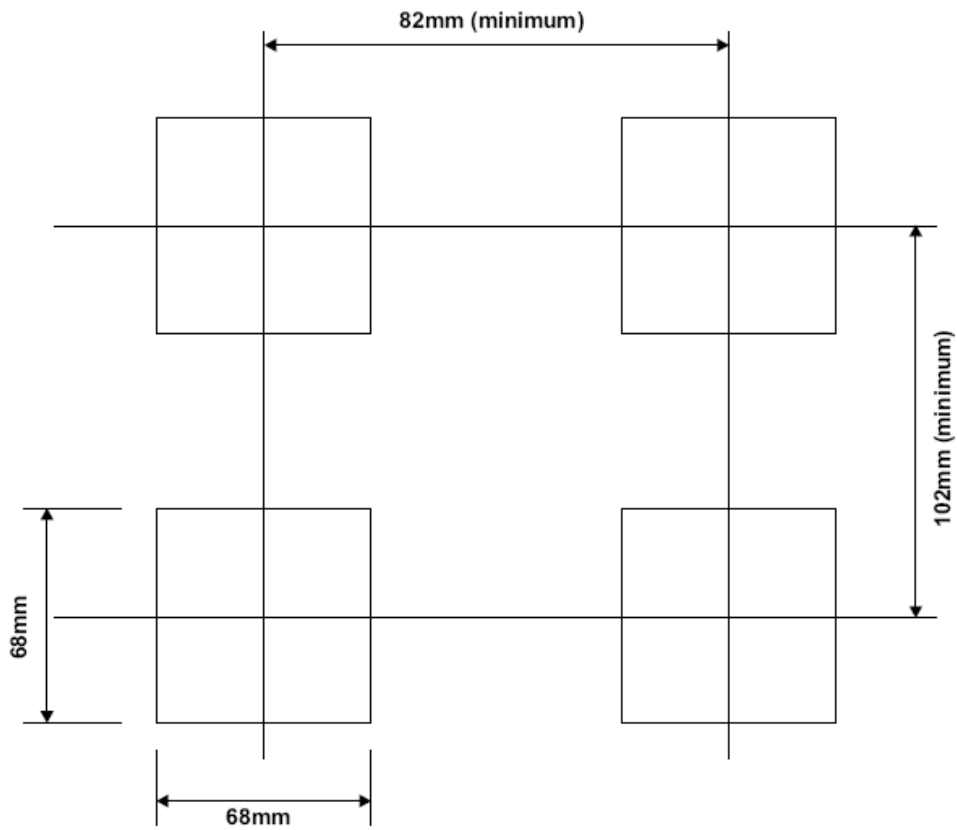


1. 7 Digits LED Display (9,2 mm): Counting value indicator (Counting Mode)
Program parameter indicator (Programming Mode)
2. 7 Digit LED Display (9,2 mm): Set value indicator (Counting Mode)
Program parameter value indicator (Programming Mode)
2. Out-1 output indicating LED: It indicates the state of Out-1 output.
3. Out-2 output indicating LED: It indicates the state of Out-2 output.
4. Set-1 indicating LED: It flashes when it is showed the Set-1 value in lower display.
5. Set-2 indicating LED: It flashes when it is showed the Set-2 value in lower display..
6. RESET Button (Counting mode): It is used to Reset the counting value.
RETURN Button (Programming mode): It is used to return back without saving the entering parameter.
8. SET Button (Counting Mode): It is used for entering to programme.
PROG Button (Programming mode):It is used to enter to selected parameter and save the value.
9. (Counting Mode): It is used to show the Set-1 value in lower display.
(Programming mode): Decrement or parameter selection key.
10. (Counting Mode): It is used to show the Set-2 value in lower display.
(Programming mode Increment or parameter selection key.

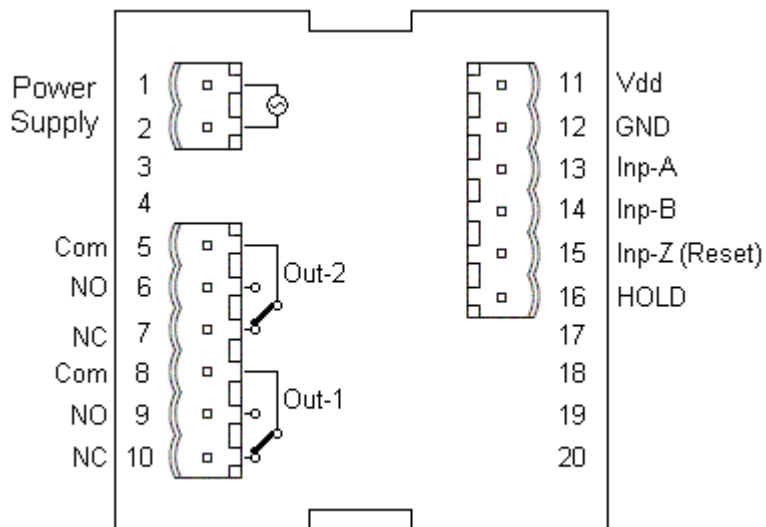
DIMENSIONS:



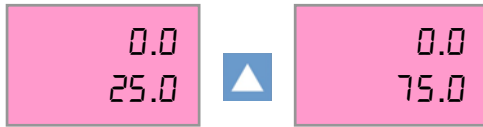
PANEL CUT-OUT :





CONNECTION DIAGRAM:

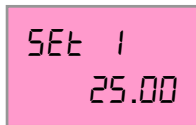




PROGRAMMING:

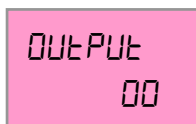
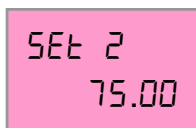


It is selectable the SET value (Set-1 or Set-2) which is request to show in lower display using the  and  buttons during the counting mode.

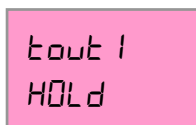
SET



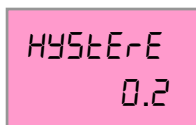
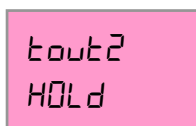
Press **SET** to enter programme and use  and  to select the parameter which you request to change, than press again **SET** and enter this parameter. See not-1 for modification. It is adjustable *SEt 1* and *SEt 2* values like this.



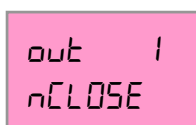
There are 11 different output types for 2 relay outputs. The schematic diagrams and explanations for output types are at 7...10 pages.



Energizing time of Out-1 and Out-2 outputs can be adjusted using this parameters. If it is made *HOLD* output is energized continuously when counter reaches value. These times should be selected according to output types.



It can be enter hysteresis value for Set-1 and Set-2. Setting hysteresis only (+) values.



out 1 is selectable normally close or normally open.



out 2
nCLOSE



Const
0.1



Point
0.0



offset
0.0



rst btn
rESEt



rst inPt
norESEt.



Hold
no Hold



HoldtYP
Count



FACTory
dEFault

out 2 is selectable normally close or normally open.

Calibration constant value can be adjusted between 0,000001 and 9999999.

Decimal point can be adjusted between 1. and 6. digits. If desired, decimal point is not included.

Offset value can be adjusted between -999999 and 9999999. It means counter starts counting from the offset value when it is reset. It is important that the Offset value must be selected lower than SET-1 value.

rESEt : Reset buton runs.

norESEt : Reset buton doesn't run.

norESEt : External reset doesn't run.

rISE : Counting value resets when the rising edge comes.

FALL : Counting value resets when the falling edge comes..

noHold : :External hold doesn't run.

rISE : Counting value holds when the rising edge comes.

FALL : Counting value holds when the falling edge comes.

Count : The instrument counts internally during the holding process. Namely it counts but doesn't show it during the HOLD.

noCount : The instrument doesn't count internally during the holding process. It continues to count on last counting value after the holding

Return to factory default settings. The Faccode value is 454.



CLEAR : When the power is off the counting value is losed reset to Offset.

RECORD : The counting value is recorded. Even if power is off, the counter is to be continued this recorded value .







Selecting the **on** it is activated the password protection and it is showed another parameter **RECODE** parameter. Using this **RECODE** parameter it can be changed password. The default password is “000”.

If the password protection is activated, it can be see programme parameters but it cannot be changed the paramter’s value without enter the password. In this manner it is prevented to be changed the parameters by unauthorized persons.





NOT-1:

Entering the value to numerical parameters:

Press **SET** and enter the programme, the right hand digit will blink. Using the  and  it is selected the parameter which is requested to change its value, than press **SET** again and save this value, it is showed next digit now. Finally, it is showed **Pos it if**, using  and  and select the (+) positive or negative (-).

If you request return back without saving the value you should press **RST** button.

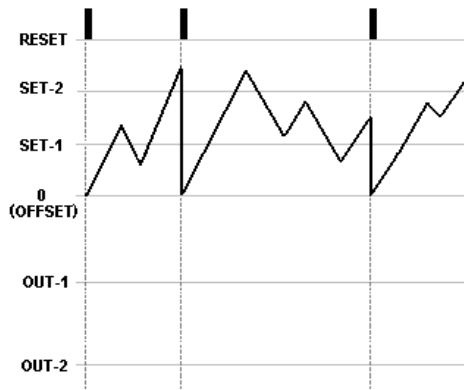
Entering the value to string parameters:

Press **SET** and enter the programme, using the  and  select the parameter which you request to change its value, than press **SET** again and save this value.

If you request return back without saving the value you should press **RST** button.

OUTPUT MODES:

Output-0:



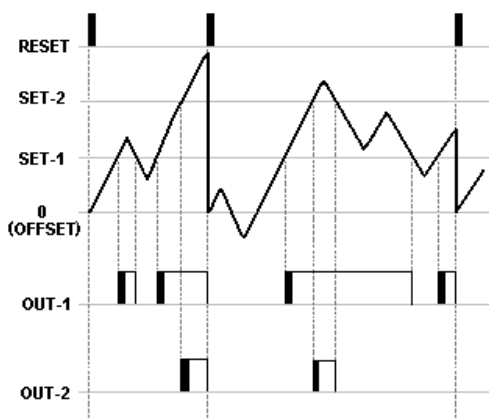
If outmode is selected equal to 0, the outputs don't run.

NOTE:

It must be following conditions for all Output modes;

$$\text{OFFSET} \leq \text{SET-1} \leq \text{SET-2}$$

Output-1:

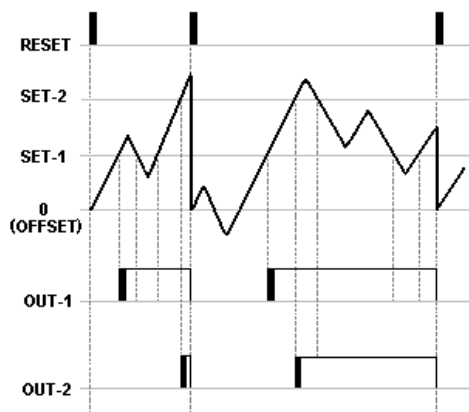


When the counting value reaches to Set-1 value, Out-1 turn ON and also reaches Set-2 value, Out-2 turn ON. Out-1 and Out-2 keeps on state in following condition:

$$\text{Counting Value} \geq \text{Set-1}$$

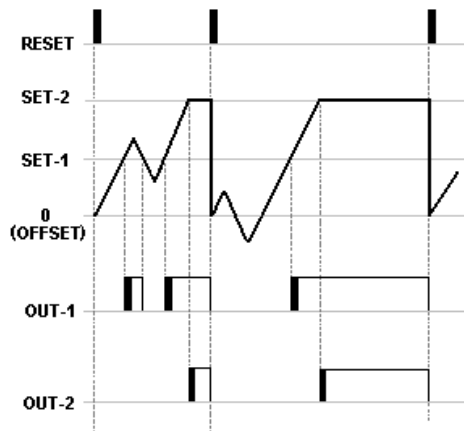
$$\text{Counting Value} \geq \text{Set-2}$$

Output-2:



When the counting value reaches to Set-1, the OUT-1 turn on and also reaches to Set-2, the OUT-2 turn on. Even if the decrease down the Set values, the Outputs don't turn off. Only if the RESET comes, the outputs turns off.

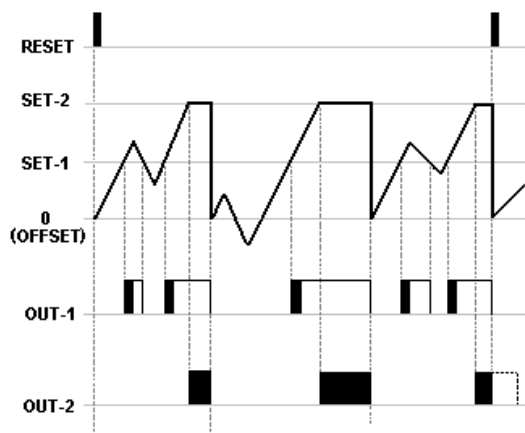
Output-3:



When the counting value reaches to Set-1, the OUT-1 turn on and if decrease under to Set-1 it's turn off. When the counting value reaches to Set-2, the OUT-2 turn on and the counting value is held (namely it doesn't count).

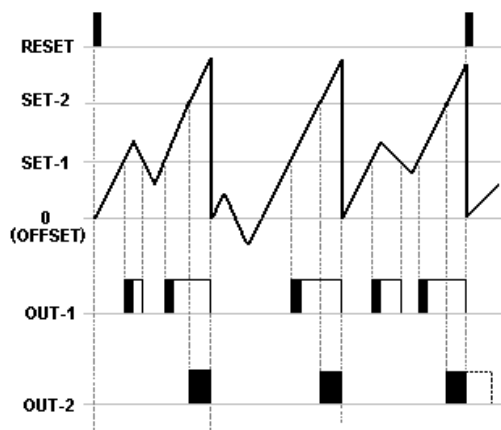
If the RESET comes, the outputs turns off.

Output-4:



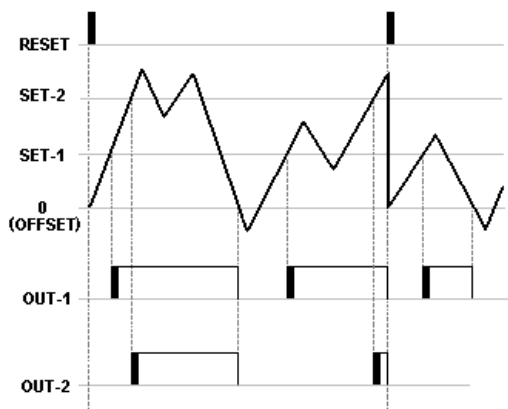
It is Autoreset mode. In this mode OUT-1 depend on the OUT-2. It should be enter the TOUT-2 is time and the TOUT-1 is HOLD. Namely, when the counting value reaches to Set-1, the OUT-1 turn on and if decrease under to Set-1 it's turn off. When the counting value reaches to Set-2, the OUT-2 turn on and the counting value is held. The counting value and outputs will be auto-reseted in the end of the TOUT-2 time.

Output-5:



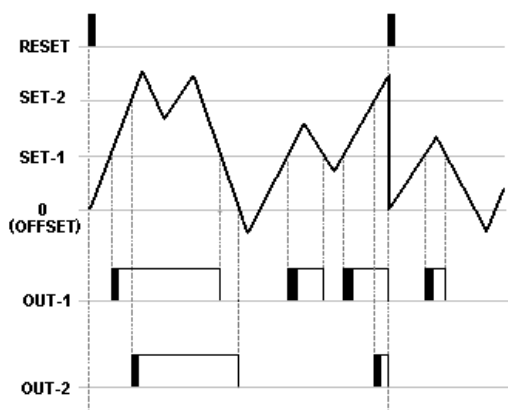
It is also Autoreset mode same as Output-4 The difference is the counting value isn't held, namely after reached to Set-2, the instrument continue to count.

Output-6:



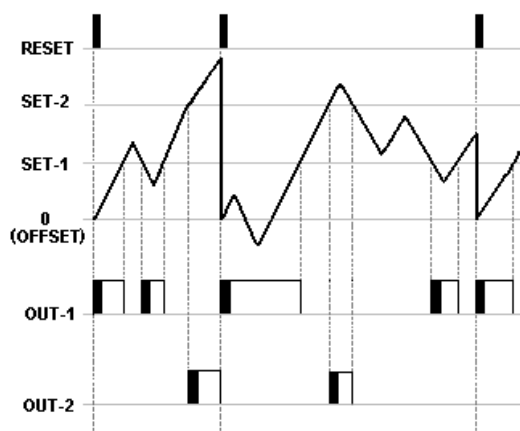
When the counting value reaches to Set-1, the OUT-1 turn on and also reaches to Set-2, the OUT-2 turn on. Even if the decrease down the Set values, the Outputs don't turn off unless the counting value reach to OFFEST value.
If the RESET comes, the outputs turns off.

Output-7:



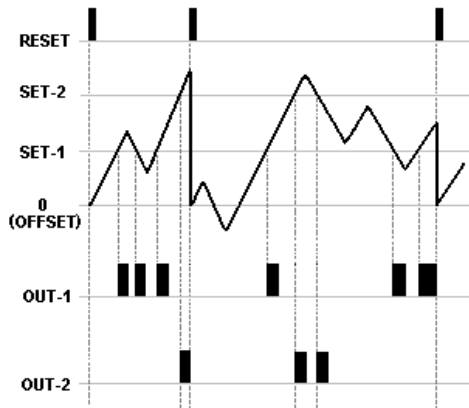
When the counting value reaches to Set-1, the OUT-1 turn on and if it decrease under the Set-1 OUT-1 turns off . When the counting value reaches to Set-2, the OUT-2 turn on. Even if the decrease down the Set values, Out-2 doesn't turn off unless the counting value reach to OFFEST value.
If the RESET comes, the outputs turns off.

Output-8:



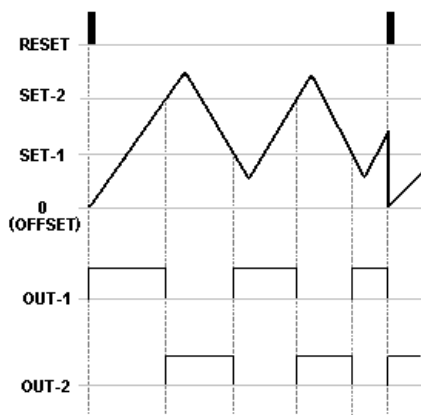
The OUT-1 keeps on until the counting value reaches to SET-1. When the counting value reaches to SET-1, OUT-1 turns off and when it reaches to Set-2, OUT-2 turns on.
If the RESET comes, the outputs turns off.

Output-9:



In this mode it should be enter the value to TOUT times. The Out-1 keeps on during the TOUT-1 time in every pass of the counting value at Set-1. The state of Set-1 is same as the Set-2. If the RESET comes, the outputs turns off.

Output-10:



In this mode it should be selected the TOUT parameters as HOLD. The OUT-1 keeps on until the counting value reaches to SET-2. When the counting value reaches to SET-2, OUT-1 turns off and OUT-2 turns on. When the counting value increase and reaches reaches to Set-1, OUT-2 turns off and OUT-1 turns on. If the RESET comes, the counting value becomes the Offset.

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