



ALC 77-T

PROCESS CONTROL DEVICE



- 73,5X73,5 MM DIMENSIONS
- 2 ROW, 7 DIGITS DISPLAY
- 5 KHZ INPUT FREQUENCY
- COUNTING A AND B SIGNAL
- 2 PIECES DOUBLE RELAY OUTPUT
- DECIMAL BETWEEN 1ST AND 6TH STEP POINT
- 5 VDC OR 12 VDC SENSOR SUPPLY OUTPUT
- ENTERING THE OFFSET VALUE
- PASSWORD SECURITY
- DISPLAY RANGE: -999999....9999999

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USER MANUAL

INDEX

1. TECHNICAL FEATURES.....	1
2. CONNECTIONS.....	2
3. DESCRIPTION OF FRONT PANEL	3
4. DEVICE PROGRAMMING	4
4.1. Entering Set Value to Device (set).....	4
4.2. Selection Of Input Type -Forward/Backward- (Cnt_typ).....	5
4.3. Entering of Constant (const).....	5
4.4. Selection of Point Position (point).....	6
4.5. Selection Of Sample Time (SAMP.time).....	6
4.6. Selection Of Time Unit (time.bas).....	7
4.7. Relay Output Mode (output).....	7
4.8. Relay Output Time (tout).....	8
4.9. Relay output Positions (out).....	8
4.10. Activating The Hold Input (hold).....	8
4.11. Selection Of Sensor (NPN/PNP) Type (sens typ).....	9
4.12. Return To Factory Defaults (factory).....	9
4.13. Password Protection (code_in).....	9
4.14. ANNEX A – Graphics of Relay Output Types (out menu).....	11
5. CERTIFICATE OF WARRANTY.....	12

1. TECHNICAL FEATURES

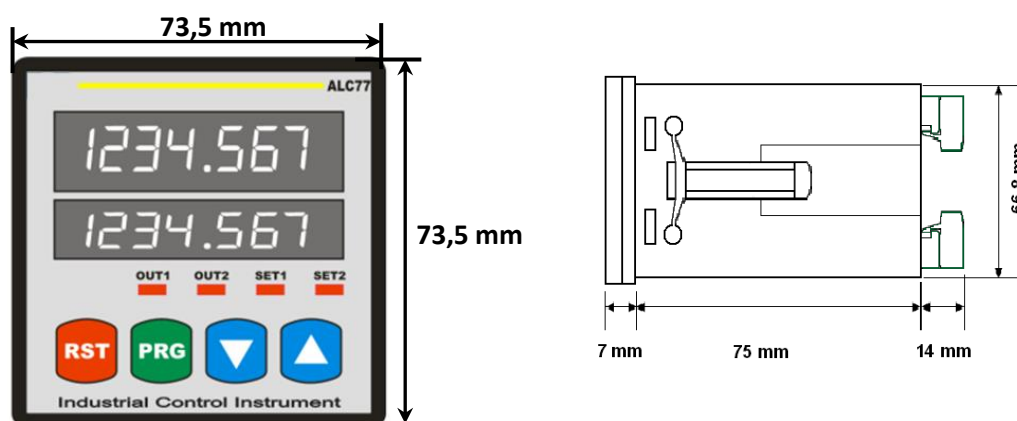
ELECTRICAL CHARACTERISTICS

Supply Voltage	24 VAC/DC 50/60 Hz 85-265 VAC 50/60 Hz
Power Consumption	5.5 VA / 4.4 W Max
Sensor Supply Voltage	5 VDC 100 mA (for TTL Sensor) 12 VDC 100 mA (for Push-Pull Sensor)
Connection	2,5 mm ² screw-clemens
Inputs	A/B Encoder Pulse Inputs (600 KHz speed reading) Hold Input
Outputs	2 pieces 250 VAC 3A (for Resistive Load) Relays
Serial Communication	RS-232 (Optional)

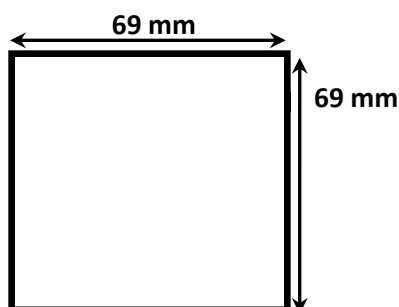
PHYSICAL CHARACTERISTICS

Dimensions	73,5 x 73,5 x 96 mm
Weight	300 gr.
Mounting	Upper and lower legs are fixed to the clipboard.
Relative Humidity	%80 up to 31 °C , %50 up to 40 °C
Storage Temperature	-10 and 60 °C
Operating Temperature	0 and 50 °C
Protection Class	IP 60 Front Panel, IP 20 Back panel

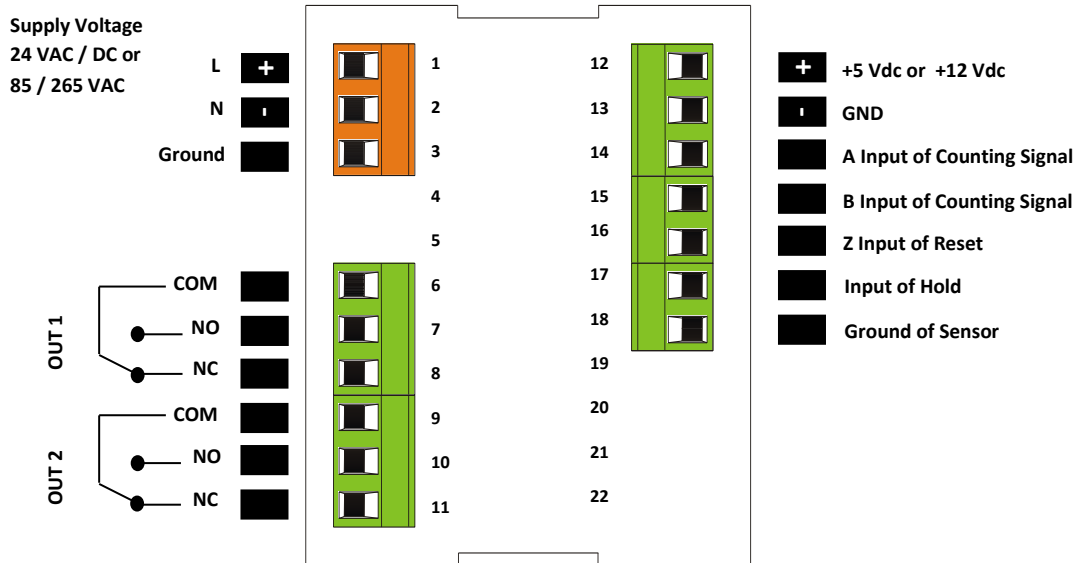
DIMENSIONS



Panel Dimensions:



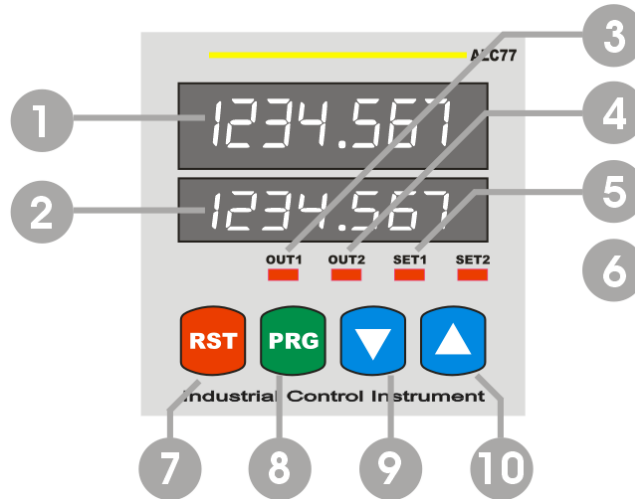
2. CONNECTIONS



SAFETY WARNINGS

1. Follow the instructions and warnings in the user guide.
2. Please check the type of power supply before connects energy to the device.
3. Please the device mounted on panel against dangers of fall, snap, shake during working.
4. Make Sensor connections without energy on the device; do not connect in any way during operation.
5. Make sure that is shielded cables between device and sensor.
6. Do not leave the device exposed to a heat source (solar, heater etc.)
7. ALC77 industrial control device is not suitable for use in the external environment, Use only room conditions.
8. Wipe with a damp cloth to clean the device, do not use water, thinner etc.
9. Comply with the limit values specified in the technical specifications for relay outputs.
10. The device cannot be changed by the user in the event of a fault, Please contact our technical service in case of failure.

3. DESCRIPTION OF FRONT PANEL



ALC77 device operates in 2 different modes:

Programming mode : Specifies the function used during programming.

Operating mode : Specifies the function used during operating.

Display and Position LEDs

1. 7 Digit LED Display (9,2mm) **at Operating mode:** Indication of counting
At programming mode: Indication of program parameter
2. 7 Digit LED Display (7mm) **at Operating mode:** Indication of Set value.
At programming mode: Indication of program parameter
3. Out-1 output LED position: On while the power at Out-1.
4. Out-2 output LED position: On while the power at Out-2.
5. Set-1 Led position: On while Set-1 value is displayed in the bottom display
6. Set-2 Led position: On while Set-2 value is displayed in the bottom display.

Button Functions

7. RESET Button **at Operating mode:** Used to reset of counted value.
At programming mode: Using to exit without saving the entered value of the parameter and return to the operation mode.
8. PROG Button **at Operating mode:** Used to return to the menu.
At programming mode: Used to save and enter menu parameter value.
9. Down Button **at Operating mode:** Used to in the bottom display to show the value of Set-1.
At programming mode: Used to switch between the menus and decrease the value of the selected parameter.
10. Up Button **at Operating mode:** Used to in the bottom display to show the value of Set-2.
At programming mode: Used to switch between the menus and decrease the value of the selected parameter.

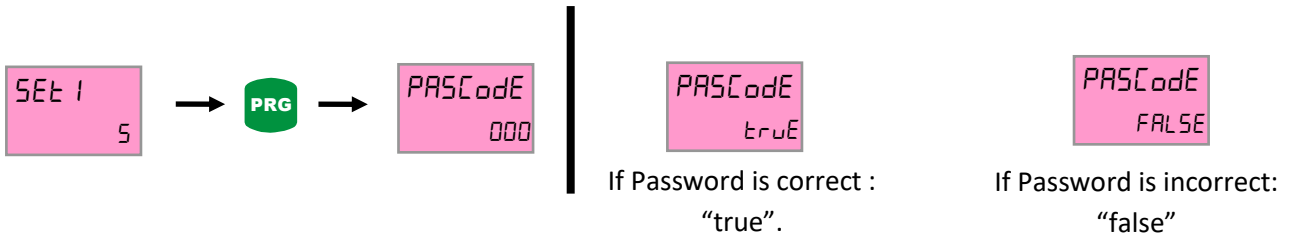
3. DEVICE PROGRAMMING

Enter to the menu and Changing Parameters:

For switch to programming mode while device operating mode push (PRG) button. Firstly "SEt- 1"'s menu will appear on the screen.



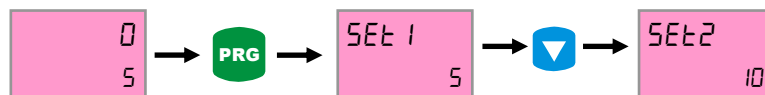
Switch between program menus with Down (▼) and up (▲) buttons. PRG button is entered into for the menu to be changed. Changes are saved with prg (PRG) button. Return to operating mode with rst (RST) button. If password protection is activated at device, password must be entered. If password is correct, true message is displayed on the bottom line. Also password is incorrect, "false" is displayed.



4.1. Entering The Set Point to Device (Set)

Set 1 menu is displayed firstly on the screen as prg button is pressed while operating mode. Menu is displayed firstly on the screen as prg button is pressed while operating mode. The top row shows the name of the menu and bottom row also (yellow marked) selected value in menu content. Set 1, set 2 allows controlling to out1 and out2 relays.

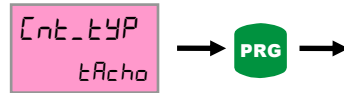
Move to the desired set point for setting. The rightmost digit starts flashing when prg button is pressed. Desired point is selected up and down button. Used to prg button for Digits scrolling. Shifted to the left for one step when each press of the button, If pres the prg button when coming the rightmost digits, positive or negative value will be asked. Value is selected by up and down button then saved with prg button. If you do not want to save, you can exit with esc button. İki menü de bu şekilde ayarlanır. Both menus are set in this way.



4.2. Selection Of Input Type -Forward/Backward- (Cnt_typ)

By selecting the input type, the way the device counts with the signals from the input channels is selected. There are 9 different counting options. How they work is described below.

In order to select counter type, pressed to prg button at operation mode. Found to Cnt_typ menu with up-down button and pressed to prg button then bottom row choice flashes. Make the selection with up-down button and saved value by prg button. Then return with rst button to operating mode.



Count Type	A Signal Pin	B Signal Pin	Function
tacho Cnt_tYP tAcho	Yes	Yes	Indicates the rotational speed in RPM (rev/min).
ratio Cnt_tYP rAt io	Yes	Yes	Increases with A and B signals.
differ Cnt_tYP d iFFEr	Yes	Yes	Decreases with A signal, increases with B signal.
period Cnt_tYP PEr iod	Yes	Yes	Decreases with A and B signals.
L1_sped Cnt_tYP L1 SPED	Yes	Yes	Increases with A signal, A counts down as long as signal B is received.
t1_ntr Cnt_tYP t1 ntr	Yes	Yes	Decreases with A signal, A counts forward as long as signal B is received.
PLS_time Cnt_tYP PLS_t iME	Yes	Yes	Increases with A signal, As long as signal B is received, signal A is not counted.
cnt_PLSE Cnt_tYP cnt_P LSE	Yes	Yes	Decreases with A signal, As long as signal B is received, signal A is not counted.
cnt_CYCL Cnt_tYP Cnt_C YCL	Yes	No	Pulse counts.

4.3. Entering Constant Value (const)

Provides accurate display of sensors with different resolutions by entering the multiplier value.

By way of example, 0,025 constant value is entered to Const Menu for the 25 micron-sensor or 0,005 constant value for 5 micron-sensor. So when sensor moves 100mm, value of 100 is displayed on the screen.

In order to set to Conts Menu, pressed to prg button while operating mode and ound to Const Menu with using up-down button. When pressed to prg button (While being cons menu), the right-hand digit of

bottom row flashes. Set to wanted value with up-down button. Digit moves to the left while pressed to prg button. Then pressed to prg button again, this digit flashes. Digit position is set with up-down button. You press again prg button, the digit is continuously flashing. Therefore the constant value is entered in. If you want to exit without saving, you can back to operating mode with rst button.



4.4. Selection Of Point Position (Point)

Resolution of the value shown on the display is set here. This change is done by changing position of the point on the screen. In order to changed position of the point, pressed to prg button at operating mode and found point menu with up-down button. The point is flashing when pressed to prg button; you can set position of the point with up-down button. Then you can save them with prg button. Return to operating mode with rst button.



4.5. Selection Of Sample Time (SAMP.time)

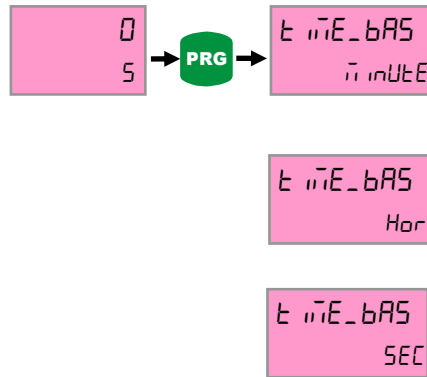
The input frequency can be filtered to prevent undesired interference. Above frequencies of the value selected in the in_freq menu are not detected by the counter.

In operation mode, press prg button to select input frequency. The in_freq menu is located with the up and down keys. When the prg button is pressed, the selection in the bottom row flashes. The desired selection is set with the up-down button and saved with the prg button. Return to operating mode with Rst button.



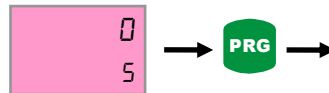
4.6. Selection Of Time Unit (time.bas)

Selects the time unit in minutes, seconds or hours in the desired unit. In default settings, “minute” is selected.



4.7. Relay Output Modes (Output)

Output menu enables different relay outs according to different set values. There are 11 different output type. For detailed information refer to Annex-A part at the end of the manual. In order to select output mode, pressed to prg button at operation mode. Found to output menu with up-down button and pressed to prg button then bottom row choice flashes. Assigned value with up-down button and saved value by prg button. Then return with rst button to operating mode.



outPut
0

The relay function is turned off.

outPut
1

When passed over Set1 value, Output1 will be active.

When passed over Set2 value, Output2 will be active.

outPut
2

When passed over Set1 value, Output1 will be active.

When passed over Set2 value, Output2 will be active. Counter will be Hold position as long as without reset.

outPut
3

When passed over Set1 value, Output1 will be active.

When passed over Set2 value, Output2 will be active. So Output1 is not active.

outPut
4

When passed over Set1 value, Output1 will be active.

When passed over Set2 value, Output2 will be active. Out1 will be inactive and the value on the screen returns to the ofset value.

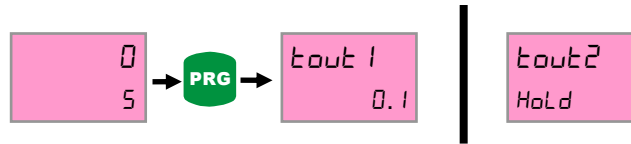
outPut
5

When passed over Set1 value, Output1 will be active.

When passed over Set2 value, Output2 will be active. Out1 is not active. And then and the value on the screen returns to the ofset value.

4.8. Relay Output Time (tout)

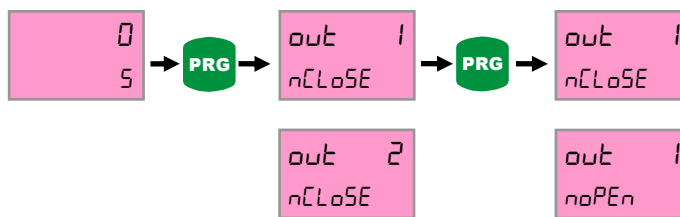
Tout menus allow relay output times according to entered times. If entered time is zero, it writes hold on the screen. Thus situated, relays will be active during the set value is exceeded. In order to enter output time, if you press to prg button, found tout1 or tout2 menus with up-down button. When press prg button, the right-digit of bottom row flashes. Its value is set with up-down button. Each press of the button moves to the left in a digit. Then you can save them. Therefore point is fixed.



The value entered is in seconds after the point. If the value is zero, the display shows hold. In this case, the relays remain drawn as long as they exceed the set value.

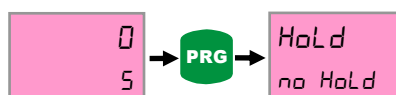
4.9. Relay Output Positions (out)

Out1 and out2 menus allow positions of the relays. The relay is inactive at Nclose option, active while reached set point. And also the relay is active at Nopen option, it will be inactive while reached set point.



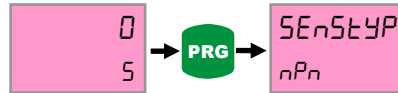
4.10. Activating The Hold Input (Hold)

While hold input is active, value on the screen is fixed when coming the signal of hold input. If signal of hold input isn't cut, counting can not to be continued. While you select the hold input, also select the edge you will make reset on. You can select one of Rising and falling edges. If you want to hold off Input, select to off option. In order to select to Hold Input, pressed to prg button at operating mode and found hold menu with up-down button. When prg button is pressed, options will flash and made the selection with up-down button. Then save it by prg button.



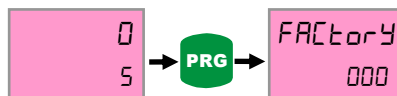
4.11. Selection Sensor Type (Npn/Pnp) (Senstyp)

The used sensor type can be select from this menu. The sensor output signal is selectable as NPN or PNP. In order to selected sensor type, pressed to prg button at operating mode and found S.typ menu with up-down button. When prg button is pressed, options will flash and made the selection with up-down button. Then save it by prg button and return with rst button to operating mode.



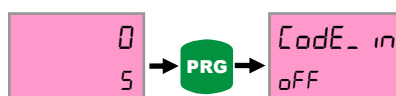
4.12. Return To Factory Defaults (Factory)

Factory menu enables to return the first fabrication settings of device. At this situated, all device setting will change and for this reason important settings should be saved previously. Device will require the password for returning to factory defaults and this password is 454. In order to return to factory defaults, pressed to prg button at operating mode and found to factory menu with up-down button. When prg button is pressed at menu screen, The right-digit of bottom row is flashing and changed value with up-down button. When pressing to prg button, moves to the left in a digit and you can set it as 454 and press to prg button. So device will return to factory defaults..

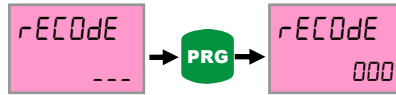


4.13. Password Protection (Code_in)

Password security enables that unauthorized persons is prevented to change the parameters of the menu. If Code-in menu is on position, you can enter to device's menu and password is required for any setting changes. If the password is wrong, you cannot change anything. While Code_in menu is off, the password protection is not active. If Code_in menu is on, recode is added to menu titles. In order to turn on Code-in menu, pressed to prg button at operating mode and found Secu Menu with up-down button. Then save it by prg button.

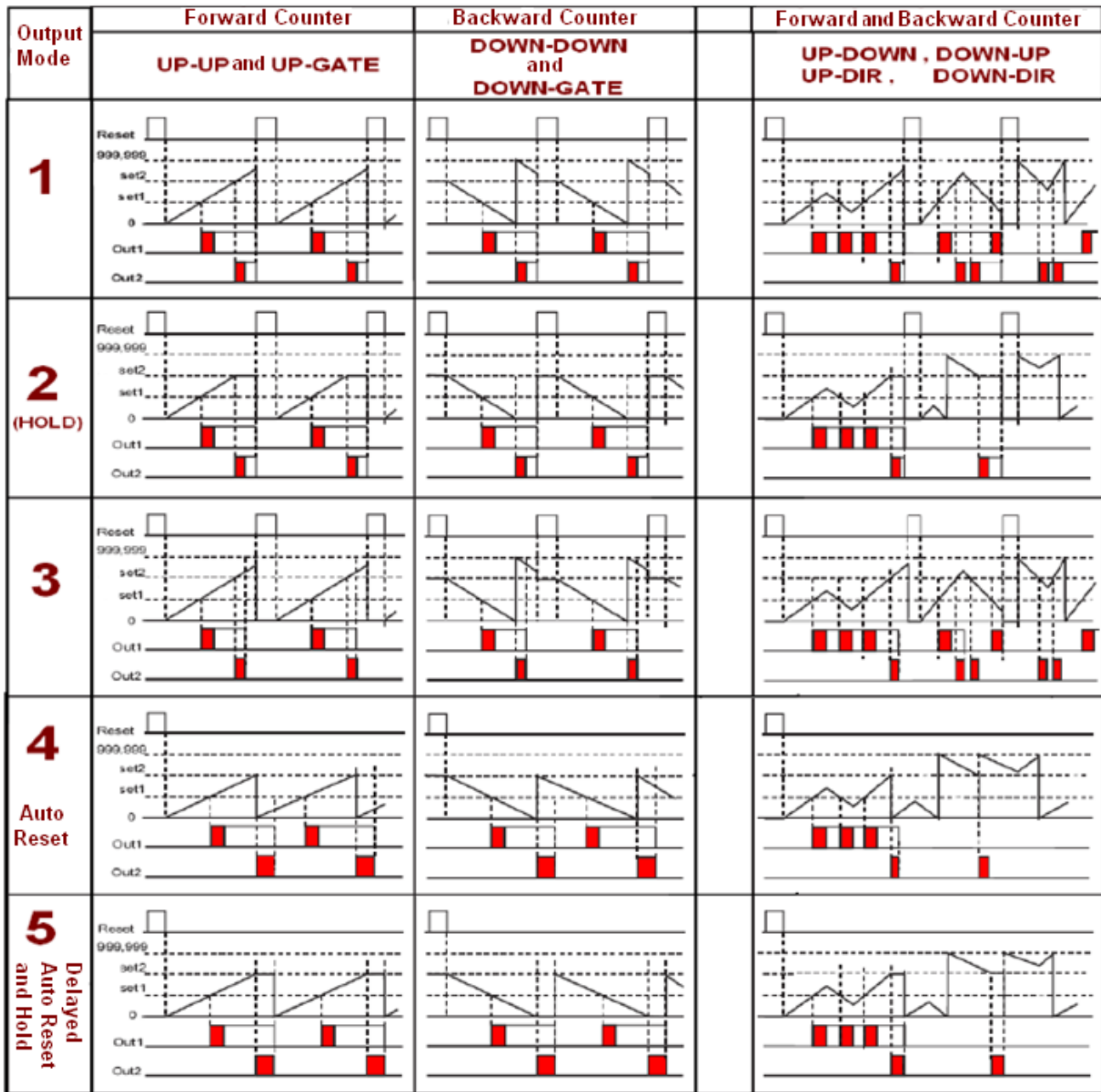


When Code_in menu is on position, recode is added to menu titles. Recode menu enables identification of password to device. Default password is 000, if you have not changed.



When prg button is pressed at menu screen, the right-digit of bottom row is flashing and changed value with up-down button. When Pressed to prg button, moves to the left in a digit. So you can set the value with up-down button and save them when pressed to prg button at third digit. So password is defined.

OUTPUT TYPES



5. CERTIFICATE OF WARRANTY

Product : **ALC77 T** 85/265 VAC 24 VAC/DC
TTL Push Pull

Serial No :

This product is guaranteed for two years against manufacturing defects.
Conditions out of the warranty:

- Mechanical damage
- Shipping damage
- Users error

Other situations are covered by the manufacturer's warranty.

Signature and Stamp



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