OPKON
OPTIC ELECTRONIC LTD.

UNIVERSAL INCREMENTAL COUNTER

72

72

6.7 **83.3**

67

67

ELECTRICAL CONNECTION

COM2
SET2   NC2
NO2
COM1
SET1   NC1
NO1

220 V 50 Hz

Ch Z
Ch B
Ch A
GND
VDD
SSR -
SSR +

Ver 2.0E
USER GUIDE

WARNING!

READ CAREFULLY BEFORE POWER ON

1. Complete electrical connections according to the schematic at the last page.
2. Check Supply Voltage 220V (or 24V optional) AC, or DC, due to Specifications on the equipment.
3. Use only shielded cable for sensors.
4. Keep away the equipment from direct heat source.
5. MODEL OP-CN4 is not suitable for outdoor use.
6. Keep away the equipment from water or other liquid drains.
7. Do not open, modify or replace any component in the equipment, If any problem occurs please contact an authorised OPKON technical service or OPKON directly.

ELECTRICAL SPECIFICATIONS:

Microcontroller based
A /B /Z(Reset)-4 X Counter mode
200 kHz Max. counting frequency
2 X Relays output
1 X SSR output
Incremental or absolute positioning mode
Holding on the last value in memory
10 X Output modes
Offset calibration
Password to protect menus

Power Supply	:220V ± % 20 (or 24V optional) ,50 Hz
Power Consumption	:<4 VA (protected by fuse 50mA)
Sensor supply voltage	:+5V or +12VDC (selectable by jumper)
Sensor supply current	:Max.100mA(no fuse)
Relays max. ratings	:Relay1 1xNO+NC 8A,230V AC
	Relay2 1xNO+NC 8A,230V AC
SSR output	:5V DC (non-isolated)

MECHANICAL SPECIFICATIONS:

Dimensions	:72x72x90 mm
Panel cut dimensions	:67x67mm
Body	:ABS plastic
Working temperature	:0-60 ºC
Storage temperature	:-10ºC …+80ºC
Humidity	:<%90 RH

DESCRIPTIONS

BUTTONS

RST
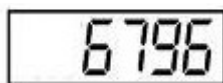1. **Resets** the counter.
2. **Escapes** from program menu.

SET
1. **Enters** to program menu.
2. **Shifts the rows** When programming parameters

▽ △
1. **Travels** in menu.
2. **Changes** the program

COUNTER DISPLAY

6796

PARAMETER DISPLAY

4096

LED INDICATORS

PRG Turns on when equipment programming
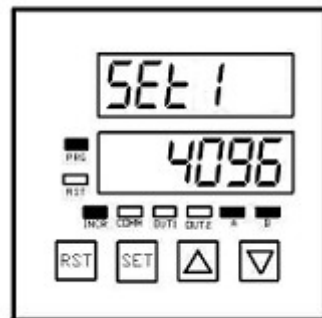
RST Turns on when press RST button.

INCR Indicates that the value on counter display is Incremental value. By presing UP/DOWN buttons you can see calibrated value.

COMM Indicates Communication RS232(optional).

OUT1 OUT1- OUT2 İndicates that Relay1- Relay2 is activated

A A-B indicates the A-B counting inputs from sensor
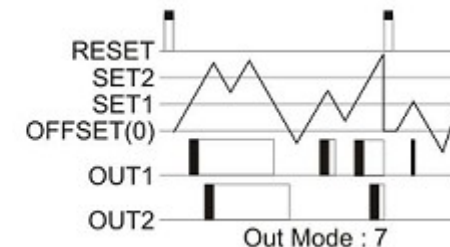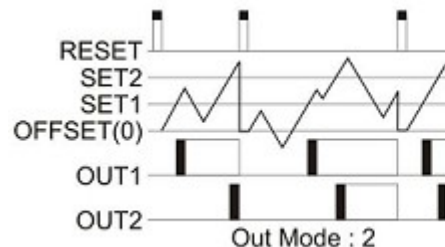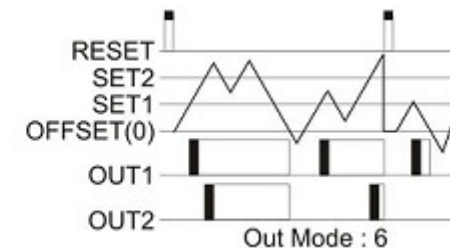
MODEL-CN4 MAIN MENU

SET

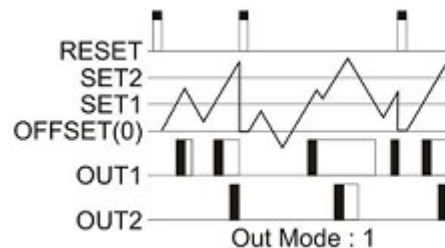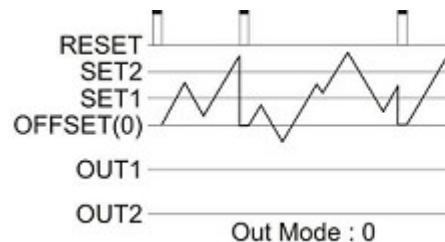
When normal working mode ;

- Upper display shows **Count value,**
- Lower display shows *SET1* **Parameter value**

- *Press SET* button to Enter Main Menu
- *Press UP/DOWN* buttons to see all Parameters in the Menu

MODEL OP-CN4 OUTPUT TYPES

Out Mode : 0

Out Mode : 5

Out Mode : 1

Out Mode : 6

Out Mode : 2

Out Mode : 7

Out Mode : 3

Out Mode : 8

Out Mode : 4

Out Mode : 9
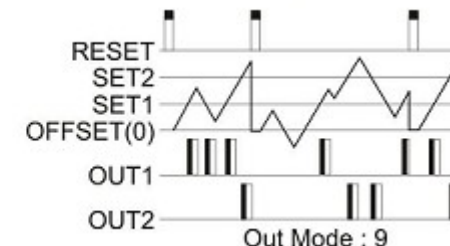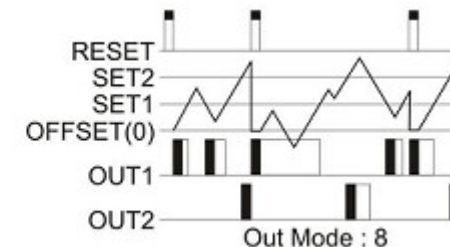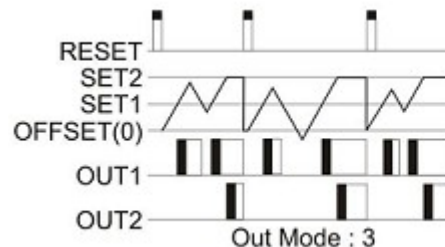
11. dSPtyP

This parameter defines screen format.Available 3 states;

- *Press* *SET* button to enter the submenu When stay on **dSPtyP**
- Please refer to " enterring the CodE."
- *Press* . *UP/DOWN* buttons and select one of this condition.
1. **INC**: Screen shows INCREMENTAL Value.
2. **LEngtH** : Screen shows MEASURING Value.
3. **Both** : By UP/DOWN buttons can be see INC/Measuring values.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

12. rECodE

This Parameter is used to Change the Password(COdE).If the new Password is written **"000000"** then the Equipment do not ask any Password.

- *Press* *SET* button to enter the submenu When stay on **rECodE.**
- Please refer to " enterring the CodE."
- *Press* *UP/DOWN* buttons to write new CodE.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

13. dAtA

This parameter is used to HOLD or DELETE the last counter value in the Memory While the Equipment is switched down electricaly.Available 2 states;

- *Press* *SET* button to enter the submenu When stay on **dAtA**
- Please refer to " enterring the CodE."
- *Press* . *UP/DOWN* buttons and select one of this condition.
  1. **rEC** : Counter value is stored on memory.When power turns on, counting value comes to screen.
  2. **CLear** : Counter value is not stored on memory.When power turns on counting value starts from oFFSEt value.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

14. FCtory

This Parameter helps to turn the factory settings.This parameter has a specific code.To turn the factory settings;

- *Press* *SET* button to enter the submenu When stay on **FCtory**
- *Press UP/DOWN* buttons to write "352947" on display.
- *Press SET* button.**trUe** appears for 2 seconds.
- At the end of the 2 second, **rEStrE(**ReStore) appears on the upper display ,and **dEFS**(dEfaults) appears on the lower display.
- *Press SET* to turn the factory settings.
- **LodnG** (loading) appears on the display for 3 second.The equipment turns the factory settings end of the 3 seconds.
- If u want to back menu *without turning the factory settings Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

15. SoFt
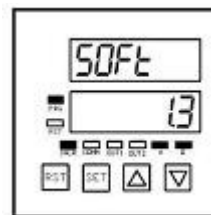
This parameter shows the version of the software.
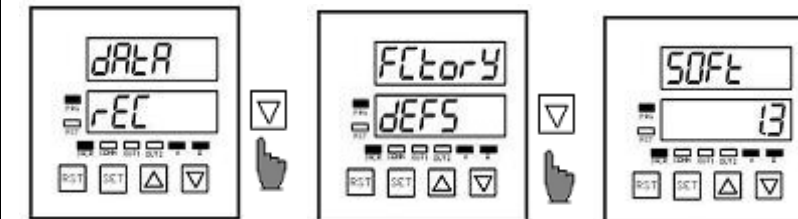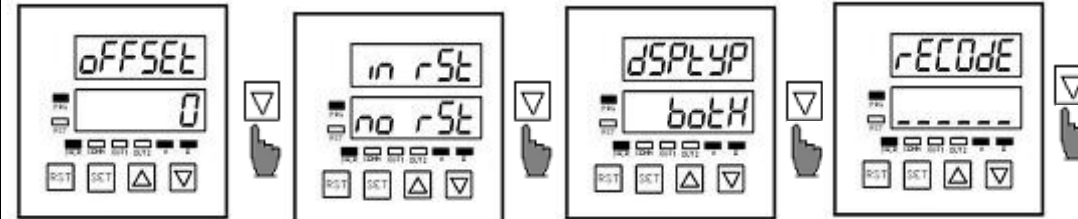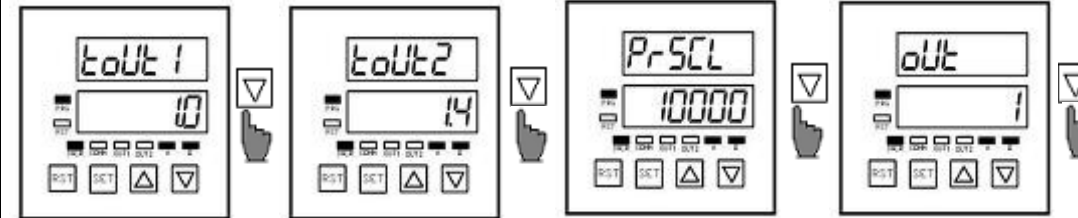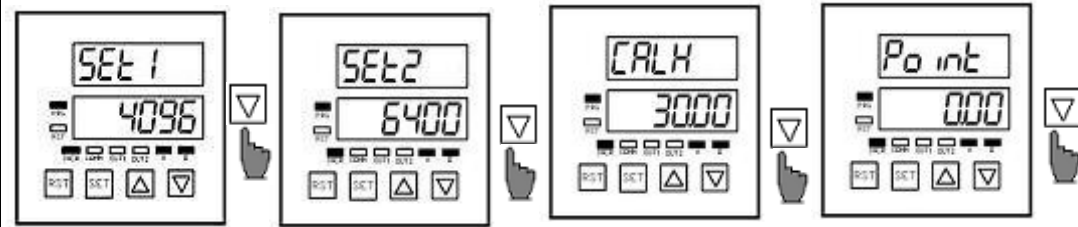
ENTERING "CODE"
For Changing any Parameter, Stay on and *Press SET* button.Program will ask "CodE" to enter.
Entering the code is shown below;

- *ENTER* **CodE** by *UP/DOWN* buttons
- **CodE** is **"000001"** by factory settings.
- Pres SET button to enter the code.
- If the code is correct,for 2 seconds **.TrUE** will be shown on display.
- Then you do not need to re-enter code during programming.
- For changing CodE please refer submenu Settings.(11-rECodE).

SUBMENU SETTINGS

1. SEt1

SEt1 is the value of **Relay1** turns active. (please refer to *tOut1* for duration of activation of Relay1).

- *Press SET* button to enter the submenu When stay on *SEt1.*
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to set the value
- *Press SET* button to shift the row on left.
- After setting all the rows *Press SET* button finally to save the value.
- If u want to back menu *without saving Press RST* button (ESCAPE).
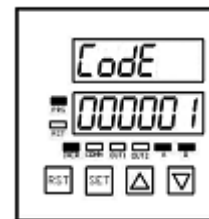- Then equipment backs to main menu automatically.

2. SEt2

SEt2 is the value of **Relay2** turns active. (please refer to *tOut2* for duration of activation of Relay1).

- *Press SET* button to enter the submenu When stay on *SEt2.*
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to set the value
- *Press SET* button to shift the row on left.
- After setting all the rows *Press SET* button finally to save the value.
- If u want to back menu *without saving Press RST* button (ESCAPE)
- Then equipment backs to main menu automatically.

3. CALH (CALIBRATION)

MODEL-CN5 is an Incremental Counter, as well as owing to scaled and calibrated, it is operated as a Distance/Angel Measurement Equipment. Therefore,occured the LENGTH by Sensor movement mechanically is matched the Value seen on the screen.
Sample: When the Senor makes 5000 pulse movement Mechaically,
In order to see 100.00 on the screen;

- *Move* the sensor to the designated position mechanically.
- *Press RST* button to **zero** the counter display.
- *Move on* the sensor to make 5000 pulse on the display.
- After the 5000 pulse occured *Press SET* button to enter the main menu.
- *Press DOWN* button for 3 times and stay on *CALH* submenu. • *Press .SET* button to enter the submenu.
- Please refer to *pg.5* for enterring the CodE • *Press UP/DOWN* buttons and write "0100.00".
- After setting all the rows *Press SET* button finally to **save** the value • Then equipment backs to main menu automatically.
- Anymore,While the INCR mode is not used, for 5000 Pulse 100.00 is written on the screen.(Look at dSPtYP for INCR mode).
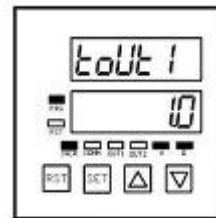
4. Poınt
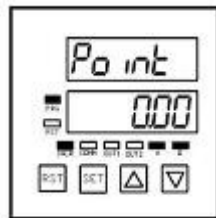
This Parameter defines the Decimal Point.

- *Press SET* button to enter the submenu When stay on *Poınt.*
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to shift the point.
- *Press SET* button to save the point
- If u want to back menu *without saving Press RST* button (ESCAPE).
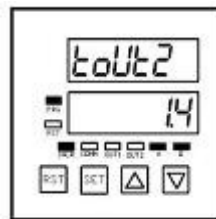- Then equipment backs to main menu automatically.

5. toUt1

This parameter is used to keep in active durationof the RELAY1 in seconds(s). **Sample**: For 1 second duration of RELAY1;

- *Press SET* button to enter the submenu When stay on *toUt1.*
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to write "00001.0" on the display..
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.
- Write to display "000000" for duration continuosly *(HOLD).*

6. toUt2

This parameter is used to keep in active durationof the RELAY2 in seconds(s). Sample: For 1.4 second duration of RELAY2;

- *Press SET* button to enter the submenu When stay on *toUt2.*
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to write "00001.4" on the display..
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.
- Write to display "000000" for duration continuosly *(HOLD).*

7. PrSCL

This parameter is used as a Multiply Coefficient.In CALH Parameter setup,If the right value is not able to been create mechanicly, the Calibration can been made by calculating the coefficient Mathematically.Write it in space 0.001<PrSCL<99000 .
When the PrSCL value changed,the Previous Calibration data is deleted automaticaly.

- *Press SET* button to enter the submenu When stay on **PrSCL.**
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to write the calculated value.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

8. oUt

This parameter is used to define the Operation Types of the Realy1 and Relay2.please refer OUTPUT TYPES

- *Press SET* button to enter the submenu When stay on oUt.
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to write among **0-9** a number .
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

9. oFFSEt

This Parameter is used to define the initial value of the Counter, When Pressed the RST button or an external Z/Reset Pulse enabled.After this Resettlement the counter count forward or reverse from new OFFSET value. The Default Counter value is zero

- *Press SET* button to enter the submenu When stay on **oFFSEt.**
- Please refer to " enterring the CodE."
- *Press UP/DOWN* buttons to write the ofset value.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.

10. ınrST
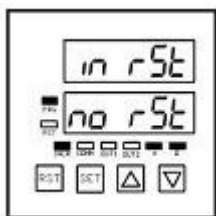
This Parameter is used to define that, in which EDGE of External Z/Reset pulse, the Counter will reset.Available 3 states

- *Press SET* button to enter the submenu When stay on **ınrSt.**
- Please refer to " enterring the CodE."
- *Press . UP/DOWN* buttons and select one of this condition.
1. **norSt** :Disable Z/Reset.
2. **FALL** :Triggered by the falling edge of Z/Reset.
3. **.riSE** :Triggered by the rising edge of Z/Reset.
- *Press SET* button to save.
- If u want to back menu *without saving Press RST* button (ESCAPE).
- Then equipment backs to main menu automatically.