

ELECTRICAL CONNECTION

## 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 $\pm$ % 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 °C
Storage temperature	: -10°C ...+80°C
Humidity	:<%90 RH

### Manufacturer:



Terazidere Mah.60.Yil Cad.No:5/3  
34035 Bayrampasa/ISTANBUL/TURKEY  
TEL: 0 212 501 48 63  
FAX: 0 212 501 48 83  
Email: [opkoninfo@opkon.com.tr](mailto:opkoninfo@opkon.com.tr)

## DESCRIPTIONS

### BUTTONS



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

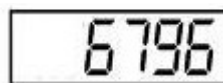


1. **Enters** to program menu.
2. **Shifts the rows** When programming parameters

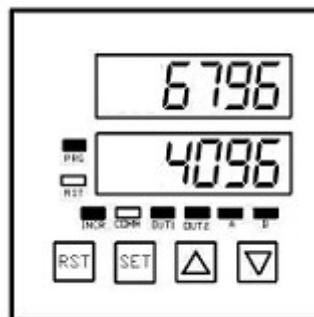


1. **Travels** in menu.
2. **Changes** the program

### COUNTER DISPLAY



### PARAMETER DISPLAY



### LED INDICATORS



Turns on when equipment programming



Turns on when press RST button.



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



Indicates Communication RS232(optional).

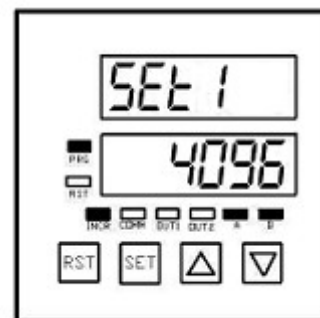


OUT1- OUT2 Indicates that Relay1- Relay2 is activated



A-B indicates the A-B counting inputs from sensor

### MODEL-CN4 MAIN MENU

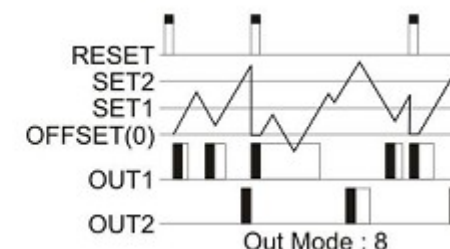
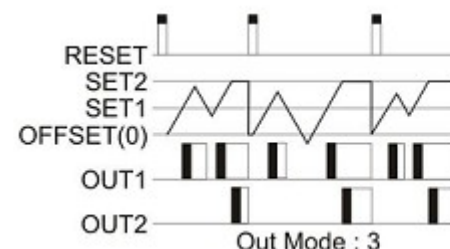
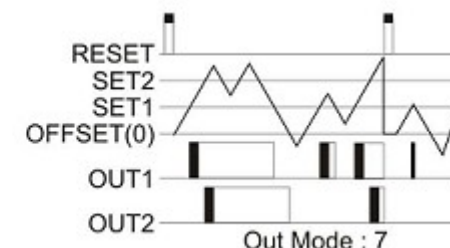
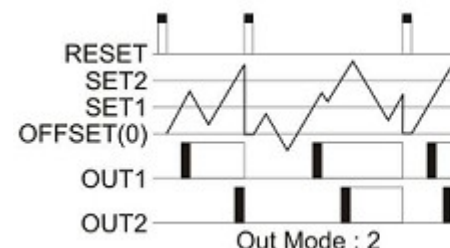
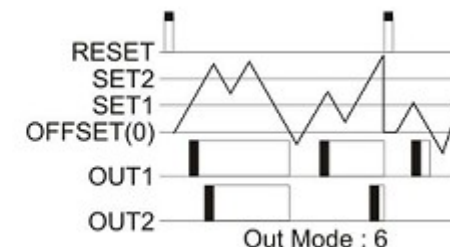
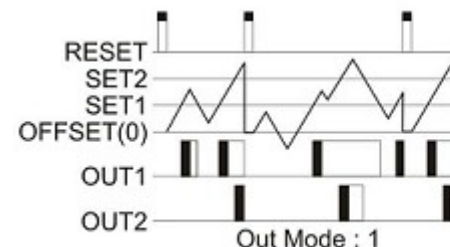
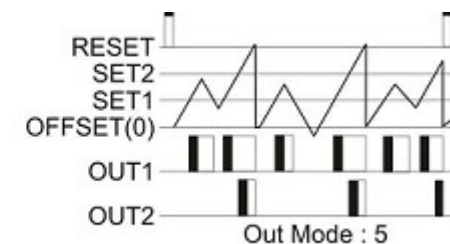


When normal working mode ;

- 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



#### 11. dSPtyP



This parameter defines screen format. Available 3 states;

- **Press SET** button to enter the submenu When stay on **dSPtyP**
- Please refer to "entering 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 "entering 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 electrically. Available 2 states;

- **Press SET** button to enter the submenu When stay on **dAtA**
- Please refer to "entering 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.

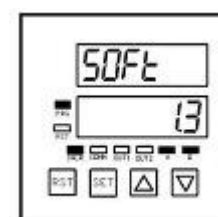
#### 14. FCtory



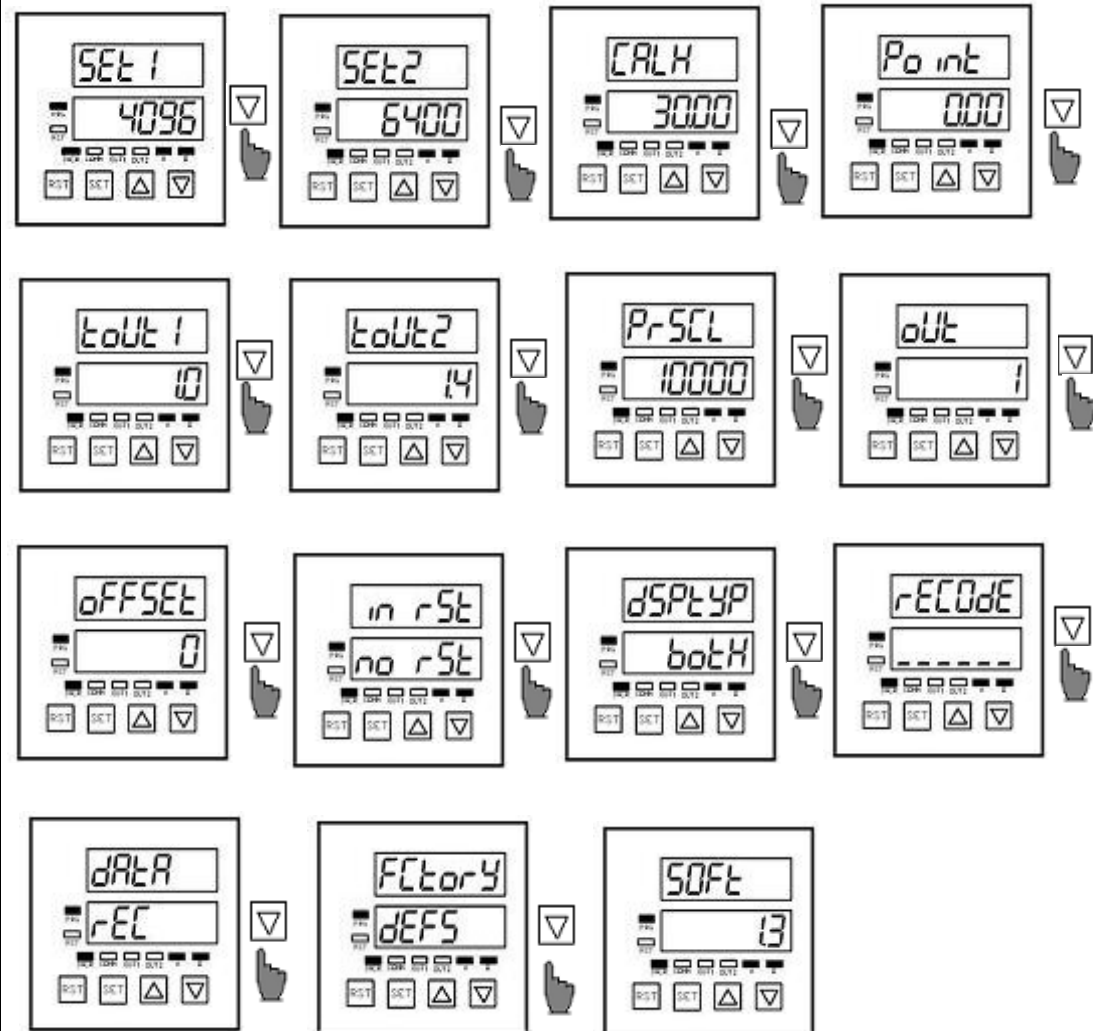
This Parameter helps to turn the factory settings. This parameter has a specific code. To turn the factory settings;

- **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

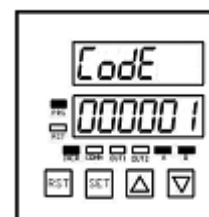


This parameter shows the version of the software.



#### 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

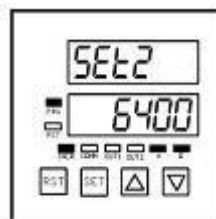
### 1. SEt1



**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 "entering 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 "entering 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)

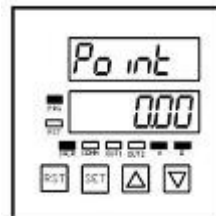


MODEL-CN5 is an Incremental Counter, as well as owing to scaled and calibrated, it is operated as a Distance/Angel Measurement Equipment. Therefore, occurred the LENGTH by Sensor movement mechanically is matched the Value seen on the screen.

**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 occurred **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 entering 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.
- Anywhere, While the INCR mode is not used, for 5000 Pulse 100.00 is written on the screen. (Look at dSPtYP for INCR mode).

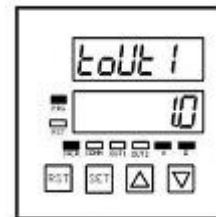
### 4. Point



This Parameter defines the Decimal Point.

- **Press SET** button to enter the submenu When stay on **Point**.
- Please refer to "entering 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 duration of 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 "entering 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 continuously (**HOLD**).

### 6. toUt2



This parameter is used to keep in active duration of 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 "entering 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 continuously (**HOLD**).

### 7. PrSCL



This parameter is used as a Multiply Coefficient. In CALH Parameter setup, If the right value is not able to be created mechanically, the Calibration can be 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 automatically.

- **Press SET** button to enter the submenu When stay on **PrSCL**.
- Please refer to "entering 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 "entering 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.

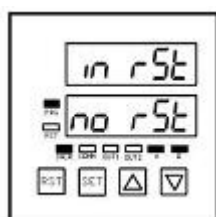
### 9. oFFSEt



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 "entering 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. inrSt



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 **inrSt**.
- Please refer to "entering 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.