

INSTALLATION PROCEDURE

FOR THE INNOVEC C048

POWERED

TOTALISOR



CO48 TOTALISOR CALIBRATION PROCEDURE

Thank you for purchasing an Innovec product. The CO48 totalises flow in increments of one unit and 0.1 units. It displays the total on a 8 digit 10mm LED display in a panel mount enclosure. These values are stored in non volatile eeprom memory for a minimum period of 10 years. The instrument includes a current total (the total displayed on the digital display) and a background total. The purpose of the background total is to have a stored count of all pulses received so far whereas the count on the display may be just for 'job x' and can then be reset to zero but allowing the user to have a store in the background of all parts counted over a number of different jobs.

Step 1 - Panel Installation

The instrument is supplied in a 48 x 96mm din standard enclosure with sealed weatherproof front 110mm deep and is designed to be panel mounted with a panel cut out of 43mm high by 90mm wide. To mount, the instrument should be pushed through the cut out from the front and the two screw clamps should be attached from the rear and tightened so the instrument is held firmly in the panel

Step 2 - Electrical Connection

The instrument has been supplied with a two part screw terminal for easier installation which has a twelve (12) way plug for signal and power connection. **Before connecting power to the instrument always check the label** for the supply the instrument has been configured for:

For a nominal 240VAC operation connect AC power to:

- (a) Terminal 10 is 240VAC supply**
- (b) Terminal 11 is neutral supply**
- (c) Terminal 12 is ground supply**

For a nominal 24VDC (18-36VDC) operation connect **DC** power to:

- (a) Terminal 10 is 24VDC supply**
- (b) Terminal 11 is 0VDC supply**
- (c) Terminal 12 is ground supply**

Step 3 - Input signal connection

The instrument accepts inputs from a clean contact (contact closure) or 24VDC voltage source.

- If you are using a contact closure or open collector transistor input then connect your positive input to terminal (2) and negative to terminal (1) internal 0VDC
- If you are using a 24VDC voltage input then the instrument needs to be removed from its case and link1 moved to link 2.

Step 4 - Using the 24VDC loop supply

The 24VDC loop supply is available on terminal four (4) but is limited to a current capacity of approximately 30mA.

Step 5 - Reset input

The instrument incorporates a manual reset input for the counts on the display and the background total. This is available by connecting a normally open switch between terminal five (5) and terminal one (1) input common. By closing a normally open switch across these inputs will cause the count on the display to reset to zero. To reset the background total this contact must be maintained for approximately ten (10) seconds.

Step 6 - Instrument Calibration

All functions of the instrument are programmable from the four touch buttons mounted on the front panel.

		mode	prog/run
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To enter the programming mode press:

<u>Prog/Run</u>

The display shows:

ACCES

It is necessary to push in sequence:

UP BUTTON then DOWN BUTTON then UP BUTTON again.

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You are now in the programming mode. The instrument displays:

dp

This is the **decimal point selection**. Only the up button is used and you can choose 0000.0 or 00000 (no dp).

Pushing the up button will cause the decimal point to increment right to left. If no changes are required or when you have selected the required decimal point position press:

mode

The display shows:

dispn

and a number (n for number) which is the **display brightness**. The intensity of the LED digits can be adjusted. The number goes 0,1,2,3,4,5,6,7,8,9,-,L,H,d,P,blank. Pushing the up button will cause the number to increment or pushing the down button will cause the number to decrement. If the up or down button is being pushed the number increments or decrements and the display brightness increases or decreases accordingly. If no changes are required or when you have selected the required display brightness press:

mode

to show:

CALF

For the (**K factor**.) This is what the instrument uses to calculate the flow units. This is displayed for approximately 3 seconds before displaying the actual Kfactor value.

PLEASE NOTE: The K factor can be from 00.000001 to 01.000000. To enter the Kfactor it is first necessary to calculate this value. (Note the K factor is entered into the instrument as the reciprocal of the actual factor. Divide 1 (for one litre) by the calibration factor of your flow sensor. If your flow sensor has a factor of 7, then divide 1 by 7 = 0.142867. This is the factor you should enter.

This can be changed using the up or down button. Pressing the up button causes the least significant digit [digit 1] (the right hand digit when viewed from the front) to increment. If the up button is kept pressed after digit 1 has incremented to 9 it will stop and digit 2 will increment and so on. If the up button is released at any time and pressed again incrementing will start from digit 1.

Pressing the down button causes the least significant digit [digit 1] (the right hand digit when viewed from the front) to decrement. If the down button is kept pressed after digit 1 has decremented to 0 it will stop and digit 2 will decrement. If no changes are required, or when you have selected the required kfactor,

Mode

And you have returned to the beginning of the menu.

If you have finished configuring the instrument then press:

Prog/Run

The instrument returns to run mode and all variables are written to non volatile memory. [It should be noted that if none of the buttons are pressed in a twelve (12) second period the instrument will revert back to run mode without saving any variables to the non volatile memory.] If a mistake has been made you can cycle through the variables using the button marked:

mode

or if no buttons have been pressed for 12 seconds the instrument will automatically revert back to run mode.

Run Mode Functions

Run mode functions: When the instrument is in run pressing the MODE button will display the background total. Releasing this button will revert back to the current count.

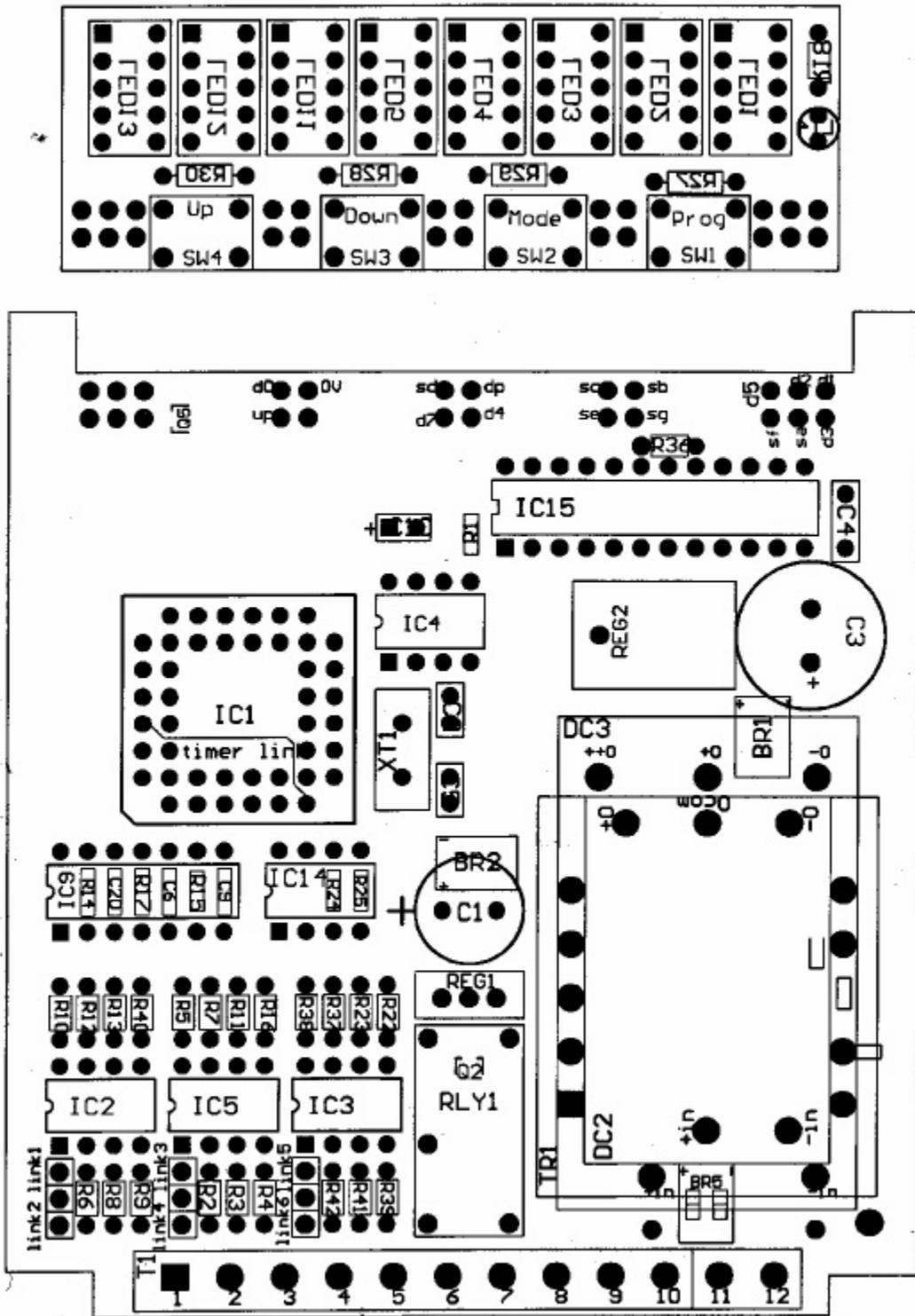
Table one

Link 1 for count up input	Selects open collector, reed switch input
Link 2 for count up input	Selects voltage source input from 24VDC proximity switch etc.
Link 3 for count down input (not implemented)	Selects open collector, reed switch input
Link 4 for count down input (not implemented)	Selects voltage source input from 24VDC proximity switch etc.
Link 5 for reset input	Selects open collector, reed switch input
Link 6 for reset input	Selects voltage source input from 24VDC proximity switch etc

Rear view of instrument screw terminal arrangement

1	2	3	4	5	6	7	8	9	10	11	12
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Terminal 1	Input common
Terminal 2	count up input (contact closure)
Terminal 3	count down input (not implemented)
Terminal 4	24VDC loop supply
Terminal 5	Reset input
Terminal 6	not used
Terminal 7	Relay 1 normally open contact
Terminal 8	Relay 1 normally closed contact
Terminal 9	Relay 1 common contact
Terminal 10	240VAC / 24VDC supply
Terminal 11	Neutral / 0VDC supply
Terminal 12	Ground supply



CO48 Mother and display board