

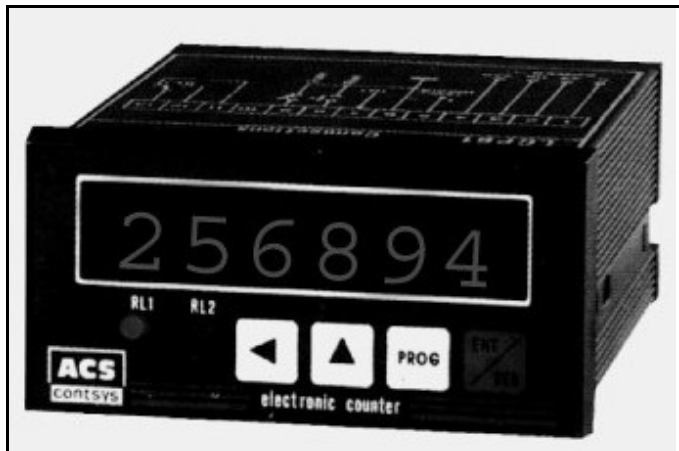


VISUALIZED DIGITAL COUNTER WITH TWO SET POINTS

Type:
LCM62

VISUALIZED DIGITAL 6 DIGITS COUNTER, WITH INPUT FOR SINGLE DIRECTIONAL COUNTS, TWO SET POINTS OF INTERVENTION AND IMPULSES TOTALIZER.

The **LCM 62** counter finds application where there is the necessity to visualize and to control, through two programmable set points, mono-directional counts deriving from electromechanical and logical contacts, proximity and encoder.



MAIN FEATURES

- Frontal keyboard in polycarbonate (antiscratch, antioil, antacid).
- IP65 protection degree
- Accessible parameters with key software
- Removable terminals connection.
- Execution DIN 48 X 96.
- Recessed assembly.
- Special retaining brackets.

PROGRAMMABLE PARAMETERS

- Two set points
- Reset time
- 2 conversion factors of the impulses
- Input (Slow / Fast)
- Count (Up / Down / Superior)
- Memory
- Reset key
- Set Point 2 in Absolute or Offset mode
- Decimal Point

TECHNICAL FEATURES

• POWER SUPPLY IN ALTERNATE CURRENT	: Single power 24 - 110 - 230 Vac (50 / 60 Hz).
• POWER SUPPLY IN DIRECT CURRENT	: Single power 24 Vdc
• POWER SUPPLY TOLERANCE	: +10% - 15%.
• ABSORPTION	: 2 W - 3 VA.
• OPERATING TEMPERATURE	: -5 °C + 55 °C.
• CLIMATIC CONDITIONS	: U.R. 95 % at 40 °C (without condensate).
• COUNTER AND TOTALIZER VISUALIZATION	: 6 digits, 14mm high
• MULTIPLICATION FACTOR M1 OF THE IMPULSES IN INPUT	: Programmable from 0,00001 to 9,99999.
• MULTIPLICATION FACTOR M2 OF THE IMPULSES IN INPUT	: Programmable from 1 to 99.
• INPUT TYPE	: Suitable for electromechanical contact and NPN or PNP signals
• COUNT FREQUENCY FOR LOGICAL SIGNALS	: Up to 15 KHz with Duty Cycle=50%.
• MINIMUM TIME FOR COUNT IMPULSES	: 0,25 mSec.
• CUT FREQUENCY FOR ELECTROMECHANICAL INPUTS	: About 30 Hz.
• AUXILIARY INPUTS POWER SUPPLY	: 24 Vdc - 80 mA available on terminals.
• COMMAND INPUTS	: 1 Counter Reset - 1 Inhibit.
• OUTPUTS	: 2 relays with operating contacts - capacity 2A - 250Vac.
• RELAY RESET	: Manual or automatic with excitation time from 0,1 to 99,9 sec.
• PROGRAMMED DATA MEMORY	: static (no battery)

DESCRIPTION OF THE FRONTAL KEYBOARD

 **YELLOW**

The key '**LEFT ARROW**' in normal operating phase visualizes, blinking, all the programmings executed without the limitation of the insertion code. The time of scansion of the programmings is given from the pressure of the same key. It exits automatically from this phase after 5 sec of the last pressure of the same key.
In programming phase it moves the cursor of the figure towards left of a step, than at the beginning it is on the right side first one on the. At the end it resumes from the first one to right.

 **YELLOW**

The key '**UP ARROW**' in normal operating phase visualizes the totalizer of impulses.
In programming phase it increases the value of the blinking figure.

 **BLUE**

The key '**PRG**' pressed for 2 sec. allows to enter in the programming phase, visualizing on display C.0000.
In the programming phase, pressing key 'PRG' impulsively, it exits from the programming phase. The instrument exits automatically from the programming phase, 60 sec. after the pressure of the last key.

 **RED**

The key '**ENT/RES**' in normal phase of counting has the 'RESET' function, with the modalities to it attributed in the programming phase.
In programming phase it confirms and memorizes the visualized data and passes to the successive function. If it has arrived to list end it resumes from the beginning.

INPUTS / OUTPUTS DESCRIPTION

DC POWER
(inputs 1 - 2)

24V DC Power Supply of the instrument.

AC POWER
(inputs 3 - 4)

Power Supply of the instrument; it can be to 24 - 110-230 VAC according to demand.

24 VDC - 80mA
(inputs 5 - 6)

24 VDC - 80 mA auxiliary Power Supply that the instrument supply to feed Encoder and amplified proximity.

COUNT INPUT
(input 7)

Input of count adapted for electromechanical and logical contacts, encoder and 3 wires amplified proximity, configurable in Positive (PNP) and Negative (NPN) logic.

RESET
(input 8)

Input of RESET that executes the reset visualized count showed on display at the moment of its activation.

INHIBIT
(input 9)

Input of count inhibition: when activated it blocks the count of the normal counter and the totalizer.

RL2
(inputs 10 - 11)

Output of Relay 2, connected to the operation of the Set Point S2. The Common and Normally Opened contacts are available.

RL1
(inputs 12 - 13)

Output of Relay 1, connected to the operation of the Set Point S1. The Common and Normally Opened contacts are available.

DESCRIPTION OF THE LED'S OPERATION

LED 1

It comes activated to the reaching of the Set Points S1.

LED 2

It comes activated to the reaching of the Set Points S2.

LED 1 (REAR)

Shows the presence of the impulse's signal in input

SET POINTS PROGRAMMING

For SET POINTS programming access, proceed as follow:

- Press key **PRG** in impulsive mode; on display appears:

S1
999999

S.1 = SET POINT 1, main Set Point, programmable between 0 and 999999. If programmed = 0 the Set Point remains excluded and the instrument works like a totalizer and predisposing the count in UP mode.

S2
999999

S.2 = SET POINT 2, Point, programmable between 0 and 999999. If it programmed with value higher or same to S1 it comes reprogrammed like $S2 = S.1 - 1$.

Key **ENT** confirms the data and passes to the successive programming. In order to exit the programming, press key **PRG**.

PROGRAMMING OF THE OPERATION PARAMETERS

The programmable parameters are divided in two groups and protect with a 4 figures code.

In order to approach the programming, proceed in the following way:

- Press key **PRG** for about 2 sec. On the display appears:

C. 0000

GROUP 1: to approach the parameters of group 1, insert code **2357** and press **ENT**.

n1
100000

6 digits multiplier, programmable from 0,1 to 9.99999. This parameter allows to convert the number of the input impulses, showing them on the display in an other format. If it programmed = 0 it comes reprogrammed automatically to 1. If a value lower than 1 is inserted, it obtains the division of the impulses. Es. I want to divide for 25 the impulses in input; calculation $1 : 25 = 0.04$.

Attention: the variation of the value of the multiplying modifies automatically the value of the count and the totalizer.

n2 10

2 digits multiplier, programmable from 1 to 99. This parameter allows to convert the number of the input impulses, showing them on the display in an other format. If it programmed = 0 it comes reprogrammed automatically to 1.

Attention: the variation of the value of the multiplying modifies automatically the value of the count and the totalizer.

t.r. 99.9

t.r. = Automatic Time of Reset, programmable from 0.0 to 99.9 sec. This parameter allows to make to work the instrument in **automatic** mode. When the count arrives to the value of S.1, it automatically resets the count, excites the RL1 relay and it resumes to count without to lose the impulses. The RL1 relay remains excited for the time set up in **t.r.** If the time of reset is programmed = 0 (0.0) the instrument gets ready to works in **manual** mode.

Particular cases: if the set up time **t.r.** is smaller of the time employed from the count to arrive to the values of S.1 or S.2, the relative relays will not never come unactivated.

In F
In S

Input Fast - Slow.

This programming allows to predispose the input of count to read signals coming from electromechanical contacts (relay, switches etc.) that introduces false signals, or from logical signals like proximity, encoder, transistor etc.)

In = F. predisposes the instrument in order to read to logical signals up to 15 KHz.

In = S. predisposes the instrument in order to read to electromechanical contacts up to 25 Hz.

Cn UP
Cn dn
Cn Sp.

Count UP / DOWN / Superior.

Count = Up: the counter gets ready to visualize the count in increasing way (UP), starting from zero up to the programmed value of set point. To ended count it behave in Manual or Automatic mode like programmed in **t.r.**

Count = dn: the counter gets ready to visualize the count in decreasing way (DOWN), starting from the programmed value of set point to zero. To ended count it behave in Manual or Automatic mode like programmed in **t.r.**

Count = Sp: the counter gets ready to visualize the count in increasing way, starting from zero up to the programmed value of set point. To the attainment of the value of programmed set point it behave as in the Manual count and continues to count the impulses in input.

PROGRAMMAZIONE DEI PARAMETRI DI FUNZIONAMENTO

The programmable parameters are divided in two groups and protect with a 4 figures code.

In order to approach the programming, proceed in the following way:

- Press key **PRG** for about 2 sec. On the display appears:

Cod
0000

GROUP 2 : in order to approach the parameters of group 1, insert code **2413** and press **ENT** key

MEMon
MEMof

Active or excluded memory.

This parameter allows to program the saving of the current counter value during the power off the instrument.

MEM.on. = memorization of the count during the power off. When power on the instrument the display will visualize the last present value in the power off phase.

MEM.of. = excluded memorization of the count; every time that the instrument comes powered off and then powered on the count comes lost and the instrument restart always from the initial condition.

RESon
RESof

RESET Key ON / OFF; this programming enables and disables the RESET function of frontal key RES during the operation of the counter. The disabling does not allow to reset the counter and the totalizer.

RES.on = RESET function of key RES **enabled**

RES.of. = RESET function of key RES **disabled**

S2 AS
S2 of

S2 programming in Absolute or Offset mode.

This programming allows uses of S.2 set point in ABSOLUTE or OFFSET value regarding S.1.

S.2 = AS. Programming of S.2 in ABSOLUTE value. The programmed value is the real value to which it will active the set point S.2 in UP and SP mode. In dn. mode S.2 will active as impulses before zero as has been programmed. Example of operation in UP and SP. mode with S1 = 100 and S.2 = 80: the set point S.2 will be active at 80 and S.1. at 100. In DOWN (dn.) mode, S.2 will be active at 20 (80 impulses before 0) and S.1 = 0.

S.2 = of. Programming of S.2 in OFFSET regarding S.1. With this programming the real value of S.2 is legacy to the value of S.1. The value of S.2 is obtained from the difference of S.1 and S.2. In UP and SP. mode, S.2 will be active as impulses before S.1 as has been programmed. In DOWN (dn.) mode the S.2 set point will be active as impulses before zero as has been programmed. Es. of operation in UP and SP mode. S1 = 100 and S.2 = 80: the S.2 set point will be active to 20 (80 impulses before S.1) and S.1. to 100. In DOWN (dn.) mode S.2 will be active to 80 (80 impulses before 0) and S.1 to zero. Changing to the value of S.1, automatically the absolute value of S.2 changes.

dP. 0
dP. 5

Programming of the Decimal Point of the Counter and the Totalizer.

This programming allows to add a decimal point to the visualization on the 5 digits, in order to obtain counts with various resolutions.

d.p. = 0 Decimal Point excluded; visualization 999999

d.p. = 1 Decimal Point on the second display from right; visualization 99999,9

d.p. = 2 Decimal Point on the third party display from right; visualization 9999,99

d.p. = 3 Decimal Point on the quarter display from right; visualization 999,999

d.p. = 4 Decimal Point on fifth display from right; visualization 99,9999

d.p. = 5 Decimal Point on sixth display from right; visualization 9,99999

Attention, the Decimal Point is only fictitious, it doesn't realize any conversion.

Out
Out

Programming of the OUTPUT 1 RL1. This parameter allows to activate the RL1 relay to the beginning or to the end of the count.

Out.1 = the Activation of the RL1 relay to end of count

Out.1 = the Activation of the RL1 relay to beginning of count

Ou2

Ou2

Programming of the OUTPUT 2 RL2. This parameter allows to activate the RL1relay to the beginning or to the end of the count.

Ou.2 = Activation of the RL2 relay to end of count

Ou.2 = Activation of the RL2 relay to beginning of count

AP. P.


AP. r.

Activation mode of the programmed parameters.

With this programming is possible to activate the executed programmings directly to the exit of the programming or, when exited of the programming, after a RESET (with frontal key or from rear input)

A.P. = P. Activation of the parameters to the exit of the programming.

A.P. = r. Activation of the parameters to the exit of the programming after a RESET.

Pressing the key  the totalizer of impulses will be visualized for 5 sec.

tot.

999999

The totalizer visualizes all the impulses that the instrument counts from its input IN1. It can be resetted through frontal key RES only or from RESET input when it is visualized on the display.

DECLARATION OF 'CE' CONFORMITY

CE NORMATIVE CONFORMITY

Borgolavezzaro, September, 8th 2000

The building firm: **CET Control System S.a.s.**

Head office: **Strada Statale 211, Km 53,3**
28071 Borgolavezzaro (No) ITALIA
Tel. 0039 - (0)321 - 885301 Fax. 0039 - (0)321 - 885560

declare that the products:

type : **Electronic Counter**

model: **LCM 62**

use class: **Industrial**

are in conformity with the following normatives:



EN55011
ENV50141
ENV50204
EN61000-4-2
EN61000-4-4

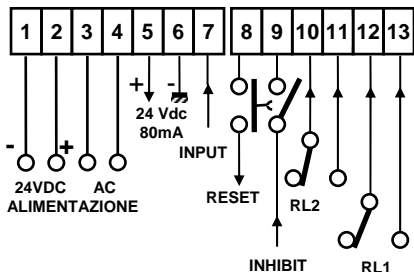
The manufacturing : **CET s.a.s.**

C.E.T. S.A.S.
di FRANCHINO & C.
S.S. 211 - TEL. 0321 - 885188 - 885301
28071 BORGOLAVEZZARO
C. I. • part. IVA 00141780031

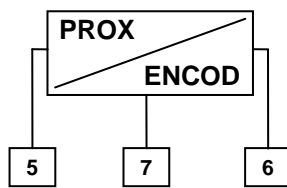
Signature

CONNECTIONS

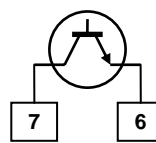
PROGRAMMING NPN  PROGRAMMING PNP 



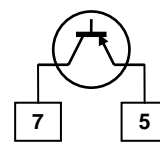
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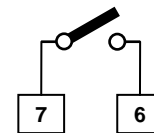
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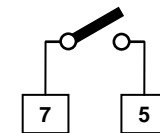
7 6



7 5

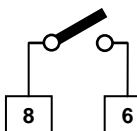


7 6



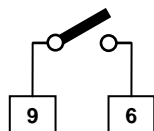
7 5

RESET



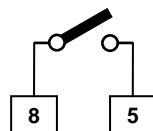
NPN

INHIBIT



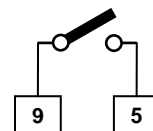
NPN

RESET



PNP

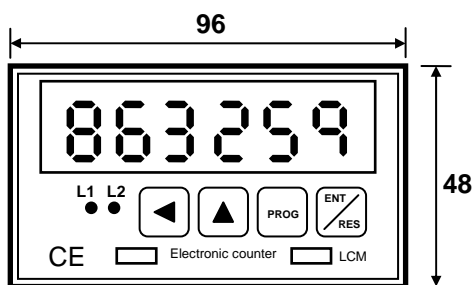
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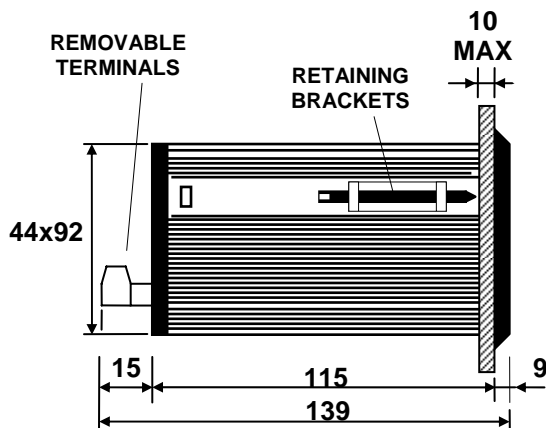
PNP

OVERALL DIMENSIONS (mm)

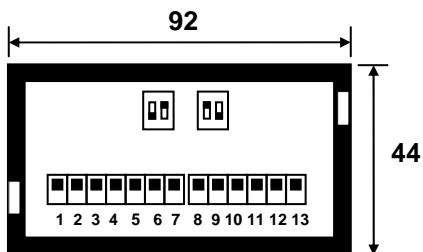
FRONT



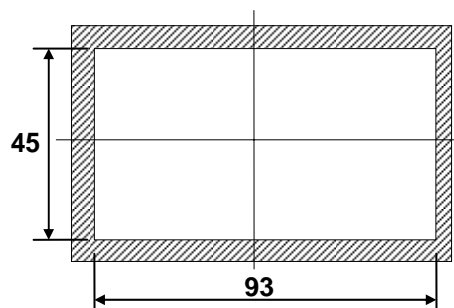
SIDE



REAR



DRILL TEMPLATE



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