B2X_2

B2X02	=	115 Vac
B2X12	=	230 Vac
B2X22	=	24 Vac
B2X32	=	24 Vdc (11,8…30 Vdc)

CE

PULSE COUNTER WITH TWO THRESHOLD ALARMS

- Monodirectional and bidirectional pulse counter
- Counter with scale ±999999
- Reset key (disabling/enabling) and by digital input
- Weight impulsive (example: impulse/ litre) programmabile
- Two count input UP, DOWN; UP & DOWN; UP & UP
- Max frequency 10 kHz
- Signal NPN, PNP, mechanic
- Sensor power supply
- Two thershold with following function compare, slow down, dosing
- Manual or automatic cycle
- Frontal dimensions 96x48 mm (depth 100 mm)

1.0 SAFETY PRECAUTIONS

Before using the instrument read the warnings supplied with the product (see 3.1 Packaging list) ad all is indicated below.
The instrument is a electronic component and you don't have to be esteemed it a machine. For these reason the instrument does n't fulfil ECC 83/392 directive.
If the instrument is utilised as a part of a machine, it can't work if the entire machine doesn't fulfil EEC 83/392 directive.
The instrument marking doesn't dispense the customer to fulfil the law obligations relatives the entire machine.
Preventively make sure that the instrument model matches with the appropriate power supply voltage (see 3.6 paragraph).
Insert a adequate protection on power supply circuits; we recommend a 100 mA fuse protection with medium retard intervention.
The instrument is exempt to fulmination phenomenons (internal "surge" protection).
By pressing any buttons you will stop the positioning process.
The instrument is a electronic component and can't replace a mechanical safety device.
The manufacturer refuse all responsibility in order to a possible malfunction.

Preventively make sure that the instrument model matches with the appropriate power supply voltage (see 3.6 paragraph).

2.0 DESCRIZIONE GENERALE

Monodirectional and bidirectional pulse c ounter with scale ±999999. Maximum frequency in input is 10 kHz. SET1 and SET2 led indicate the status ofrespective relay.
The range of SET is ±999999 if the set are independents or 0...999999 if SET 1 is relative to SET2 (see paragraph 4.2 "function cycles ").

3.0 PREPARAZIONE PER L'USO

3.1 PACKING LIST

- ❑ user's manual
- ❑ warnings
- ❑ apparatus
- ❑ two fixing clamps
- ❑ two extractable 12 + 6 pole terminal blocks (into the unit)

3.2 ASSEMBLY AND INSTALLATION

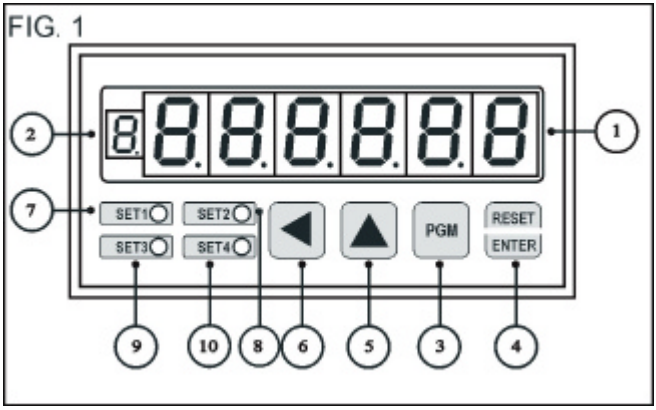
The instrument is setted up for panel mounting.
It is fixed in place with the two clamps provided.
The maximum permitted panel thickness is 4mm.
Make all electrical connections with power supply off.
Take care to ensure electrical connections are correct.

3.3 ASSEMBLY AND INSTALLATION

Insert the instrument in the panel.
It is fixed in place with the two clamps provided.
Insert the clamps into the button-holes in the right and left sides of the instrument and put them in tension turning the pin with a screw-driver (slot or cross, 4 mm).
Make all electrical connections are correct as showed in the schemas below.

3.4 FRONTAL VIEW

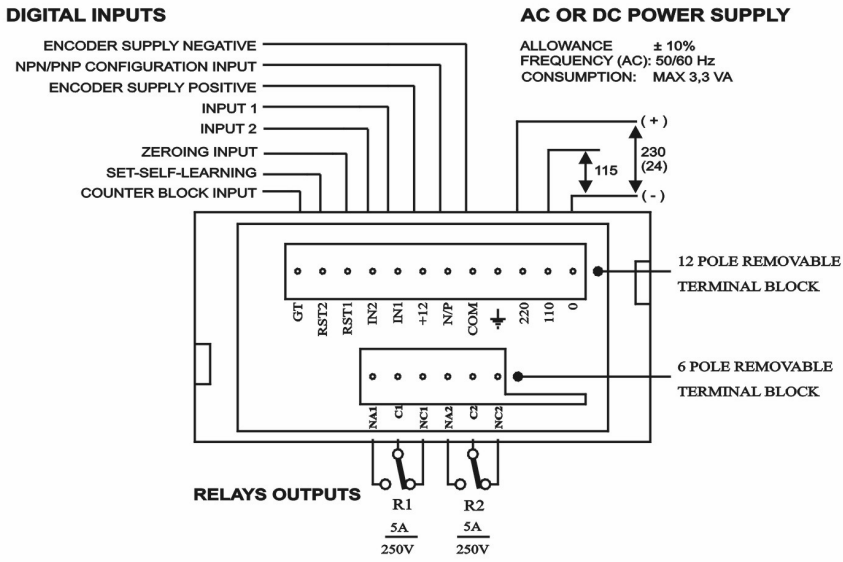
FIG. 1



1= 6-digit reading indicator (character high 12.5 mm).
2= 9 millimetres display with two functions:
show the label of parameter during programming
show polarity of value during normal operation.
3= PGM programming access key.
4= Dual function RESET/ENTER key:
used for reset during normal operation,
enter data during programming.
5= UP arrow key. Used to change selected digit.
6= SHIFT arrow key with two functions:
used to move selected digit during programming,
used to show SET1 and SET2 value in normal function
7= SET1 LED: relay 1 energising, status indicator.
8= SET2 LED: relay 2 energising, status indicator.
9= not enabled
10= not enabled

3.5 REAR VIEW AND CONNECTIONS

FIGURE 2



3.6 POWER SUPPLY

Preventively make sure that the instruments model matches with the appropriate power supply voltage .

Model	Power supply	Notes
B2X02	115 Vac	Tolerance: ± 10%
B2X12	230 Vac	Tolerance: ± 10%
B2X22	24 Vac	Tolerance: ± 10%
B2X32	24 Vdc	Range 12….30 Vdc

All data are stored in a E^2PROM static memory therefore they are kept with power off.

3.7 ELECTRICALS CONNECTIONS

Two removable 12+6 pole terminal blocks are provided at the rear of the instrument for electrical connections (see Figure 2).

3.7.1 POWER SUPPLY

24 Vdc to terminals 0 (negative) e 24 (positive)
24 Vac to terminals 0 e 24
115 Vac to terminals 0 e 110
230 Vac to terminals 0 e 220
Connect ground to associated terminal (⏚)

3.7.2 DIGITAL INPUTS

NPN inputs: connect terminal N/P to terminal +12 (see Figures 3 and 4).
PNP inputs: connect terminal N/P to terminal COM (see Figures 5 and 6).

Sensor power supply:	Positive = +12	
	Negative = COM	
Count:	input 1 = IN1	
	input 2 = IN2	
Reset:	Short circuit between:	(if NPN) RST1 and COM
		(if PNP) RST1 and +12
	Pulse counter resets to zero when reset contact is closed.	
Gate:	Short circuit between:	(if NPN) GT and COM
		(if PNP) GT and +12
	Pulse counter stops when gate contact is closed.	
Set2 self learning:	Short circuit between:	(if NPN) RST2 and COM
		(if PNP) RST2 and +12
	Counter load count value on set2 (only positive values).	

FIG. 3
ENCODER NPN (or PUSH-PULL)
power supply from the instrument

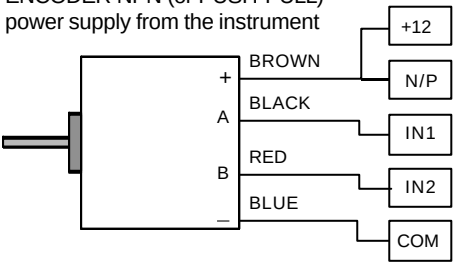


FIG. 4
ENCODER PNP
power supply from the instrument

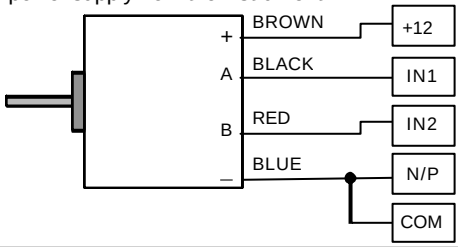


FIG. 5
ENCODER NPN (or PUSH-PULL)
external power supply

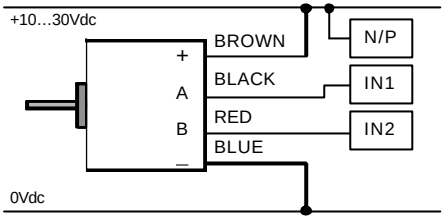


FIG. 6
ENCODER PNP
external power supply

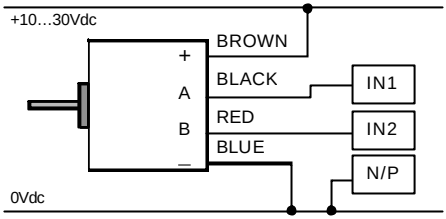
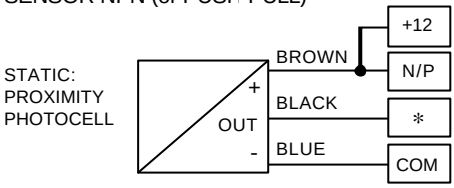
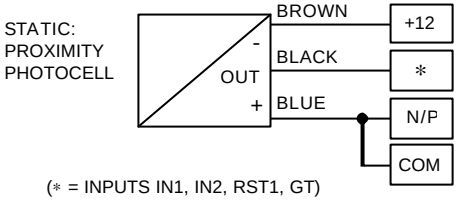


FIG. 7
SENSOR NPN (or PUSH-PULL)



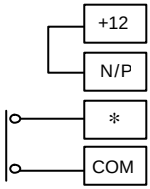
(* = INPUTS IN1, IN2, RST1, GT)

FIG. 8
SENSOR PNP



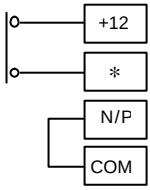
(* = INPUTS IN1, IN2, RST1, GT)

FIG. 9
MECHANICAL CONTACT
(NPN or PUSH-PULL connection)



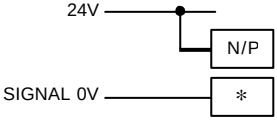
(* = INPUTS IN1, IN2, RST1, GT)

FIG. 10
MECHANICAL CONTACT
(PNP connection)



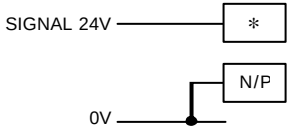
(* = INPUTS IN1, IN2, RST1, GT)

FIG. 11
PLC OR STATIC SIGNAL NPN
OR PUSH-PULL – POWER SUPPLIED



(* = INPUTS IN1, IN2, RST1, GT)

FIG. 12
PLC OR STATIC SIGNAL PNP –
POWER SUPPLIED



(* = INPUTS IN1, IN2, RST1, GT)

3.7.3 OUTPUT RELAYS

Relay 1 switching contact available to the terminals:

C1 = common
NA1 = normally open
NC1 = normally closed

Relay 2 switching contact available to the terminals:

C2 = common
NA2 = normally open
NC2 = normally closed

3.8 FUNCTION TEST

Apply power supply.
The display is on and show zero.

4.0 INSTRUCTION FOR THE OPERATION

After the start up operation the instrument is ready.

4.1 PROGRAMMING

Two programming levels are available:

- OPERATION (SET)
- CONFIGURATION

4.1.1 OPERATION PROGRAMMING

There are two threshold:

Description	Code	Range		Default	Note
		Min	Max		
Threshold 1	SEt 1	-999999	999999	0	*
Threshold 2	SEt 2	-999999	999999	0	**

* : the parameter is present if "P" = 0
** : the parameter is present if "P" = 0 or "P"=1

The B2X_2 has two sets that can be entered from the keyboard.
The sets are accessible or not depending on how configuration program P is selected (see configuration programs).
To access the set loading mode, press the PGM key. Display will show "Set 1" for approximately one second followed by value previously set with the flashing unit digit.
Press the two arrow keys to enter numbers: the UP arrow modifies the flashing display number; the SHIFT key changes the flashing digit.
The flashing digit represents units. When the SHIFT key is pressed the following are selected in sequence: tens, hundreds, thousands, tens of thousands, hundreds of thousands and polarity display.
The set's maximum range is ±999999 if S=0 or 0...999999 if S=1,2,3 or 4,
After set 1 has been loaded it is possible to exit by pressing the ENTER key or to program set 2 by pressing the PGM key again; in the second case the display will show "Set2" for approximately one second followed by the previously set value with the unit display flashing.
Important! Set 2 can only be set when the self-learning function is not enabled.
After programming set 2 exit by pressing the ENTER key.
To display the sets press the UP arrow key in sequence.

4.1.2 CONFIGURATION PROGRAMMING

The following configurations are possible:

Description	Code	Range		Defualt	Note
		Min	Max		
Threshold 1	(SEt 1)	-999999	999999	0	*
Threshold 2	(SEt 2)	-999999	999999	0	**
Input type	I	0	8	0	/
Debouncing	(a)	0	6	0	***
Encoder pulses per revolution (or divider)	E	1	999999	1	/
Reading with one encoder revolution (or multipier)	L	1	999999	1	/
Decimal point	d	0	6	0	/
Tasto e ingresso di azzeramento	F	0	5	0	/
Immediate or delayed frontal reset	A	0	1	0	/
Offset (register)	OFFSEt	-999999	999999	0	/
power-off memory selection	b	0	1	0	/
manual/automatic cycle selection	c	0	3	0	/
relay time in automatic cycle	t	0.02	99.99	0.25	/
set function	S	0	5	0	/
set disabling	P	0	2	0	/

* : the parameter is present if “P” = 1 or P =2
** : the parameter is present if “P” = 2
*** : the parameter is present if “I” is nonzero

To access configuration press PGM key. Display will show "C 000000", while units will flash. To access programming, enter pass code "212" and confirm with PGM.
If the wrong number is entered it is will not be accepted; when the ENTER or PGM keys are pressed the display will show the count again. After each configuration step: press PGM to move on the next programming step or press ENTER to return to the count display.
After the access with the correct code the display shows for one second the firmware version setup in the instrument ("SL. 3.0”).

CODE “I” – INPUT TYPE

Set one of the following numbers:

0 = incremental bidirectional encoder
1 = IN1: counter counts one count on the positive input edge
IN2: OFF = UP counts ON = DOWN counts
2 = IN1: counter counts one count on the negative input edge
IN2: OFF = DOWN counts ON = UP counts
3 = IN1: OFF = DOWN counts ON = UP counts
IN2: counter counts one count on the positive input edge
4 = IN1: OFF = UP counts ON = DOWN counts
IN2: counter count one counts on the negative input edge
5 = IN1: counter counts UP one count on the positive input edge
IN2: counter counts DOWN one count on the positive input edge
6 = IN1: counter counts UP one count on the negative input edge
IN2: counter counts DOWN one count on the negative input edge
7 = IN1: counter counts UP one count on the positive input edge
IN2: counter counts UP one count on the positive input edge
8 = IN1: counter counts UP one count on the negative input edge
IN2: counter counts UP one count on the negative input edge

CODE "a" - DEBOUNCING
Set one of the following numbers:
0 = maximum input frequency: 10 KHz
1 = maximum input frequency: 1 KHz (filter)
2 = maximum input frequency: 100 Hz (filter)
3 = maximum input frequency: 20 Hz (mechanical and reed contact)
4 = maximum input frequency: 10 Hz (relay contact)
5 = maximum input frequency: 2 Hz (mechanical contact, micro, relay)
6 = maximum input frequency: 1 Hz (relay contact for low frequency)

CODE "E" - ENCODER PULSES PER REVOLUTION (OR DIVIDER)
Set the number of encoder pulses (or desired divider) (notes 1 & 2).
Number must be between 1 and 999999.

CODE "L" - READING WITH ONE ENCODER REVOLUTION (OR MULTIPIER)
Set the reading desired with one encoder revolution (or desired multiplier) (note 1 & 2).
Number must be between 1 and 999999.

CODE "d" - DECIMAL POINT
Set one of the following numbers:

0 =	No decimal point	999999
1 =	Decimal point at far right	999999.
2 =	One decimal place	99999.9
3 =	Two decimal places	9999.99
4 =	Three decimal places	999.999
5 =	Four decimal places	99.9999
6 =	Five decimal places	9.99999

CODE "F" - KEY FUNCTION AND RESET INPUT
Select function of the front RESET key and terminal block input:

Code	TERMINAL BLOCK RESET	KEYPAD RESET
0	DISPLAY = 0	DISABLED
1	DISPLAY = OFFSET	DISABLED
2	DISPLAY = 0	DISPLAY = 0
3	DISPLAY = 0	DISPLAY = OFFSET
4	DISPLAY = OFFSET	DISPLAY = 0
5	DISPLAY = OFFSET	DISPLAY = OFFSET

CODE "A" - IMMEDIATED OR DELAYED FRONTAL RESET
Set one of the following numbers:
0 = Immediate reset key
1 = Front reset key active only if held down for three seconds

CODE "OFFSET" - REGISTER
Set the desired offset number.
Number must be between ±999999. Display automatically shows decimal points on the basis of configuration (code d).

CODE "b" - POWER-OFF MEMORY SELECTION
Set one of the following numbers:
0 = count level memory at the power off
1 = reset count at the power on

CODE "C" - MANUAL/AUTOMATIC CYCLE SELECTION
Set the cycle required:
0 = manual cycle
1 = automatic cycle
2 = manual cycle with stop count
3 = manual cycle with timer relay on

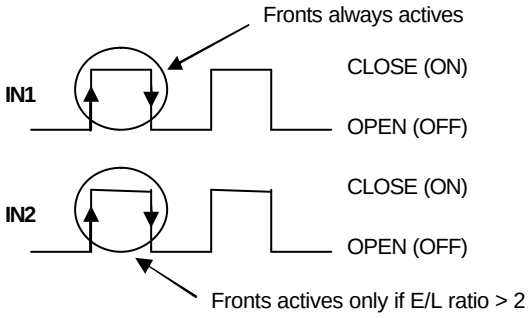
CODE "t" - RELAY TIME IN AUTOMATIC CICLE
Set the automatic cycle relay energising time.
The set value must be between 0 and 99,99 seconds

CODE "S" - SET FUNCTION
See the FUNCTIONING CYCLE section to find out about each program's functions.
Set one of the following numbers:
0 = UP-count independent sets
1 = UP-count set1 = slow down / set 2 = main
2 = UP-count set1 = slow down / set 2 = main external
3 = DOWN-count set1 = slow down / set 2 = main
4 = DOWN-count set1 = slow down / set 2 = main external
5 = Dosing

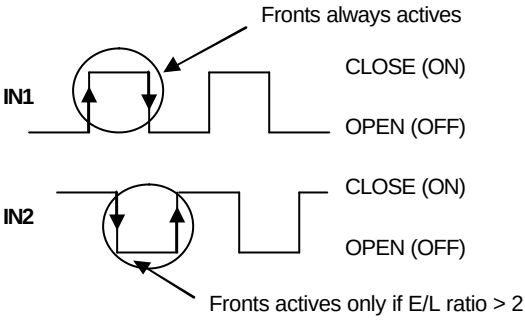
CODE "P" - SET DISABLING
Select the sets being configured masking by setting one of the following numbers:
0 = sets 1 and 2 can be directly accessed from the operating programs by pressing key PGM
1 = set 1 can be accessed in configuration mode
2 = set 1 and 2 can be accessed in configuration mode

(Note 1)
If I = 0, the number of encoder reading fronts depends on E/L ratio (see schema below):

INCREMENTAL BIDIRECTIONAL COUNT (UP)



DECREMENTAL BIDIRECTIONAL COUNT (DOWN)



(Note 2)
If the encoder pulse number per revolution is fractional, you can improve measurement accuracy by increasing E and L parameters by multiple of ten.
E.g.: encoder 100 pulse/rev -> reading 34.67.
If E = 100 and L = 35 there is a proportional error on encoder reading.
You can remove (or reduce) this error setting up E = 10000 and L = 3467.

(Note 3)
If E/L ratio > 2 then the maximum input frequency is 5 KHz.

4.2 FUNCTION CYCLES

The device compare the counter with the thresholds. The value of the threshold is absolute.
Example 1: SET2 = 1000; relay is energised when the displayed value is higher or the same as 1000.
Example 2: SET2 = -1000; relay is energised when the displayed value is less than or the same as -1000.

4.2.1 CYCLE S = 0 (UP – COUNT, INDEPENDENT SETS)

The two set are independent of each other. The range is ± 999999; the reset command returns the pulse counter to zero (or writes the offset if it has been programmed).

Manual cycle (c = 0)

Relay 1: relay is energised when the displayed value is higher or the same as the set 1 value.
Relay 2: the relay is energised when the displayed value is greater or the same as the set 2 value.

Automatic cycle (c = 1)

Relay 1: relay is energised when the displayed value is higher or the same as the set 1 value.
Relay 2: when the displayed value reaches set 2 the display is zeroed (or set to offset value) automatically (before 60us); the relay is energised for the time programmed in "t".

Manual cycle with stop counter (c = 2)

Relay 1: relay is energised when the displayed value is higher or the same as the set 1 value.
Relay 2: when the displayed value reaches set 2 the counter is blocked and display shows SET2 value; the relay is energised until the reset comand.

Manual cycle with timer relay on (c = 3)

Relay 1: relay is energised when the displayed value is the same as the set 1 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".
Relay 2: relay is energised when the displayed value is the same as the set 1 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".

4.2.2 CYCLE S = 1 (UP – COUNT, SET1 = SLOW DOWN, SET 2 = MAIN)

Set 2 is the work quota, set 1 is the slowing down quota.
The reset command returns the pulse counter to zero (or writes the offset if it has been programmed).

Manual cycle (c = 0)

Relay 1 is energised when the value displayed is equal to set 2 minus set 1. The relay is energised until the reset command.
Relay 2 is energised when the displayed value is greater or the same as the set 2 value

Automatic cycle (c = 1)

Relay 1 is energised when the value displayed is equal to set 2 minus set 1. The relay is energised until the reset command.
Relay 2: when the displayed value reaches set 2 the display is zeroed (or set to offset value) automatically; the relay is energised for the time programmed in "t".

Manual cycle with stop counter (c = 2)

Relay 1 is energised when the value displayed is equal to set 2 minus set 1. The relay is energised until the reset command.
Relay 2: when the displayed value reaches set 2 the counter is blocked, the display shows SET2 value. The relay is energised until the reset comand.

Manual cycle with timer relay on (c = 3)

Relay 1: relay is energised when the displayed value is the same as the (set 2) - (set 1) value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".
Relay 2: relay is energised when the displayed value is the same as the set 2 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".

4.2.3 CYCLE S = 2 (UP – COUNT, SET1 = SLOW DOWN, SET 2 = MAIN EXTERNAL)

Set 2 is the work quota, set 1 is the slowing down quota; the range of the threshold is 0…999999.
The reset command returns the pulse counter to zero (or writes the offset if it has been programmed).
Set 2 IS NOT SET FROM THE KEYBOARD but from the self-learning input: to enter a new set all that has to be done is to load the number of pulses required and supply a self-learning command (terminal RST2). The command must remain for at least five consecutive seconds. Once acquired taken place the wording "SETESt" (set-external) appears on the display for approximately one second.

Manual cycle (c = 0)

Relay 1: relay is energised when the value displayed is equal to set 2 minus set 1.
Relay 2: relay is energised when the displayed value is greater or the same as the set 2 value

Automatic cycle (c = 1)

Not applicable

Manual cycle with stop counter (c = 2)

Not applicable

Manual cycle with timer relay on (c = 3)

Relay 1: relay is energised when the displayed value is the same as the set 2 minus set 1 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".
Relay 2: relay is energised when the displayed value is the same as the set 2 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".

4.2.4 CYCLE S = 3 (DOWN - COUNT, SET1 = SLOW DOWN, SET 2 = MAIN)

Set 2 is the work quota, set 1 is the slowing down quota; the range of the threshold is 0…999999.
The reset command loads the set 2 value (or, if programmed, the value of set 2 minus the offset) in the pulse counter.

Manual cycle (c = 0)

Relay 1: relay is energised when the displayed value is less than or the same as the set 1 value.
Relay 2: relay is energised when the displayed value is less than or the same as zero.

Automatic cycle (c = 1)

Relay 1: relay is energised when the displayed value is less than or the same as the set 1 value.
Relay 2: when the displayed value reaches value 0 (zero) the display shows the value of set 2 automatically (before 60ms); the relay is energised for the time programmed in "t".

Manual cycle with stop counter (c = 2)

Relay 1: relay is energised when the displayed value is less than or the same as the set 1 value.
Relay 2: when the displayed value reaches value 0 (zero) the display shows the value of set 2 automatically (before 60ms); the relay is energised until the next reset command.

Manual cycle with timer relay on (c = 3)

Relay 1: relay is energised when the displayed value is the same as the set 1 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".
Relay 2: relay is energised when the displayed reaches value 0 (zero). With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".

4.2.5 CYCLE S = 4 (DOWN COUNT, SET1 = SLOW DOWN, SET 2 = MAIN EXTERNAL)

Set 2 is the work quota, set 1 is the slowing down quota; the range of the threshold is 0…999999.
The reset command returns the pulse counter to set 2 (or writes the (set 2 – offset) if it has been programmed).
Set 2 IS NOT SET FROM THE KEYBOARD but from the self-learning input: to enter a new set all that has to be done is to load the number of pulses required and supply a self-learning command (terminal RST2). The command must remain for at least five consecutive seconds. Once acquired taken place the wording "SETESt" (set-external) appears on the display for approximately one second.

Manual cycle (c = 1)

Relay 1: relay is energised when the displayed value is less than or the same as the set 1 value.
Relay 2: relay is energised when the displayed value is less than or the same as zero.

Automatic cycle (c = 1)
Relay 1: relay is energised when the displayed value is less than or the same as the set 1 value.
Relay 2: when the displayed value reaches value 0 (zero) the display shows the value of set 2 automatically (before 60ms); the relay is on for the time configured in parameter "t".
Manual cycle with stop counter (c = 2)
Not applicable
Manual cycle with timer relay on (c = 3)
Relay 1: relay is energised when the displayed value is the same as the set 1 value for a limited time. With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".
Relay 2: relay is energised when the displayed reaches value 0 (zero). With fast counter and little time of permanence condition the relay is on for the time configured in parameter "t".

4.2.6 CYCLE S = 5 (DOSING)

the cycle is not save if there is a power-down.
Set 2 is the work quota, set 1 is the slowing down quota; the range of the threshold is 0…999999.
With the reset command (by RST1 input) the counter shows zero (or offset value), relay1 and 2 are deenergised. With start command (by RST2 input) relay 1 and 2 are energised
Dosing cycle without stop counter (c = 0, 1)
Relay 1: the relay is deenergised when displayed value is the same as (set 2) - (set 1) until end cycle.
Relay 2: the relay is deenergised when displayed value is the same as set 2.
Cycle start immediately with a new command of star (without reset command),
The cycle counts the extra impulse and the display shows the extra impulse minus SET2 value.
Dosing cycle with stop counter (c = 2, 3)
Relay 1: the relay is deenergised when displayed value is the same as (set 2) - (set 1) until end cycle.
Relay 2: the relay is deenergised when displayed value is the same as set 2.
Although there are extra impulse the counter stops at set2 value. The extra impulse are lost at the next dosing.

4.3 MANUAL COMMAND

The device has the following manual command (see Fig. 1):
3 = PGM programming access key.
4 = Dual function RESET/ENTER key:
used for reset during normal operation,
enter data during programming.
5 = UP arrow key. Used to change selected digit.
6 = SHIFT arrow key with two functions:
used to move selected digit during programming,
used to show SET1 and SET2 value in normal function

4.4 DISTANCE COMMAND

The device has got a remote command from IN1 (counter input) (see Fig. 2).

4.4.1 DIGITAL INPUT

IN1 = first count input, maximum 10 KHz speed
IN2 = second count input, maximum 10 KHz speed
RST1= zeroing input
GT = count block input
RST2 = set2 self learning input
Impedance: 2200 ohm
Choose from terminal block type of input: NPN or PNP.
Range voltage applicable: 10…30 Vdc
Low logic level 0: 0…1V
High logic level 1: 10…30Vdc
maximum length cables: 3 meters.

4.4.2 OUTPUT REL AY

Dual preselection with programmable mode: manual or automatic
Two relays R1; R2; with SPDT 5A - 250V
Maximum voltage 250V.
Maximum current 5A.
Delay time between compare and command: 10 ms

4.5 CALIBRATION

The device does not need of a periodic calibration.

4.6 MAINTENANCE

The device does not have any parts that require maintenance.

5.0 GENERAL SPECIFICATIONS

PACKAGE

Case:	panel mount 96 x 48 mm; frontal, IP54
Cut-out dimensions:	92 x 45 mm, depth 100 mm (terminal blocks included)
Case material:	Noryl
Weight:	450 g, ac models (300 g, dc model)
Keyboard:	4 membrane pushbuttons
Connections:	by two extractable 12+6 poles terminal block

DIGITAL INPUTS

Five opto-insulated inputs with configuration PNP (all) or NPN (all).

Voltage at terminal:	10 ... 30 Vdc
Impedance:	2200 ohm
Maximum count frequency:	10 kHz, ac models 3 kHz, dc model
IN1:	first pulse count input
IN2:	second pulse count input
RST1:	reset input
RST2:	set2 self learning input
GT:	count block input

SENSOR POWER SUPPLY

Ac models:

Voltage	12 V (stabilized)
Maximum current	60 mA max.

INDICATOR

Display:	6-digits indicator plus sign
Maximum range:	± 999999

Programmable reading ratios (multiplier or divisor) by keyboard.
Programmable decimal point.
Programmable count direction:
- incremental (initial reset)
- decremental (initial preset at offset value)

RESETTING

Available on RST1 terminal block and on RESET/ENTER frontal key.
The reset key may be active or disabled.
At the count reset you can display a reset value ? 0 (offset).

POWER SUPPLY

Voltage (depending on the model):	24 Vac, 115 Vac, 230 Vac, 24 Vdc
Frequency (AC):	50 / 60 Hz
Consumption:	max 3,3 VA
Data storage memory:	E^2PROM static memory

OUTPUT RELAY
Dual preselection with programmable mode: manual or automatic
Two relays R1; R2; with SPDT 5A - 250V
Configurable energised time of relay in the range 0,02 a 99,99 s
Thresholds are independents or relative.

5.2 AMBIENTAL CONDITIONS

TEMPERATURE
Operating temperature –10…+50°C

HUMIDITY
Relative humidity 0…95% not condensing

CONFORMITY TO ECC GUIDELINES
EN61010-1
Directive CEE 89/336 + CEE 93/68 + 2004/108/CE

ELETTRICAL SECURITY
Directive: CEE 73/23 + CEE 93/68

5.3 STORAGE
Storage temperature : -20… +70°C
Relative humidity: 0…50%
You should preferably utilise dry and clean environment.
Avoid any corrosive acid exhalation exposure.
Do not wash the apparatus with water.
Avoid any liquid entry.

5.4 ACCESSORIES AND OPTION
- ❑ Static outputs DC 50 mA 5…30 V replacing the relays (answer time about 100 µs)
- ❑ Static outputs DC 2A 5…30 V replacing the relays (answer time about 100 µs)
- ❑ Insurance frontal IP67 (with external cover, the news size are 177x72)

For more information please call the commercial office.

5.5 SALE POINTS AND ASSISTANCE

5.5.1 GUARANTEE
The device is covered by a guarantee for production defects, with effectiveness of 12 months from the date of delivery. The guarantee does not cover devices that have been tampered with, improperly repaired or used in a manner that does not conform to the instruction for use.
For assistance regulation see “General Assistance Conditions” (you can ask for this document to the manufacturer or the sale point where you’ve purchased the device).

5.5.2 ASSISTANCE
All assistance operations must be carried out the manufacturer or by an authorized representative. Pack the instrument carefully, enclose a brief but complete description of the nature of the malfunction with package, and send to the manufacturer.

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