

Type series 521

1. Description

- 6digit adding counter, resetable
- LED-Display with 8 mm high characters and very high luminosity
- Display range -199999..999999 (overflow condition will be indicated by flashing of the display)
- Programming of count functions and operating parameters via the setting keys. During programming the display guides the user with text prompts.
- Optocoupler output (as option). Active at count values ≤ 0 .
- Programmable features:
Input polarity (npn or pnp)
Max. count frequency (30 Hz or 10 kHz)
Input mode
Decimal point
Scaling factor
Reset mode:
 electrical
 manual
 manual and electrical
 no reset
Set value (Goes to selected value at reset.)

2. Inputs

INP A

Dynamic count input. Max. count frequency 30 Hz or 10 kHz programmable via set up

INP B

Dynamic count input. Max. count frequency 30 Hz or 10 kHz programmable via set up

RESET

Dynamic reset input. Linked to the red reset key.

3. Optocoupler Output

Active if count value ≤ 0 . Simple preset counter can be realized, when using subtract mode.

3. Setting of the operating parameters

- Hold down keys on front panel and switch on the supply voltage.
- The display shows

Prog

- After releasing the keys the display alternates between menu title and corresponding menu item at a frequency of 0.5 Hz. After any key is pressed down, only the menu item is displayed.
- Pressing the right key, the menu item will be switched to next value.
- Hold down the left key and press the right key to enter and switch to the next menu title.
- After programming the last menu item, the programming routine will be left and the new values will be stored by switching the menu item to „YES“. If you chose „NO“, the programming routine will be passed through once again.

4. Programming routine

Programmable parameters are shown in succession. After one pass, the device is fully programmed.

In each case the first shown item is the factory preset.

4.1 Input polarity

INPOL

npn

npn: switching to 0 V

pnp

pnp: switching to +V(4-30)

4.2 Activating the 30 Hz filter

FILTER

hi

max. count frequency 10 kHz

Lo

max. count frequency 30 Hz

4.3 Input mode

INPUT

cnt.dir

Count input and count direction input
INP A: count input
INP B: count direction input

up.dn

Differential input
INP A: count input adding
INP B: count input subtracting

quAd

Quadrature input
INP A: count input 0°
INP B: count input 90°

quAd 2

Quadrature input with pulse doubling
INP A: count input 0°
INP B: count input 90°
Each pulse edge of INP A will be counted

4.4 Scaling factor (Multiplier)

Factor

000001

999999

Factor can be set from 00.0001 up to 99.9999. The decimal point is fixed "0" won't be accepted!

4.5 Decimal point (Display only)

dp

The decimal point indicates the number of decimal places.

0

0 no decimal place
0.0 one decimal place

0.000

0.00 two decimal places
0.000 three decimal places

4.6 Set mode

rES n d

r r r n r EL

manual set (red key) and electrical set

n o r ES

no set (red key and set input locked)

EL r ES

electrical set only

r r r n r E

manual set only

4.7 Set value (Allows user to preset start number)

5 E L P L

521K.2 (Opto output activates at "0" or less.

1 9 9 9 9 9

Can be used as subtracting preset counter)

9 9 9 9 9 9

Use 2 keys to set value -199999... 999999 (number of decimal places depends on the decimal point option)

4.8 End of programming

E n d P r o

n o

Programming routine will be passed through once again. All parameters can be checked.

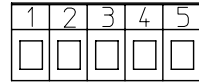
y E S

Programming routine will be left and the new parameters will be stored. Afterwards the device is ready to use.

5. Connections

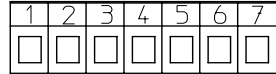
5.1 Without optocoupler output

- 1 10-30 VDC
- 2 0 V (GND)
- 3 INP A
- 4 INP B
- 5 SET



5.2 With optocoupler output (npn)

- 1 10-30 VDC
- 2 0 V (GND)
- 3 INP A
- 4 INP B
- 5 SET
- 6 Emitter
- 7 Collector



6. Technical data

Supply voltage:

10...30 VDC

Max. current consumption:

50 mA

Display:

6digit LED-Display, 8 mm high characters

Polarity of input signals:

programmable for both common inputs (npn or pnp)

Input resistance: appr. 10 kohm

Count frequency: 10 kHz can be damped to 30 Hz

Min. pulse length of the control inputs: 5 ms

Input sensitivity:

Low: 0 to 1 VDC

High: 4 to 30 VDC

Pulse shape: variable (Schmitt Trigger characteristic)

Optocoupler output:

Max.30V(off), 10mA 1volt drop @10mA

Data retention:

via EEPROM 1x10⁶ memory cycles or 10 years

Noise immunity:

EN 50081-2; EN 55011 class B; EN 50082-2

Ambient temperature: +14°F...+122°F (-10 °C...+50 °C)

Storage temperature: -13°F...+158°F (-25 °C...+70 °C)

Weight: appr. 1.76 oz.(50 g)

Protection: IP 65 (front)

Cleaning:

The front of the unit is only to be cleaned with a soft wet (water !) cloth.