

Time meter Type series 523

1. Description

- 6digit time meter, resetable
- LED-Display with 8 mm high characters and very high luminosity
- Display range 0..999999 with leading zero blanking.
- Programming of count functions and operating parameters via the setting keys. During programming the display guides the user with text prompts.
- Optocoupler output (optional). At active counting the output alternates at 1 Hz between active and inactive.
- Programmable features:
 - Input polarity (NPN or PNP)
 - Max. count frequency (30 Hz or 10 kHz)
 - Input mode (both time meters in common)
 - Operating mode (both time meters in common)
 - Reset mode for time meter 1 and/or 2:
 - electrical
 - manual
 - manual and electrical
 - no reset

2. Inputs

INP A

Stop input (depending on chosen input mode)

INP B

Start/Stop or gate input (depending on chosen input mode)

RESET

Dynamic reset input. Linked to the red reset key. Can be programmed for each counter separately.

3. Optocoupler Output

When timing the output alternates at a frequency of 1 Hz between active and inactive.

3. Setting of the operating parameters

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

- 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

Following all 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

nnp: switching to 0 V

pnp: switching to +24 V

4.2 Activating the 30 Hz filter

max. count frequency 10 kHz

max. count frequency 30 Hz

4.3 Input mode time meter

Start/Stop via INP B. Timing while INP B (gate) inactive or open

Start/Stop via INP B. Timing while INP B (gate) active (High level at pnp; Low level at nnp)

Timing will be started and stopped via INP B (LOW-HIGH edge at pnp; HIGH-LOW edge at nnp). Every active edge changes the timer status.

Timing will be started via INP A, stopped via INP B (LOW-HIGH edge at pnp; HIGH-LOW edge at nnp).

4.4 Operating mode time meter

mode

SEC

Timing in s (resolution depending on position of the decimal point*)

min

Timing in min. (resolution depending on position of the decimal point*)

hour

Timing in h (resolution depending on position of the decimal point*)

h:mn:s

Timing in h:min:s (decimal points are fixed.)

*0, 0.1, 0.01, 0.001 means: Timing in 0, 0.1, 0.01, 0.001 units of time

4.5 Decimal point (Also sets resolution)

dp:mn

The decimal point indicates the number of decimal places.

0

0 no decimal place

0.0 one decimal place

0.00 two decimal places

0.000

0.000 three decimal places

4.6 Reset mode

RES

man. r. EL

manual reset (red key) and electrical reset

no RES

no reset (red key and reset input locked)

EL RES

electrical reset only

man. r. E

manual reset only

4.7 End of programming

EndProg

no

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

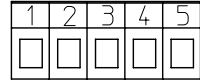
YES

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

5. Connections

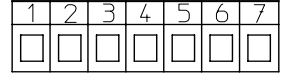
5.1 Without optocoupler output

- 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.

7. Dimensions:

W = 1.88" (48mm) H = .944" (24mm) D = 2.32" (59mm)

8. Cutout:

W = 1.78" (45.2mm) H = .876" (22.3mm)

With adaptor: W = 1.97" (50mm) H = 0.99" (25mm)