903
-
904

4.96.2
(ed. 1.98)

Preset Counter Type 903 and 904

- 6 digit electronic preset counter with sign and scaling factor
- User programmable to operate as an Impulse Counter, Frequency Meter or Timer
- Easy to operate and to set the preset values via 4 keys
- Type 903 with one preset value, Type 904 with two preset values
- 48 x 48 mm DIN housing with bezel for 50 x 50 mm panel cut-out
- -approval pending

DIN EN ISO 9001 certified company

Kübler
you can count on

Electronic preset counter 6 digits with sign add./subtr., Type Series 903 and 904

Description

- 6 digit LCD preset counter with sign
- 2-line display for count value and preset value
- symbols for activated outputs and current preset value
- programmable as a Counter, Frequency Meter or Timer
- easy operating and setting the preset by 4 keys
- scaling facor 0.0001 ... 9.9999
- 2 preset values (Type 903 1 preset value)
- relay or optocoupler outputs
- supply voltage 230 V AC, 115 V AC or 11 ... 30 V DC
- 48 x 48 mm DIN Housing with bezel for 50 x 50 mm panel cut-out
- electrical connection via plug-in screw terminals
- ℻ approval pending

Programmable are:

- operating mode, polarity of inputs, input mode, scaling factor, decimal point
- output signals to be permanent or timed
- automatical reset
- gate time when programmed as a frequency meter
- resolution when programmed as a timer (s, min, h or h:min:s)

Inputs

INP A, INP B.
Count inputs. Max count frequency 30 Hz to 10 kHz; separately selectable for both of these inputs.

GATE
Static input; no counting while this input is activated.

RESET
Dynamic input; it is connected in parallel to the red reset key and sets the counter to zero (adding mode) or the preset value (subtracting mode).

KEY
Static keyboard lock input. While this input is activated, the front keys are locked for operation.

Outputs

2 potential-free outputs (Type 903: 1 output), versions with relay or optocoupler available.

Programming

Types 903 and 904 are programmed via only 4 keys on the front side. Trouble-free and intuitive operation through clear text user guidance on the display. The operating parameters are to be choosen out of a menu.

Programmable are:

Polarity of the inputs
Positiv (PNP) or negativ (NPN) polarity of the inputs.
The selected polarity applies to all inputs in common.

Operating modes, Impulse Counter and Timer
- adding, starting at zero
- subtracting, starting at the preset value (Type 903) respect, at preset value 2 (Type 904)
- adding with automatical reset to zero at preset value (Type 903) respect, preset value 2 (Type 904)
- subtracting with automatical reset to preset value (Type 903) respect, preset value 2 (Type 904) at zero.
- additional batch preset counter (only Type 904)

Input modes, Impuls Counter and Frequency Meter
-E1: 1 count input, 1 count direction input
-E2: 1 count input up, 1 count input down
-E3: quadrature input
-E4: quadrature input with pulse doubling

Decimal places
The values may be displayed without, with one, two or three decimal places.

Scaling factor
For optimizing the operation with an encoder, a scaling factor of 0.0001 ... 9.9999 may be programmed.

Output signal
Selectable as a NO contact, NC contact, positiv or negative timed signal (duration 0.01 s to 99.99 s).

Gate time (Frequency Meter)
Selectable from 0.01 s to 99.99 s.

Hour Meter
Timing in h, min or s, with a resolution of 0.001, 0.01, 1.0 or h:min:s.

Technical Data

Display: 6 digit, 2-line 7 segment LCD with sign;
digital display height: 9 mm top
7 mm bottom

Preset: Type 904 two preset values
Type 903 one preset value

Count inputs:
2 count inputs,
4 input modes programmable

Input polarity:
programmable, (PNP or NPN)

Input resistance:
10 kOhm

Max. count frequency:
10 KHz (via DIL-switches reducable to 30 Hz)

Min. pulse length of the control inputs:
5 ms

Input sensitivity:
AC supply voltages:
Log “0”: 0 ... 4 V DC, Log “1”: 12 ... 30 V DC.
DC supply voltages U_B:
Log “0”: 0...0,2 x U_B, Log “1”: 0,6 x U_B ... 30 V DC.

Pulse shape:
variable (Schmitt-Trigger characteristic)

Output: relay or optocoupler
903: 1 output
904: 2 outputs

Transmitter voltage:
24 V DC ±10 %, 100 mA

Data retention:
min 10 Years or 10^6 memory cycles

Noice immunity:
EN 50 082 part 2

Noice transmission:
EN 55 011 class B

Operating temperature:
0 °C...+ 50 °C

Housing: 48 x 48 mm DIN

Protection:
IP 65 (front)

Supply voltage:
90 ... 260 V AC ±10% or
11 ... 30 V DC

Ordering Code

6.XXX.01X.XXX

Option:
00 = without
10 = backlit LCD

Supply voltage:
0 = 90...260 V AC
3 = 10...30 V DC

Output:
0 = relay
1 = optocoupler

Counter type:
903
904

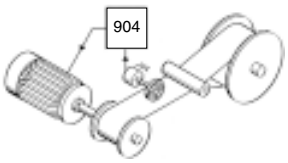
Delivery includes

- counter type 903 or 904
- screw terminal plug 7 poles, reference grid 5,08 mm
- screw terminal plug 7 poles, reference grid 3,81 mm
- bezel for screw mount panel cut out 50 x 50 mm
- bezel for clip mount panel cut-out 50 x 50 mm
- panel mounting clip
- panel cut-out template

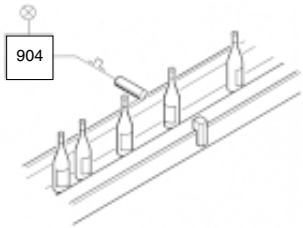
Applications

Batch counting, cutting to length, dosing, simple positioning, timing control, speed and rate control, flow control.

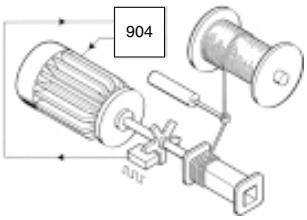
length measuring



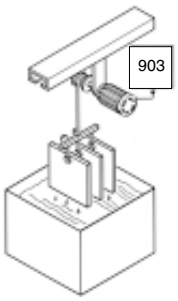
batch counting



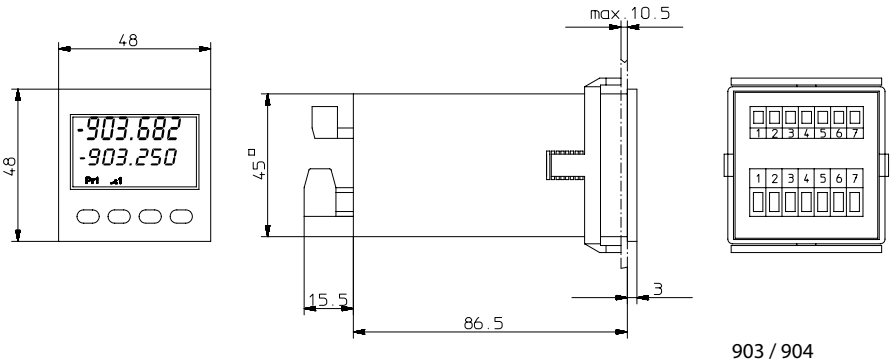
coil winding



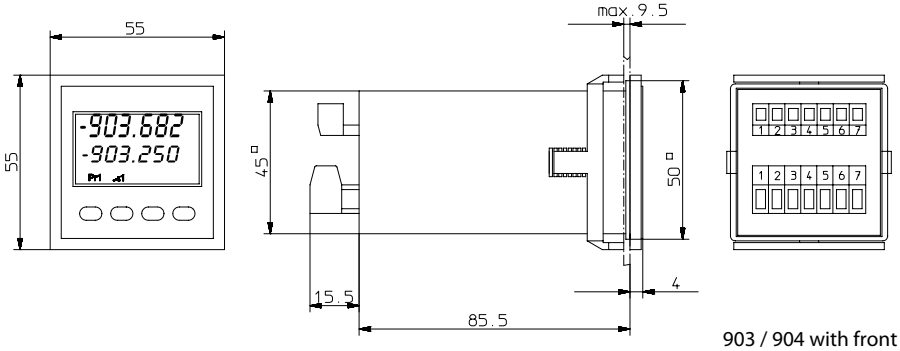
timing



Dimensions:



903 / 904
Panel cut-out 45 x 45 mm



903 / 904 with front bezel No. 2
Panel cut-out 50 x 50 mm

Flush BF 4
DIN 74

903 / 904 with front bezel No. 3
Panel cut-out 50 x 50 mm