

Tip 903/904



- 2 satır LCD göstergesi
- puls, frekans veya programlı çalışma saati sayıcısı olarak kullanılabilir.
- Besleme gerilimi 90 ... 260 VAC veya 11 ... 30 VDC
- Batch mode
- Gösterge aalığı -199 999 ... 999 999
- Dört buton aracılığıyla kolay programlama imkanı

- Röle veya optokopler çıkışı
- Faktör aralığı 0.0001 ... 99.9999
- 903: 1 program, 1 çıkış
- 904: 2 program, 2 çıkış

Technical data

Supply voltage:	11 ... 30 V DC, max. 0,1 A with reverse protect. 90 ... 260 V AC, 48 V AC*, 24 V AC* max. 4 VA	Output 2	Relay:	with potential free contact, programmable as normally opened or normally closed. switching voltage max. 250 V AC/125 V DC, switching current max. 3 A. switching current at DC min. 30 mA switching power at DC 90 W at AC max. 750 VA
Display:	2 line LCD display, 6 digits	or npn optocoupler:		with open collector and emitter switching power 30 V DC/15 mA
Count inputs:	2 count inputs, 4 input modes are programmable	Reaction time	Relay: appr. 7 ms	
Polarity of the inputs:	programmable for all inputs in common	of the inputs:	Optocoupler: appr. 1 ms	
Input resistance:	appr. 10 k Ω	Data retention:	min. 10 years or 1x10 ⁶ memory cycles	
Count frequency:	10 kHz via DIL-switches reducible for INP A and INP B to 30 Hz (7 kHz at input mode E3 and E4 phase discriminator), automatic repeat at 900 Hz without losing counts (500 Hz for input mode E4)	Transmitter voltage:	24 V DC -40 %/+15 %, 100 mA at 90 .. 260 V AC with optional 24 V DC -40 %/+15 %, 60mA	
Min pulse duration of the inputs:	5 ms	backlighting:	at 90 ... 260 V AC	
Input sensitivity:	DC supply voltages: Low: 0 ... 0.2 x U _B [V DC] High: 0.6 x U _B ... 30 [V DC] AC supply voltages: Low 0 ... 4 V DC High 12 ... 30 V DC	Ambient temperature:	0... +50 °C	
Pulse shape:	variable (Schmitt-Trigger characteristics)	Storage temperature:	-25 ... +70 °C	
Output 1	Relay:	EMC:	according to EC EMC directive 89/36/EEG	
	with potential free contact, programmable as normally opened or normally closed. switching voltage max. 250 V AC/125 V DC, switching current max. 3 A. switching current at DC min. 30 mA switching power at DC 90 W at AC max. 750 VA	Interference emissions:	EN 50081-2/EN 55011 class B	
or npn optocoupler:	with open collector and emitter switching power 30 V DC/15 mA	Interference resistance:	EN 6100-6-2	
		Protection:	IP65 (front) EX version IP54	
		Weight:	appr. 240 g, AC version with relay	

*not backlighted display

Inputs

INP A, INP B

Count inputs: The max. count frequency 30 Hz or 10 kHz is separately selectable for both of these inputs

Gate

Static gate input
no counting while this input is activated

Reset

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

Key

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

Outputs

2 potential free outputs (901: 1 output), versions with relay or optocoupler available

Programming

The 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 chosen from a menu. The device can be used as:

1. Pulse counter
2. Frequency meter
3. Time meter

Therefore the following functions are programmable:

Polarity of the inputs:

Positive (pnp) or negative (npn) polarity of the inputs. The selected polarity applies to all inputs.

Operating modes, impulse counter and timer:

- adding, starting at zero
- subtracting, starting at the preset value (903) or at preset value 2 (904)
- adding with automatic reset to zero at preset value (903) or preset value 2 (904)
- subtracting with automatic reset to preset value (903) or preset value (904) at zero.

Input modes, impulse counter and frequency meter:

- E1 1 count input, 1 count direction input
- E2 1 Count input up
1 Count input down
- E3 quadrature input
to connect encoders with 2 signals shifted by 90°

- E4 quadrature input with pulse doubling
to connect encoders with 2 signals shifted by 90°

Decimal places:

The display is possible with 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 NO contact or NC contact, positive or negative timed signal (duration 0.01 ... 99.99 s)

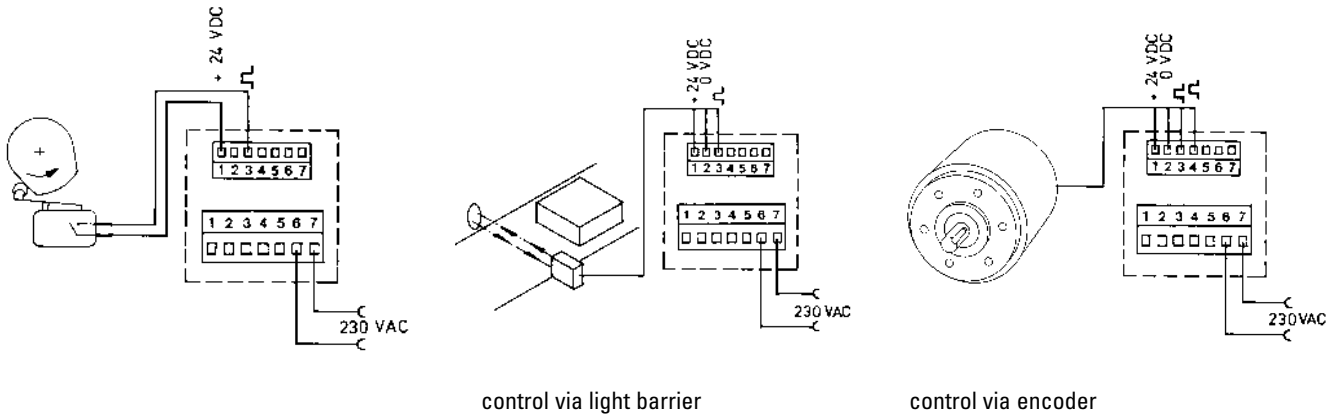
Gate time for frequency meter

selectable from 0.01 ... 99.99 s

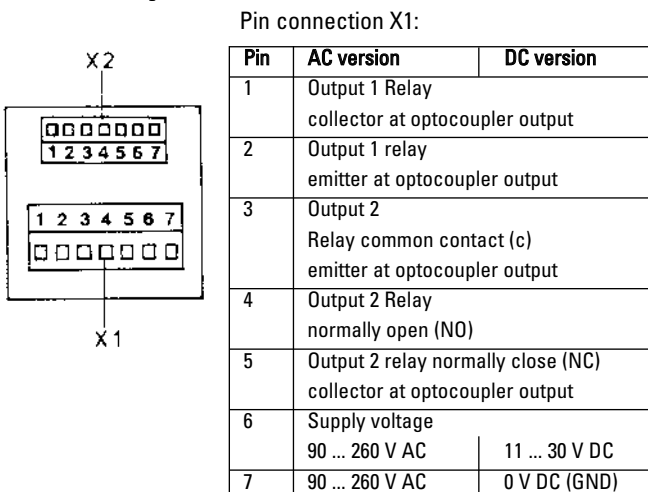
Hour meter

Timing in h, min or s, with a resolution of 0.001, 0.01, 0.1 or h:min:s.

Applications:



Connection diagram 904:

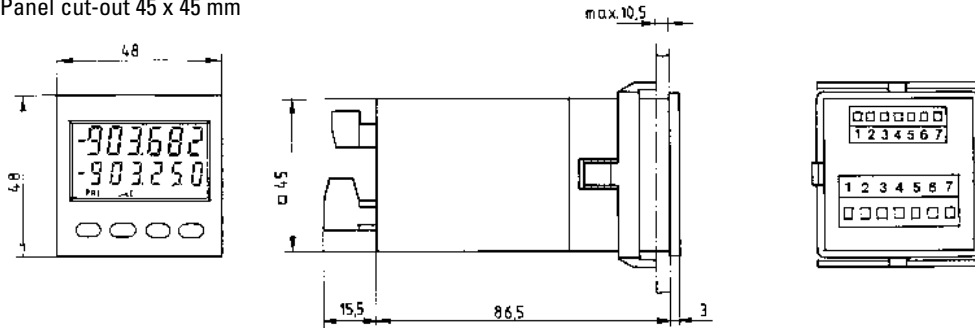


Pin	Description	AC version	DC version
1	+24 V DC	transmitter voltage supply	n.c.
2	0 V DC (GND)	GND	n.c.
3	INP A	Count input A	
4	INP B	Count input B	
5	Reset	Reset input	
6	Gate	Gate input	
7	Key	Key locking input	

Dimensions:

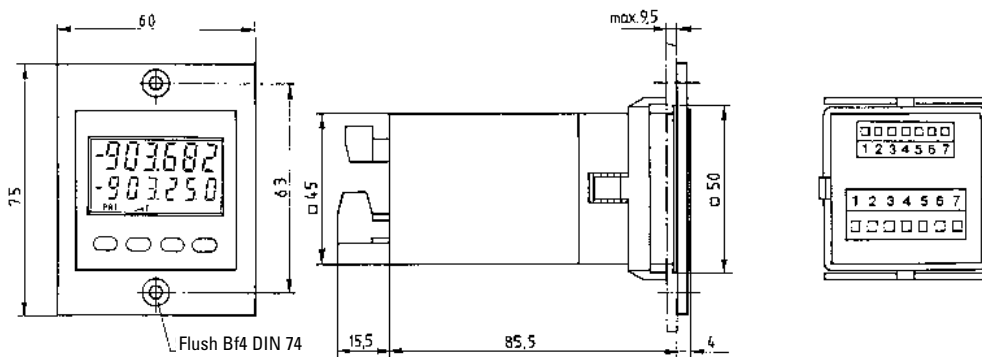
903/904

Panel cut-out 45 x 45 mm



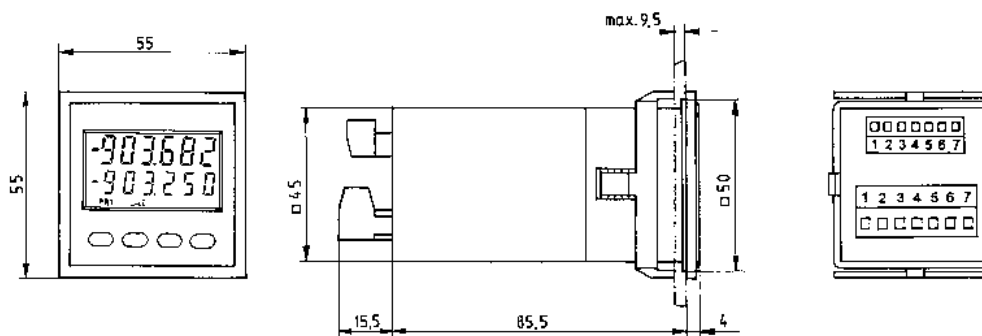
903/904 with front bezel no 2

Panel cut-out 50 x 50 mm



903/904 with front bezel no. 3

Panel cut-out 50 x 50 mm



Order code:

6.XXX.01X.XXX

Type	903 = Preset counter with one preset 904 = Preset counter with two presets
Outputs	0 = Relay 1 = Optocoupler

Options	00 = without 10 = backlit LCD
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Supply voltage	0 = 90 ... 250 V AC 2 = 48 V AC* A = 24 V AC* 3 = 10 ... 30 V DC
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*not with option10, backlit LCD

Preset counter