

903K & 904K

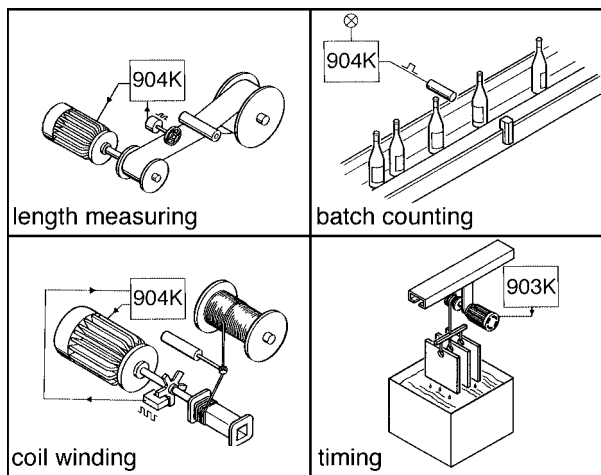
LCD Preset Add/Subtr. Counter, Timer, Frequency Meter

Features

- 6 Digit Counter, Timer or Frequency Meter
- 2 Preset Values (Type 903K 1 Preset)
- Input Scaling (0.0001 to 9.9999) Multiplier
- 2-Line LCD Display
- Count & Preset Range of -999999 to 999999
- Add or Subtract Count Control
- AC or DC Operation
- Secondary Preset Batch Counter (904K)
- 24VDC to Power Peripherals

Applications:

Preset batch counting, length measuring, simple positioning, time control, speed control, rate control.



Description:

The 903K/904K Series is a LCD preset counter, timer or frequency meter. The following features are programmable:

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

Inputs:

INP A, INP B

Count inputs. Max. count frequency 30 Hz or 10 kHz; separately selectable for both of these inputs.

Gate:

Level input; no counting while this input is activated.

Reset:

Edge triggered 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:

Level voltage input locks keypad.



Outputs:

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

Programming:

Types 903 and 904 are programmed by 4 front panel keys secured by a side dip switch. Easy setup is assured by selection of menu prompts on the display. The changing of presets by the front panel keys can be inhibited by external "Key" input.

Input Polarity:

Positive (PNP) or negative (NPN). The selected polarity applies to all inputs in common.

Operating modes, Impulse Counter and Timer:

- adding, starting at zero, manual or automatic reset
- subtracting, starting at the preset value (Type 903) respect. at preset value 2 (Type 904), manual or automatic reset.

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
- E4: quadrature input with pulse doubling

Decimal places:

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

Scaling factor:

A scaling multiplier of 0.0001 ... 9.9999 may be programmed to display desired units of measure.

Output signal:

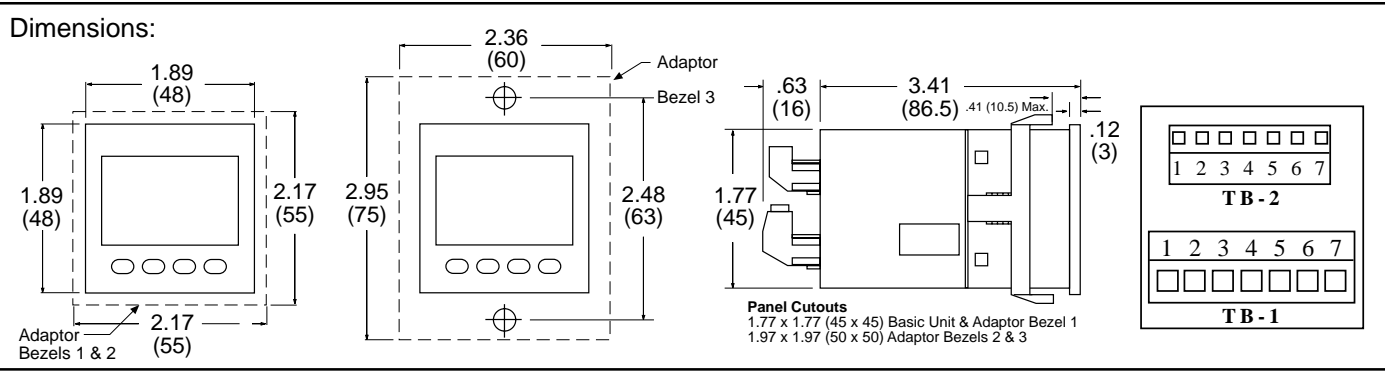
Selectable as a NO contact, NC contact, positive, negative, latched or timed (0.01 s to 99.99 s).

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, 0.1, 1.0 or h:min:s.



903K Wiring

AC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	No Connection	1	+24VDC Output
2	No Connection	2	0VDC (Ground)
3	Relay - C (Opto Emitter)	3	Input A
4	Relay - NO	4	Input B
5	Relay - NC (Opto Collector)	5	Reset
6	AC Input	6	Gate
7	AC Input	7	Key

DC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	No Connection	1	No Connection
2	No Connection	2	No Connection
3	Relay - C (Opto Emitter)	3	Input A
4	Relay - NO	4	Input B
5	Relay - NC (Opto Collector)	5	Reset
6	(+) 11-30 VDC Supply	6	Gate
7	(-) 0 VDC Supply (Ground)	7	Key

904K Wiring

AC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	Relay 1 - C (Opto Collector1)	1	+24VDC Output
2	Relay 1 - NO (Opto Emitter1)	2	0VDC (Ground)
3*	Relay 2 - C (Opto Emitter2)	3	Input A
4	Relay 2 - NO	4	Input B
5*	Relay2 - NC (Opto Collector2)	5	Reset
6	AC Input	6	Gate
7	AC Input	7	Key

DC Supply Wiring

TB-1		TB-2	
Term. #	Description	Term #	Designation
1	Relay 1 - C (Opto Collector1)	1	No Connection
2	Relay 1 - NO (Opto Emitter1)	2	No Connection
3*	Relay 2 - C (Opto Emitter2)	3	Input A
4	Relay 2 - NO	4	Input B
5*	Relay2 - NC (Opto Collector2)	5	Reset
6	(+) 11-30 VDC Supply	6	Gate
7	(-) 0 VDC Supply (Ground)	7	Key

* The wiring termination of pins 3 & 5 is correct here and on the unit termination label. Pins 3 & 5 may be reversed on some older datasheets.

Technical Data:

Display: 6 digit, 2-line, 7 segment LCD with sign
Preset: Type 904 two preset values
 Type 903 one preset value

Supply voltage: 115 VAC, 230 VAC, 48 VAC or 24 VAC
 (tolerance $\pm 10\%$) or 11 ... 30 VDC

Count inputs: 2 count inputs,
 4 input modes programmable.

Input polarity: programmable (PNP or NPN)

Input resistance: 10 kohm

Max. count frequency: 10 kHz (Switch selectable 30Hz or 10kHz)

Min. pulse length of the control inputs: 5 ms

Input sensitivity: Logic "0": 0 to 1 VDC
 Logic "1": 4 to 30 VDC

Pulse shape: variable (Schmitt Trigger characteristic)

Output: (Programmable output state)
 relay (250 V @ 3A)
 or optocoupler (30VDC/15mA @ 2V, 5mA @ 0.4V)
 903: 1 output : SPDT
 904: 2 outputs: R1 N.O., R2 SPDT

Transmitter voltage: 24 VDC, 80 mA
 24 VDC, 60 mA for version with backlit LCD (optional)

Data retention: min. 10 years or 10^6 memory cycles

Noise immunity: EN 50082 part 2

Noise transmission: EN 55011 class B

Operating temperature: 0...+50°C

Housing: 48 x 48 mm DIN

Protection: IP 65 (front)

How To Order:

EXAMPLE	904K	A	0	A
Series	903K = Single Output			
	904K = Dual Outputs			
Operating Voltage	A = 115 VAC			
	B = 230 VAC			
	C = 11 to 30 VDC			
Outputs	0 = Relay			
	1 = Opto-Isolated collector and emitter			
Options	- Blank if None			
	A = Backlit LCD Display (904K only)			