

924K

Multipurpose Device Counter, Rate Meter and Timer

Features

- Simultaneous display of the actual value, presets, batch count or total count
- 2 Relay outputs
- Annunciators for the displayed preset and for the output status
- 3 predefined settings for the most common parameter settings
- Direct entry into the programming
- Tracking presets eliminate the need for reprogramming of the pre-signal
- Minimum installation depth
- 4 stage RESET modes
- 3 stage key lockout



Specifications

Supply voltage:	90 ... 260 V AC/max. 8 VA, 50/60 HZ, External fuse protection T 0,1 A 10 ... 30 V DC/max. 1,5 W External fuse protection T 0,2 A	Output:	Switching voltage max. 250 V AC/110 VDC Switching current max. 3 A AC/A DC Switching current min. 30 mA DC Switching capacity max. 750 VA/90 W
Display:	2 line 2 x 6 digits LCD display LED Look: negative, red backlighting	Output 1	Mech. service life (switching cycles) 2×10^7 N° of switching cycles at 3 A/250 V AC 1×10^5 N° of switching cycles at 3 A/30 V DC 1×10^5 Relay closing contact, programmable as normally open (NO) or normally closed (NC)
Data retention:	min. 10 years, EEPROM	Output 2	Mech. service life (switching cycles) 20×10^6 N° of switching cycles at 3 A/250 V AC 5×10^4 N° of switching cycles at 3 A/30 V DC 5×10^4 Relay with changeover contact
Inputs:		Relay Reaction	Relay: appr. 7 ms Details see instruction manual
Count inputs:		Response time of the frequency counter:	100/600 ms, Details see instruction manual
Polarity of the inputs:	programmable for all inputs in common NPN/PNP	General:	
Input resistance:	5 kOhm	Count modes:	
Count frequency:	max. 55 kHz (details see manual)	Pulse counter:	cnt.dir, up.dn, up.up, quad, quad 2, quad 4, A/B, (A-B)/A x 100%
Monitoring/reset inputs:	MPI, lock, gate, reset	Frequency counter:	A, A-B, A+B, quad, A/B, (A-B)/A x 100%
Min pulse duration of the inputs:	10 ms/1 ms	Timer:	FrErun, Auto, InpA.InpB., InpB.InpB.
Switching levels with AC-supply:			
HTL-level	Low: 0 ... 4 V DC High: 12 ... 30 V DC		
Switching levels with DC-supply:			
HTL-level	Low: 0 ... $0,2 \times U_B$ High: $0,6 \times U_B$... 30 V DC		
Pulse shape:	variable, Schmitt-Trigger characteristics		

Voltage supply for sensors:

AC supply 24 V DC± 15%, 80 mA
 DC supply max. 80 mA, external
 voltage supply is connected through

Operating temperature: -20 °C ... +65 °C

Storage temperature: -25 °C ... +75 °C

Humidity: RH 93% at +40 °C, non-condensing

Altitude: 2000 m

EMC: Interference emissions EN55011 Class B
 Interference resistance EN 61000-6-2

Device safety:

Design to: EN61010 Part 1

Protection: Class: 2

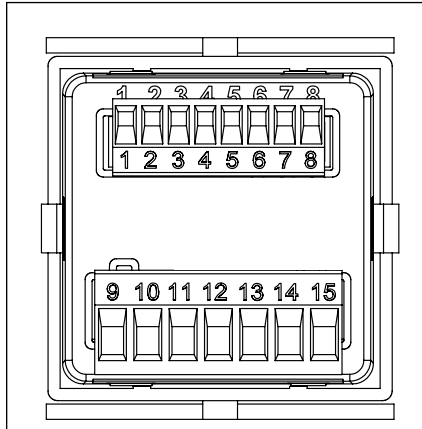
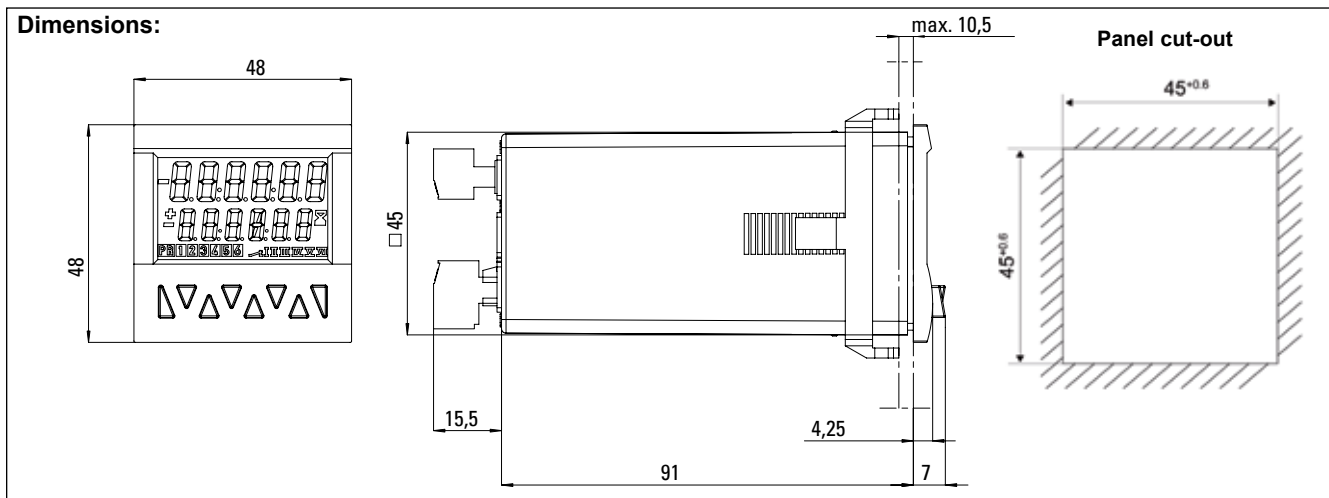
Application area: Soiling Level 2

UL (applied for): File-N°. : E128604

Protection: IP65 (front)

Weight: approx. 125 g

Dimensions:



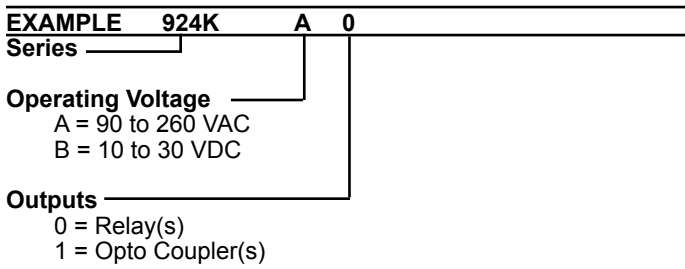
Signal and control inputs

- 1 Sensor voltage supply
AC: 24 VDC/80 mA
DC: UB interconnected
- 2 GND (0 VDC)
- 3 INP A (Signal input A)
- 4 INP B (Signal input B)
- 5 RESET (Reset input)
- 6 LOCK (Key locking input)
- 7 GATE (Gate input)
- 8 MPI (User input)

Version with relays/optocouplers

- 9 Relay contact C. } Output 1
- 10 Relay contact N.O. }
- 11 Relay contact C. } Output 2
- 12 Relay contact N.O. }
- 13 Relay contact N.C. }
- 14 AC: 90..260 VAC N~ } Supply voltage
- 15 AC: 90..260 VAC L~ }
- DC: GND (0 VDC) }

Ordering information:



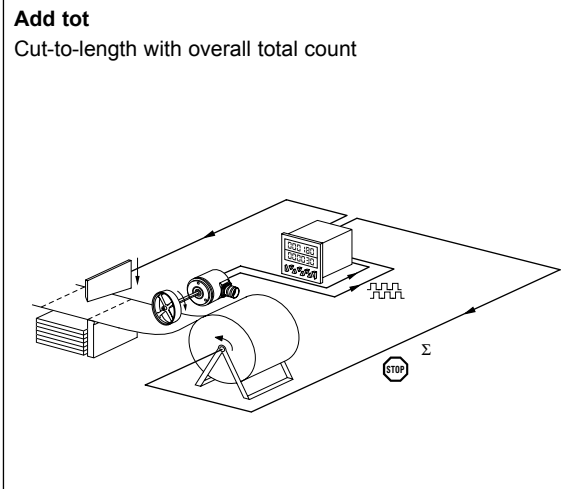
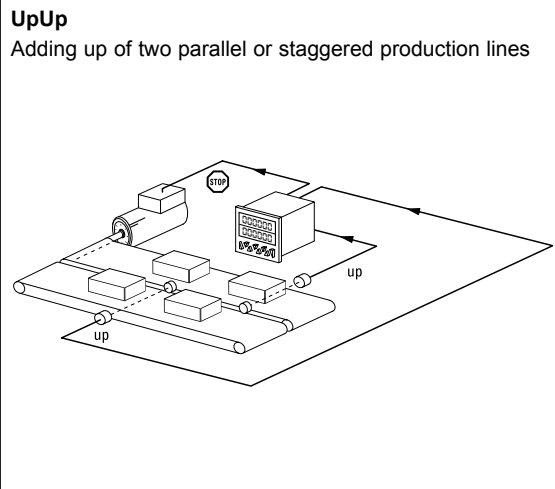
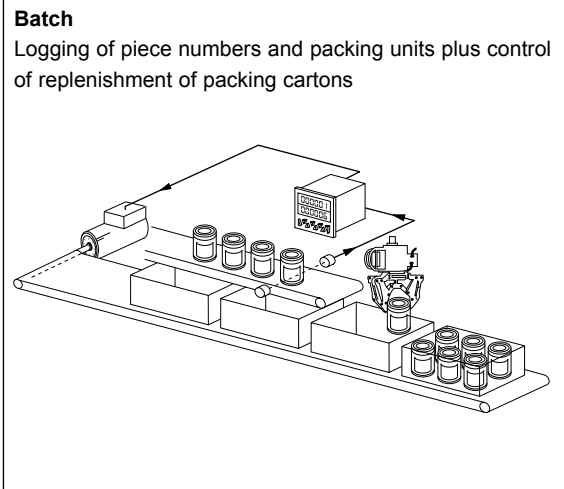
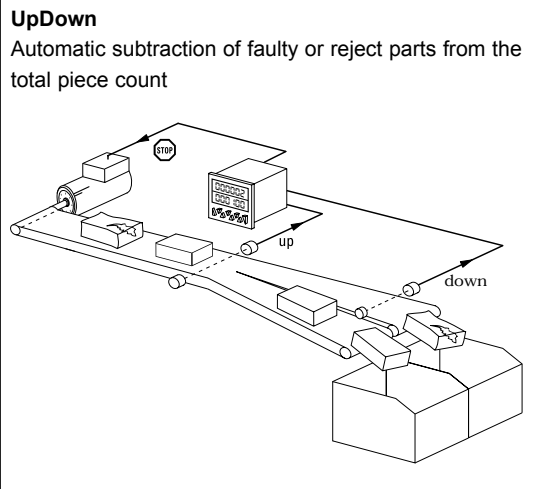
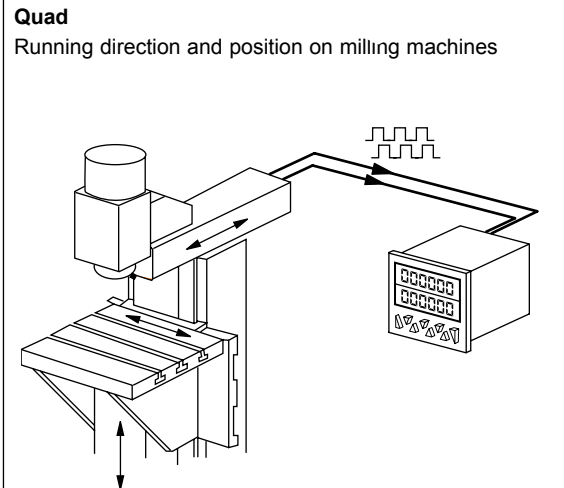
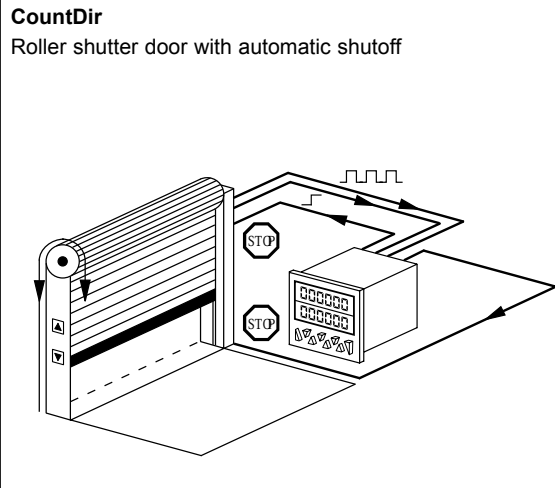
Typical applications:

■ Pulse counter

**Functions/
Count
modes**

- Count with direction mode
- Difference mode
- Quadrature mode quad/quad2/quad4
- Add, Sub, automatic reset
- 2-input adding mode A+B
- Ratio measurement A/B
- Percentage difference measurement (A-B)/A x 100%
- Batch counting
- Totaliser (Overall total)
- Multiplication and division factor (up to 99.999)
- Set value
- Step or tracking preset

**Application
examples**

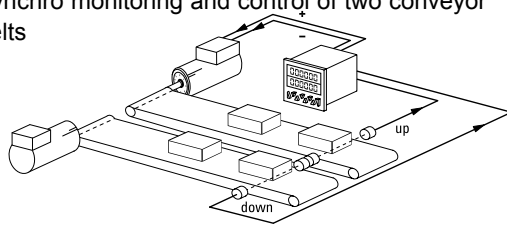
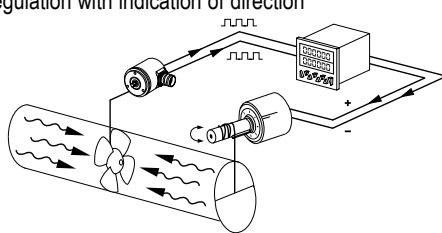
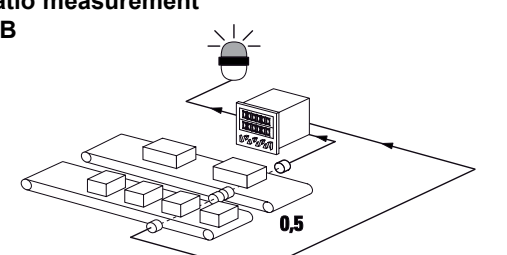
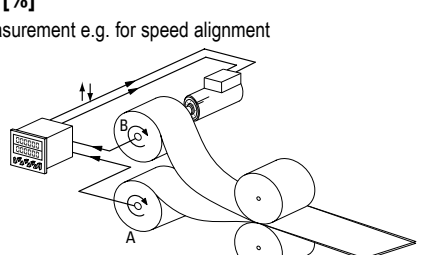


Areas of application:

■ Frequency counter (Tachometer)

Functions/ Count modes

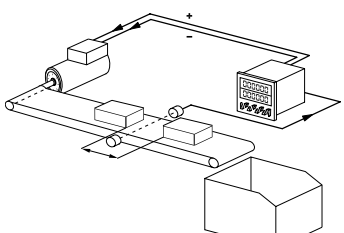
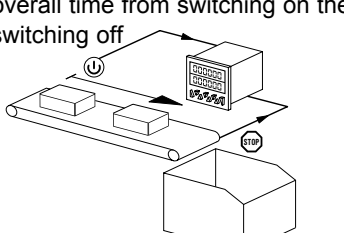
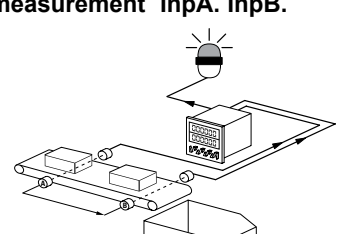
- A
- B
- A — B
- A + B
- A / B
- (A — B) / A x 100 % (percentage display)
- Quad (Phase discriminator with recognition of direction)
- Averaging
- Start delay
- 2nd tacho input
- Gate input
- Multiplication and division factor (up to 99.9999)

Application examples	A — B Synchro monitoring and control of two conveyor belts 	Quad Speed regulation with indication of direction 
	Ratio measurement A/B 	(A-B)/A [%] Ratio measurement e.g. for speed alignment 

■ Time and hours-run meter (Timer)

Functions/ Count modes

- FrErun (Control via gate input)
- Auto (Start via Reset, Stop at preset)
- InpB.InpB (Start with first edge at InpB., Stop with second edge InpB.)
- InpA. InpB (Start with InpA., Stop with InpB.)
- Totaliser (Overall total)
- Batch counting
- Set value
- Step or tracking preset

Application examples	Interval measurement InpB. InpB 	FrErun Measurement of overall time from switching on the conveyor belt till switching off 
	Run-time measurement InpA. InpB. 	Auto time-controlled production line 