Universal Preset Counter *CODIX* 923 / 924



Supply voltage





Temperature



DIN front panel



Frequency meter HRA

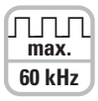


Menu driven programming

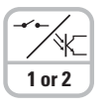


High IP value


Plug-in screw terminal



High frequency



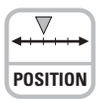
Preset counter



Multifunction



2 x 6 LCDs



Position display



Batch counter



Totaliser

Multifunction:

- **Counter, Tachometer and Timer – all in one device**
- **Can be used as preset counter, batch counter or totaliser (overall cumulative count)**
- **1 or 2 presets (additional presets on request)**
- **Relay or optocoupler outputs**
- **Wide choice of count modes for pulse inputs, time or frequency**
- **Division factor, set value, averaging, start delay (Tachometer), step or tracking presets**



RoHS ✓ c UL us -pending

Fast:

- **Direct input of the presets via the front keys or the Teach-In input**
- **Fast installation thanks to plug-in screw terminals**
- **Max. count frequency 60 kHz**

User-friendly:

- **Simultaneous display of the actual value, presets, batch count or total count**
- **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**

Technical data:

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	
Display:	2 line 6 digits LCD display LCD pos. (green) backlighting	
Count inputs:		
Polarity of the inputs:	programmable for all inputs in common NPN/PNP	
Input resistance:	5 kΩ	
Count frequency:	max. 55 kHz (details see manual)	
Min pulse duration of the inputs:	10 ms /1 ms	
Switching levels with AC-supply:		
HTL-level	Low: 0 ... 4 V DC High: 12 ... 30 V DC	
5 V-level	Low: 0 ... 2 V DC High: 3,5 ... 30 V DC	
Switching level swith DC-supply:		
HTL-level	Low: 0 ... 0,2 x U_B High: 0,6 x U_B ... 30 V DC	
5 V-level	Low: 0 ... 2 V DC High: 3,5 ... 30 V DC	
Pulse shape:	variable, Schmitt-Trigger characteristics	
Output	Switching voltage	max. 250 V AC/110 V DC
	Switching current	max. 3 A AC/A DC
	Switching current	min. 30 mA DC
	Switching capacity	max. 750 VA/90 W
Output 1	Mech. service life (switching cycles)	2 x 10^7
	N° of switching cycles at 3 A/250 V AC	1 x 10^5
	N° of switching cycles at 3 A/30 V DC	1 x 10^5
	Relay closing contact, programmable as normally open (NO) or normally closed (NC)	
Output 2	Mech. service life (switching cycles)	20 x 10^6
	N° of switching cycles at 3 A/250 V AC	5 x 10^4
	N° of switching cycles at 3 A/30 V DC	5 x 10^4
	Relay with changeover contact	
or npn optocoupler:	switching power	30 V DC/10 mA
	U_{CESAT} at IC = 10 mA:	max. 2,0 V
	U_{CESAT} at IC = 5 mA:	max. 0,4 V
Reaction time of the outputs:	Relay: approx 7 ms Optocoupler: approx 1 ms, Details see instruction manual	
Response time of the frequency counter:	100/600 ms, Details see instruction manual	
Data retention:	min. 10 years, EEPROM	
Count modes:		
Pulse counter::	cnt.dir, up.dn, up.up, quad, quad 2, quad4, A/B, (A-B)/A x 100%	
Frequency counter:	A, A-B, A+B, quad, A/B, (A-B)/A x 100%	
Timer:	FrErun, Auto, InpA.InpB., InpB.InpB.	

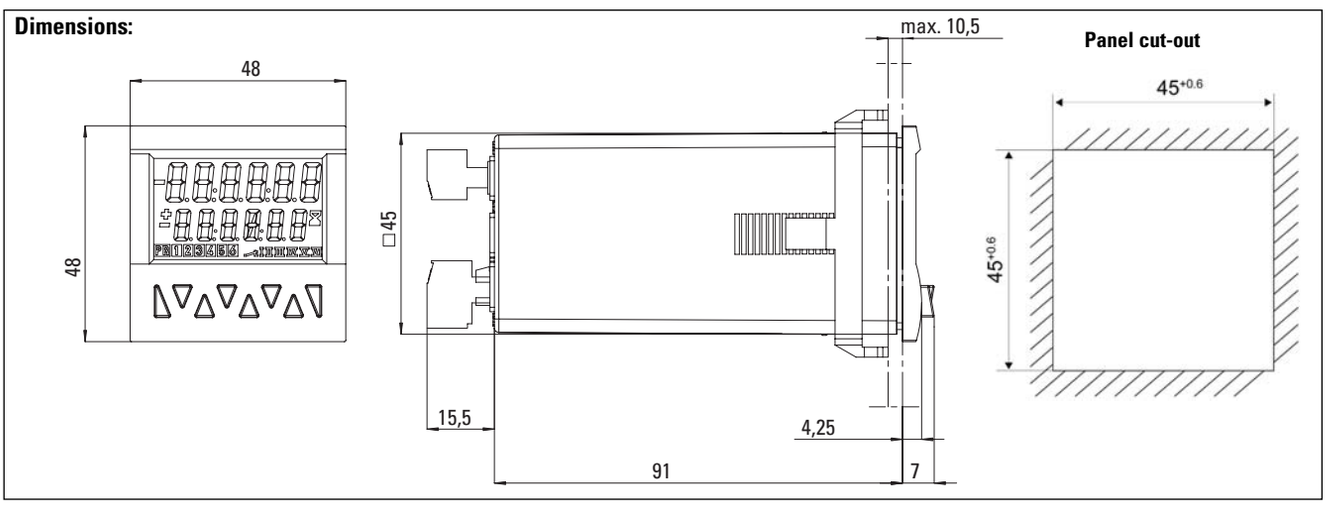
Preset Counter *CODIX* 923/924

Technical Data:

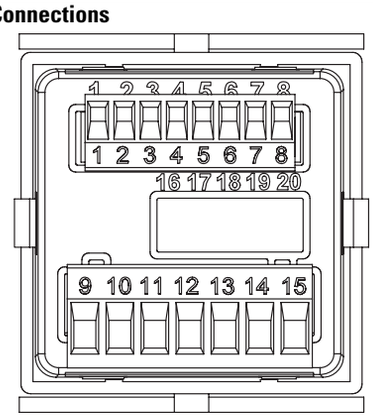
Voltage supply for sensors:	
AC supply	24 V DC± 15%, 80 mA
DC supply	max. 80 mA, external
	voltage supply is connected through
Operating temperature:	-20 °C ... +65 °C
Storage temperature:	-25 °C ... +75 °C

Humidity:	RH 93% at +40 °C, non-condensing
EMC:	CE compliant to EU directive 89/36/EWG
Standards:	EN 61 000-6-4/EN 55011 class B
	EN 61 000-6-2
UL (applied for):	File-N°.: E128604
Protection:	IP65 (front)
Weight:	approx. 125 g

Dimensions:



Connections



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)
16 ... 20:
Additional optional inputs or outputs or interfaces

Version with relays/optocouplers

9 Relay contact C./Collector
10 Relay contact N.O./Emitter
→ Output 1

11 Relay contact C./Emitter
12 Relay contact N.O./not assigned
13 Relay contact N.C./ Collector
→ Output 2

14 AC: 90..260 VAC N~
DC: 10..30 VDC
15 AC: 90..260 VAC L~
DC: GND (0 VDC)
→ Supply voltage

Delivery specification:
Preset counter
Mounting clip
Operating instructions

Order code:

6.92X.01XX.XX0

Number of presets
3 = 1 preset
4 = 2 preset

Outputs
0 = Relays
1 = Optocouplers

LCD options
0 = no backlighting
1 = green backlighting

Input trigger level
0 = Standard level (HTL)
A = 5 V-level

Supply voltage
0 = 90–260 V/AC
3 = 10–30 V/DC

Options: Additional inputs or outputs or interfaces on request

Standard stock models:
6.923.0100.000 6.924.0100.000
6.923.0100.300 6.924.0100.300

Areas of application:

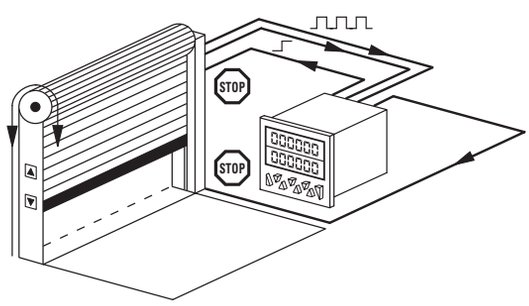
Pulse counter

Functions/ Count modes

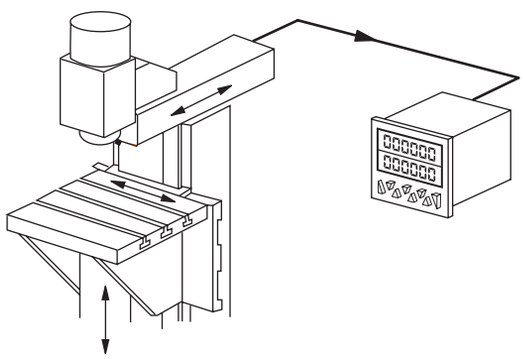
- Count with direction mode
- Difference mode
- Quadrature mode quad/quad2/quad4
- Add, Sub, automatic reset
- 2-input adding mode A+B
- Ratio measurement A/B
- Percentage difference measurement (A-B)/A x 100%
- Batch counting
- Totaliser (Overall total)
- Multiplication and division factor (up to 99.999)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

Application examples

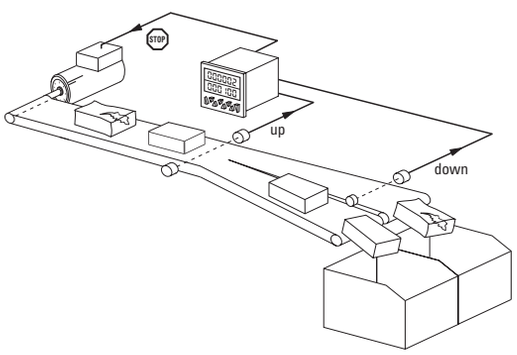
CountDir
Roller shutter door with automatic shutoff



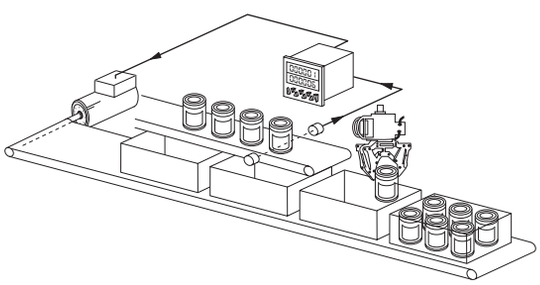
Quad
Running direction and position on milling machines



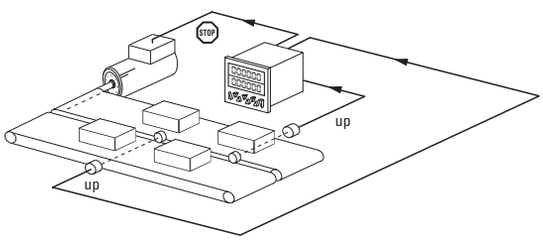
UpDown
Automatic subtraction of faulty or reject parts from the total piece count



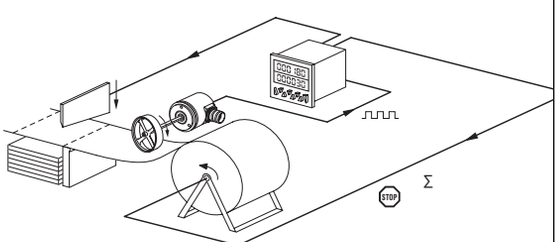
Batch
Logging of piece numbers and packing units plus control of replenishment of packing cartons



UpUp
Adding up of two parallel or staggered production lines



Add tot
Cut-to-length with overall total count



Areas of application:

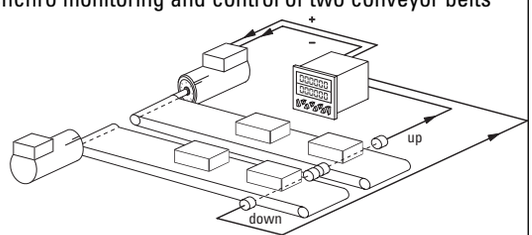
Frequency counter (Tachometer)

Functions/ Count modes

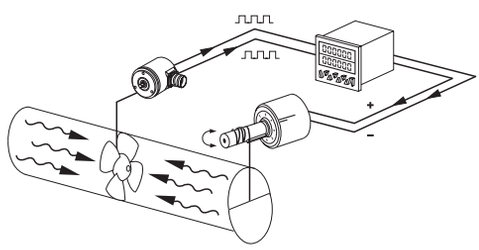
- A
- B
- A – B
- A + B
- A / B
- (A – B) / A x 100 % (percentage display)
- Quad (Phase discriminator with recognition of direction)
- Averaging
- Start delay
- 2nd tacho input
- Gate input
- Multiplication and division factor (up to 99.9999)

Application examples

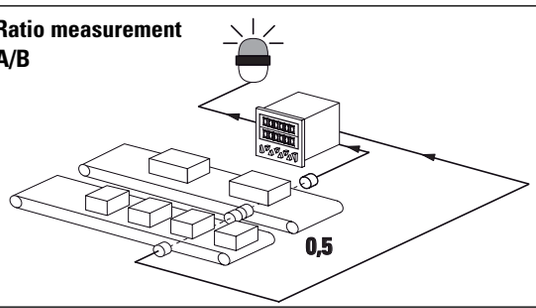
A – B
Synchro monitoring and control of two conveyor belts



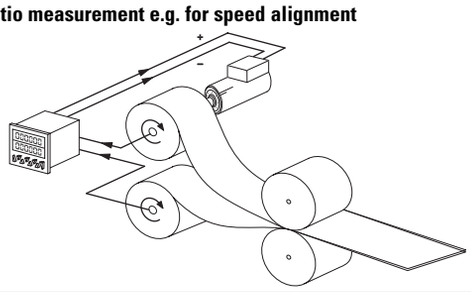
Speed regulation with indication of direction



Ratio measurement A/B



Ratio measurement e.g. for speed alignment



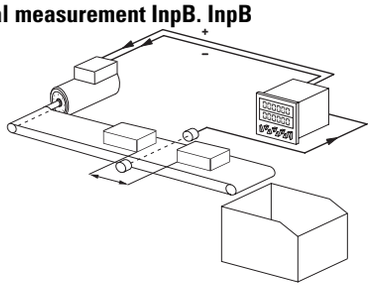
Time and hours-run meter (Timer)

Functions/ Count modes

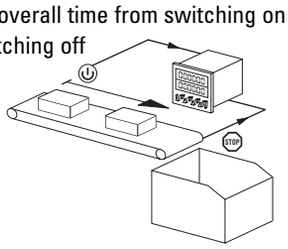
- FrErun (Control via gate input)
- Auto (Start via Reset, Stop at preset)
- **InpB.InpB (Start with first edge at InpB., Stop with second edge InpB.)**
- InpA. InpB (Start with InpA., Stop with InpB.)
- Totaliser (Overall total)
- Batch counting
- Set value
- Step or tracking preset

Application examples

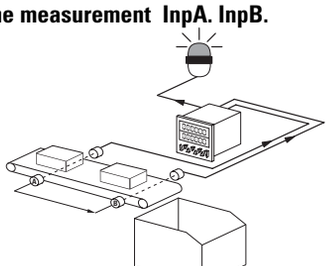
Interval measurement InpB. InpB



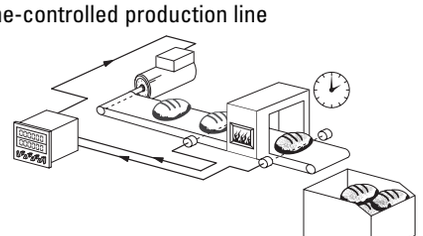
FrErun
Measurement of overall time from switching on the conveyor belt till switching off



Run-time measurement InpA. InpB.

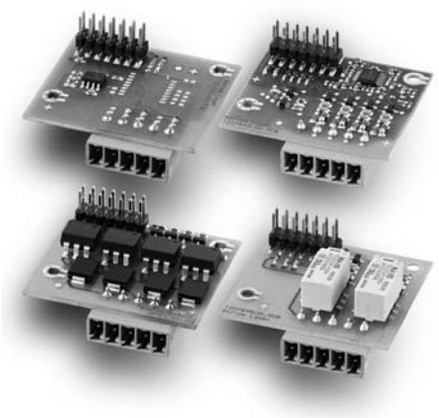


Auto
time-controlled production line



The technology platform for OEM applications:

Expandable



Expandable on request via modules:
- with up to 4 inputs
- 4 additional optocoupler outputs
- 2 additional relay outputs
- RS 232/485 communications interfaces

Application examples:
- Limit switch monitoring
- Special functions/PLC function
- Initiation of fixed program sequences
- Control of several processes
- Special protocols
- Print commands for logging

Customisable



Individual customisation of software to your application. For example:

- Separate inputs for total counter and preset counter
- Separate scaling of input A and B
- Programmable measuring period for the tachometer
- Measurement of rotary speeds based on time
- Processing time, measurement of time based on frequency

Please talk to us – we look forward to solving your individual requirements in a close dialogue with you