

# Preset counters, electronic

**LED preset counters**

**Multifunction – pulse, frequency, time – 60 kHz, 2 presets (AC+DC)**

**Codix 560**



With its automatic help texts, clearly and legibly displayed on 14 LED segments, the Codix 560 preset counter takes the user effortlessly through the programming. The large user-friendly front keys can be operated even when wearing gloves.

The 14 mm high LED display ensures easy reading even from a long distance and in poor lighting conditions.

New: now available also with RS232/485 interface and MODBUS and CR/LF protocol



<b>DC</b> 10 ... 30V Power supply	<b>AC</b> 100 ... 240V Power supply	<b>-20° + 65°</b> Temperature range	<b>000000</b> DIN 96 x 48	<b>PROG</b> Menu-driven programming	<b>IP65</b> High protection level	<b>max.</b> 65 kHz High count frequency	<b>Hz</b> Multifunction	<b>t/Hz</b> HRA Frequency display with HRA	<b>POSITION</b> Position display	<b>A..Z*</b> LEDs 14 segment LED
<b>Batch</b> Batch counter	<b>Σ</b> Total counter	<b>RS</b> 232 485 Optional interface								

## Multifunction

- Counter, tachometer, timer and position display in one device
- Can be used as preset counter, batch counter or total counter
- 2 relays (change-over)
- Many different count modes
- Scalable display
- Set value, step or tracking preset
- Multi-range power supply for AC or DC
- Readable or configurable via RS232/485 interface via MODBUS or CR/LF protocol
- Allows direct connection of a large display or printer

## User-friendly

- Automatic help texts, displayed in German and English
- 14-segment LED for improved text representation
- Status display of the presets
- 3 predefined parameters
- Tracking presets eliminate the need for reprogramming of the pre-signal
- Minimum installation depth
- 4-stage RESET modes
- 3-stage keypad locking
- Suitable for installation in mosaic systems

## Order Code

6.560 . 010 . XXX  
a b c

### a Power supply

0 = 100 ... 240 V AC, ±10%<sup>1)</sup>  
3 = 10 ... 30 V DC<sup>1)</sup>

### b Input trigger levels

0 = Standard level (HTL)<sup>1)</sup>  
A = 4...30 V DC level

### c Interface (optional)

0 = None  
5 = RS232 (MODBUS or CR/LF)  
7 = RS485 (MODBUS or CR/LF)

### Delivery specification

- Preset counter  
- Mounting clip  
- Instruction manual

## Accessories

Dimensions in mm [inch]

Order-No.

### Mounting frame

with cut-out 92 x 45 [3.62 x 1.77]

For snap-on mounting on 35 [1.38] top-hat DIN rail,  
for counters 96 x 48 [3.78 x 1.89]

grey

**G300005**

Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

1) Stock types

# Preset counters, electronic

## LED preset counters    Multifunction – pulse, frequency, time – 60 kHz, 2 presets (AC+DC)    Codix 560

### Technical data

General technical data	
Display	6-digit red 14 segment LED display, 14 mm [0.55] high
Operating temperature	-20°C ... +65°C [-4°F ... +149°F] (non-condensing)
Storage temperature	-25°C ... +75°C [-13°F ... +167°F]
Relative humidity	at +40°C [+104°F] RH 93% (non-condensing)
Altitude	up to 2000 m [6562']

Electrical characteristics		
Power supply	AC	100 ... 240 V AC, ± 10% max. 11 VA, 50/60 Hz
	DC	10 ... 30 V, max. 5.5 W
External fuse protection	230 V AC 10 ... 30 V DC	T 0.1 A T 0.25 A
Data retention	> 10 years, EEPROM	
Response time of the frequency meter	100 / 600 ms (details s. instruction manual)	
Input modes	Pulse counters:	Count direction (cnt.dir), Difference (up.dn), Addition A+B (up.up), phase discriminator x1, x2, x4 (quad, quad x2, quad x4), Ratio (A/B), Ratio in % ((A-B)/A x 100%)
	Frequency meter:	A, A-B, A+B quad, A/B, (A-B)/A x 100%
	Timer:	4 start modes: FrErun, Auto, InpA.InpB., InpB.InpB.
Sensor power supply	AC supply DC supply	24 V DC ± 15%, 80 mA max. 80 mA, external power supply is connected through
EMC	Emitted interference	EN 55011 class B
	Immunity to interference	EN 61000-6-2
Device safety	Designed to	EN 61010 part 1
	Protection class Application area	2 Pollution level 2
UL approval	File No.: E128604	

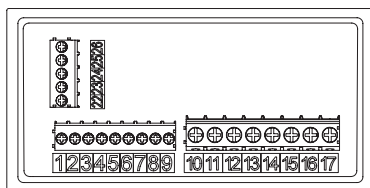
Mechanical data	
Protection	IP65 (from the front)
Weight	approx. 180 g [6.35 oz]

Inputs		
Count inputs	A and B	
Polarity of the inputs	programmable for all inputs in common, NPN/PNP	
Input resistance	5 kΩ	
Count frequency	Pulse counters	max. 55 kHz
	Tachometers	max. 65 kHz can be damped to 30 Hz (mechanical contacts) (details s. instruction manual)
Control / Reset input	MPI 1 and MPI 2, Lock, Gate, Reset	
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
	4 ... 30 V DC:	LOW: 0 ... 2 V DC HIGH: 3.5 ... 30 V DC
Switching levels with DC supply	HTL-level:	LOW: 0 ... 0.2 x UB HIGH: 0.6 x UB ... 30 V DC
	4 ... 30 V DC:	LOW: 0 ... 2 V DC HIGH: 3.5 ... 30 V DC
Pulse shape	variable, Schmitt-Trigger characteristics	

Outputs	
Switching voltage	max. 250 V AC / 150 V DC
Switching current	max. 3 A AC / DC min. 30 mA DC
Switching capacity	max. 750 VA / 90 W
Output 1 + 2	
Mech. service life (switching cycles)	2 x 10 <sup>7</sup>
N° of switching cycles at 3 A / 250 V AC	5 x 10 <sup>4</sup>
N° of switching cycles at 3 A / 30 V DC	5 x 10 <sup>4</sup>
Relay with changeover contact	
Reaction time of the outputs (pulse / time)	13 ms (details s. instruction manual)

Optional interface MODBUS and CR/LF	
Count frequency	max. 45 kHz (details s. instruction manual)
Interface	RS232, RS485
Baud rate	9600
Device address	1 ... 99, programmable

### Terminal assignment



Pin	RS232 (optional)	Pin	RS485 (optional)
22	GND	22	–
23	RXD	23	DO
24	TXD	24	DI
25	–	25	–
26	–	26	–

Pin	Signal and control inputs
1	INP A (Signal input A)
2	INP B (Signal input B)
3	RESET (Reset input)
4	LOCK (Keypad lock)
5	GATE (Gate input)
6	MPI 1 (User input 1)
7	MPI 2 (User input 2)
8	Sensor power supply AC: 24 V DC/80 mA DC: U <sub>B</sub> connected through
9	Shared connection for signal and control inputs GND (0 VDC)

Pin	Version with relay/optocoupler	
10	Relay contact C.2	Output 2
11	Relay contact N.O.2	
12	Relay contact N.C.2	Output 1
13	Relay contact C.1	
14	Relay contact N.O.1	Power supply
15	Relay contact N.C.1	
16	AC: 100 ... 240 V AC, ± 10%, N~ DC: 10 ... 30 V DC	
17	AC: 100 ... 240 V AC, ± 10%, L~ DC: GND (0 V DC)	

# Preset counters, electronic

**LED preset counters**

**Multifunction – pulse, frequency, time – 60 kHz, 2 presets (AC+DC)**

**Codix 560**

## Pulse counter

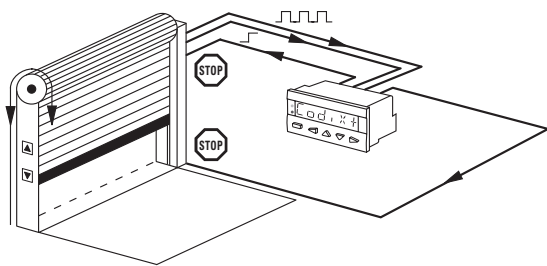
### Functions / count modes

- 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
- Multi-range power supply for AC or DC
- Percentage difference measurement  $(A-B)/A \times 100\%$
- Batch counting
- Totaliser (Overall total)
- Multiplication and division factor (up to 99.9999)
- Set value
- Step or tracking preset

## Application examples

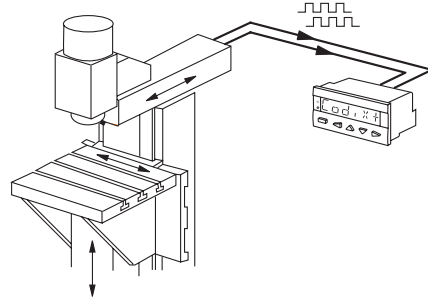
### CountDir + Add

Roller shutter door with automatic shut-off



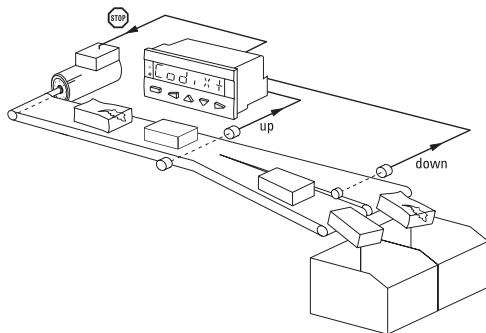
### Quad + Add

Running direction and position on milling machines, Limit switch monitoring



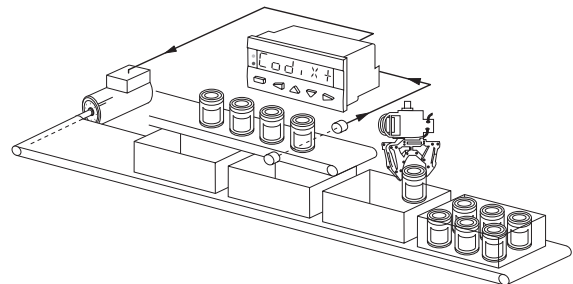
### UpDown + Add

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



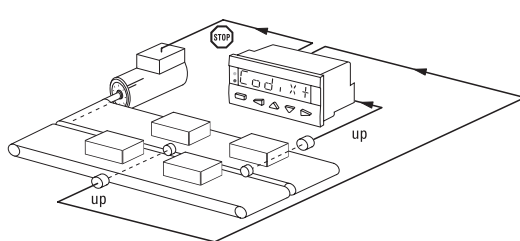
### CountDir + Batch

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



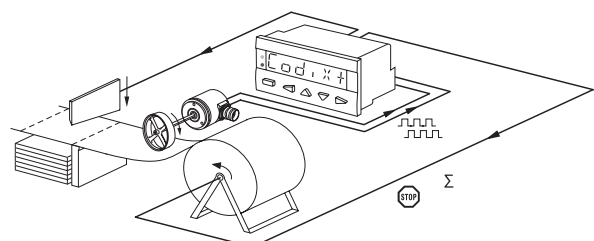
### UpUp + Add

Adding up of two parallel or staggered production lines



### Quad + Add tot

Cut-to-length with overall total count and control of the machine



# Preset counters, electronic

**LED preset counters**    **Multifunction – pulse, frequency, time – 60 kHz, 2 presets (AC+DC)**    **Codix 560**

**Frequency meter (tachometer)**

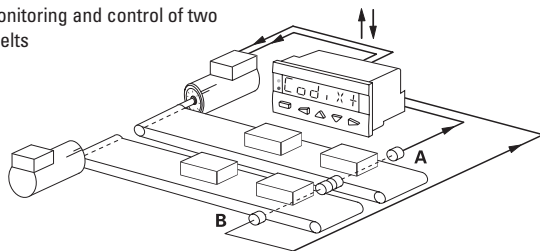
**Functions / count modes**

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

## Application examples

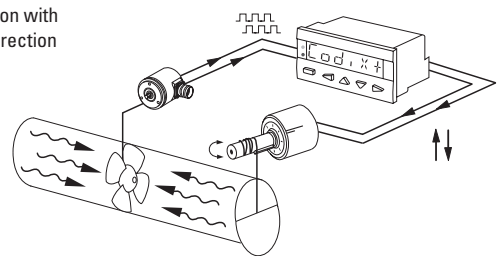
### A – B

Synchro monitoring and control of two conveyor belts



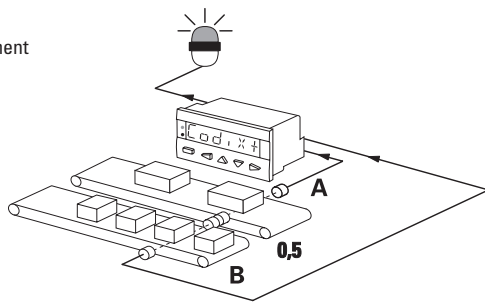
### Quad

Speed regulation with indication of direction



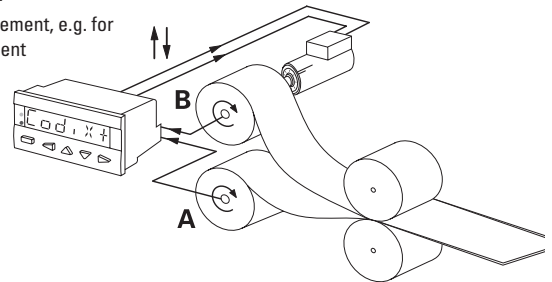
### A/B

Ratio measurement



### $(A-B)/A$ [%]

Ratio measurement, e.g. for speed alignment



## Time and hours-run meter (timer)

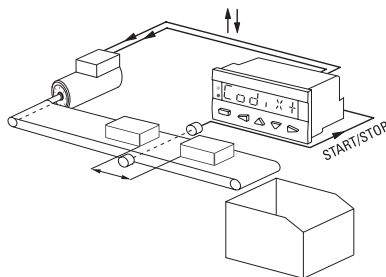
### Functions / count modes

- 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

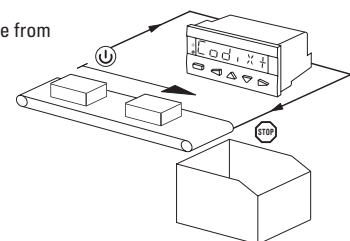
### InpB. InpB

Interval measurement



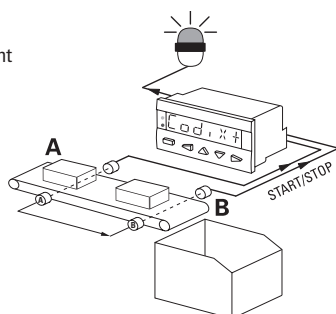
### FrErUn

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



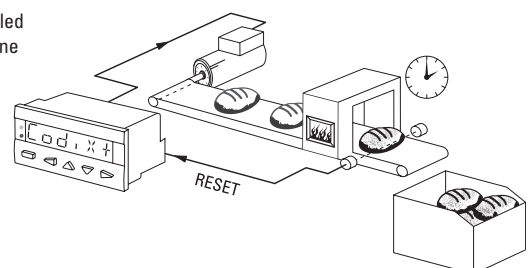
### InpA. InpB

Run-time measurement



### Auto

Time-controlled production line



# Preset counters, electronic

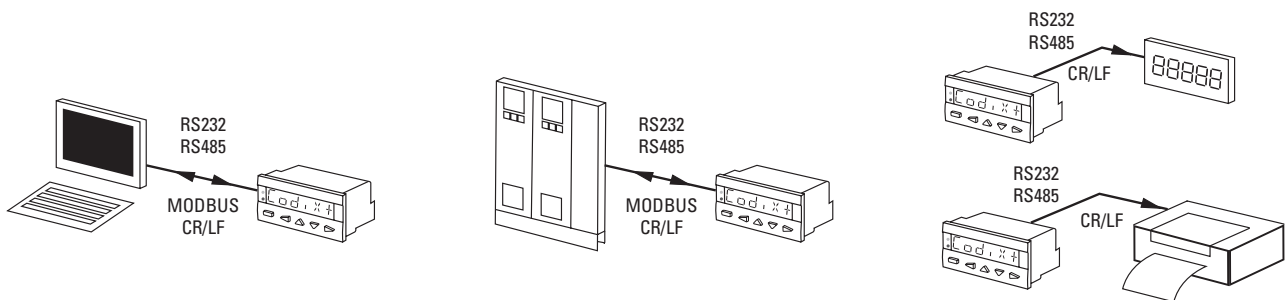
**LED preset counters**

**Multifunction – pulse, frequency, time – 60 kHz, 2 presets (AC+DC)**

**Codix 560**

## RS232 / RS485 interface (optional)

For connecting the counter to a PC, a PLC, a large display or a printer – for reading-out data or configuring the device.



## Dimensions

Dimensions in mm [inch]

