Preset Counters

LED Preset Counters	2 Presets	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.

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

c**UL**us pending   RoHS

DC 10 ... 30V — Power supply	**AC** 90 ... 260V — Power supply
- 20° + 65° — Temperature range	
000000 DIN 96 x 48 — DIN front bezel	ProG — Menu-driven programming
IP65 — High protection level	**max. 60 kHz** — High count frequency
Multifunction	t/Hz **HRA** — Frequency display with HRA
POSITION — Position display	A..Z — 14 segment LED display / **LEDs**
Batch — Batch counter	**Σ** — Total counter
RS 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

ⓐ *Supply voltage*
0 = 90 ... 260 V AC [1]
3 = 10 ... 30 V DC [1]

ⓑ *Input trigger levels*
0 = Standard level (HTL) [1]
A = 4...30 V DC level

ⓒ *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

Mounting frame with cut-out 92 x 45 mm	for snap-on mounting on 35 mm top-hat DIN rail, for counters 96 x 48 mm	**G300005**

Further accessories can be found in the accessories section or in the accessories area of our website at: www.kuebler.com/accessories

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General technical data

Display	6-digit, 14 segment LED Display, 14 mm [0.551"] high
Operating temperature	-20°C ... +65°C
Storage temperature	-25°C ... +75°C
Relative humidity at +40°C	r.F. 93%, non-condensing
Altitude	up to 2000 m

Electrical characteristics

Supply voltage	AC	90 ... 260 V AC max. 11 VA, 50/60 HZ
	DC	10 ... 30 V, max. 5,5 W
External fuse protection	230 V AC	T 0,1 A
	10 ... 30 V DC	T 0,25 A
Data retention		> 10 years, EEPROM
Response time of the frequency meter:		100 / 600 ms, for details, see 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 x100%)
	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 supply voltage	AC supply	24 V DC± 15%, 80 mA
	DC supply	max. 80 mA, external supply voltage 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	2
	Application area	Pollution level 2

Mechanical data

Protection	IP65 (from the front)
Weight	approx. 180 g

Inputs

Count inputs			A and B
Polarity of the inputs			programmable for all inputs in common, NPN/PNP
Input resistance			5 kΩ
Count frequency			max. 5 kHz (details see manual) can be damped to 30 Hz (mechanical contacts)
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)	2×10^7
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	
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

Connections
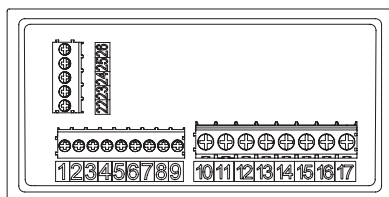
Pin	RS232 (optional)
22	GND
23	RXD
24	TXD
25	–
26	–

Pin	RS485 (optional)
22	–
23	DO
24	DI
25	–
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 supply voltage AC: 24 V DC/80 mA DC: UB 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	
13	Relay contact C.1	Output 1
14	Relay contact N.O.1	
15	Relay contact N.C.1	
16	AC: 90..260 V AC N~ DC: 10 ... 30 V DC	Supply voltage
17	AC: 90..260 V AC L~ DC: GND (0 V DC)	

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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 x 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
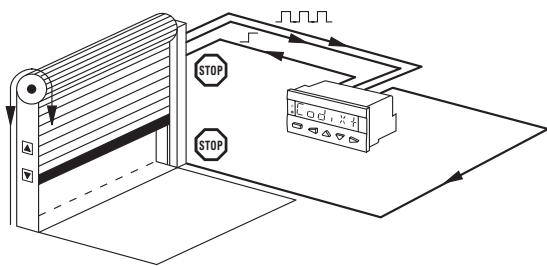
Quad + Add

Running direction and position on milling machines, Limit switch monitoring
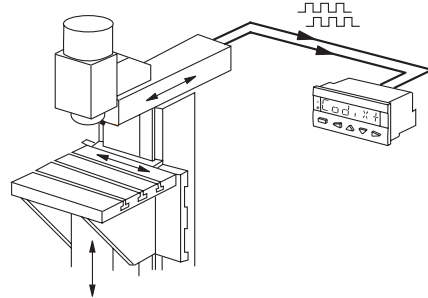
UpDown + Add

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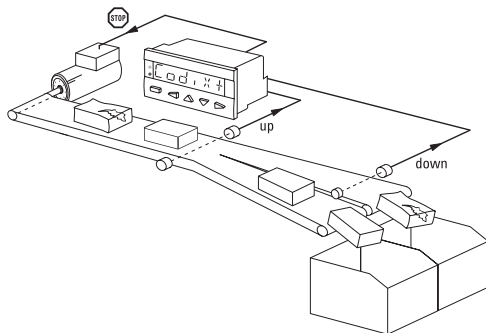
CountDir + Batch

Logging of piece numbers and packing units plus control of replenishment of packing cartons
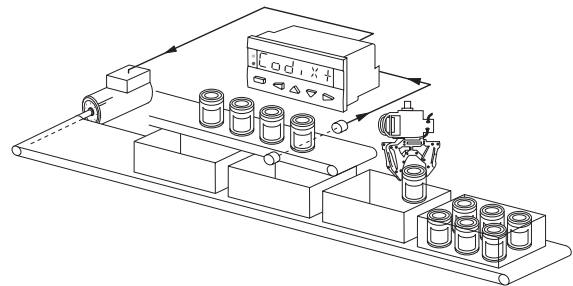
UpUp + Add

Adding up of two parallel or staggered production lines
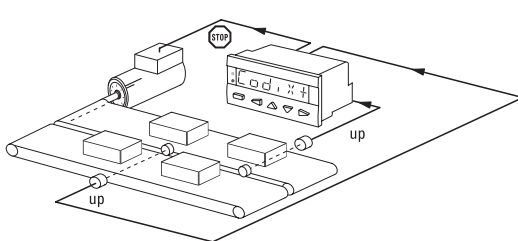
Quad + Add tot

Cut-to-length with overall total count and control of the machine
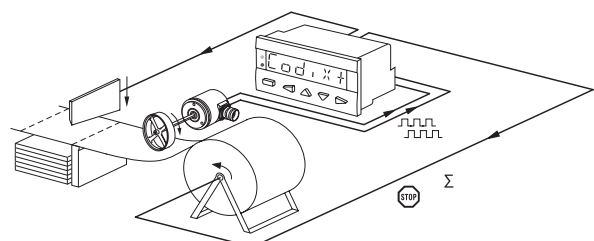
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Frequency meter (Tachometer)

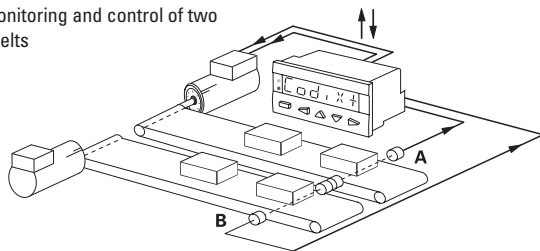**Functions / Count modes**
- A
- A – B
- A + B
- A / B
- (A – B) / A x 100 % (percentage display)
- Quad (phase discriminator with recognition of direction)

- Averaging
- Start delay
- 2nd tacho input
- Gate input
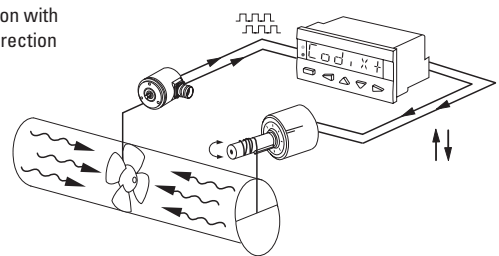- Multiplication and division factor (up to 99,9999)

Application examples
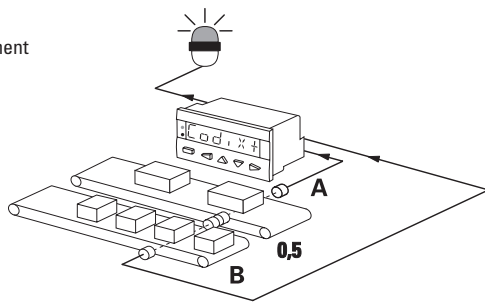
A – B

Synchro monitoring and control of two conveyor belts

Quad

Speed regulation with indication of direction

A/B

Ratio measurement

(A-B)/A [%]

Ratio measurement, e.g. for speed alignment
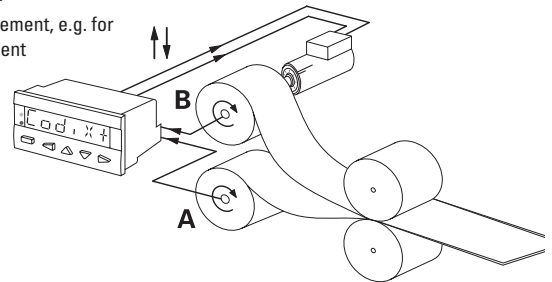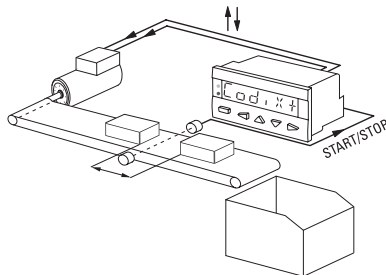
Time and Hours-run meter (Timer)

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
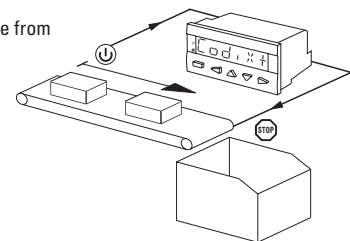- Step or tracking preset

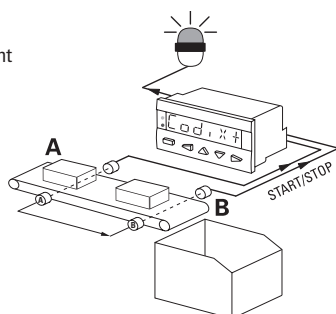## Application examples

InpB. InpB

Interval measurement

FrErun

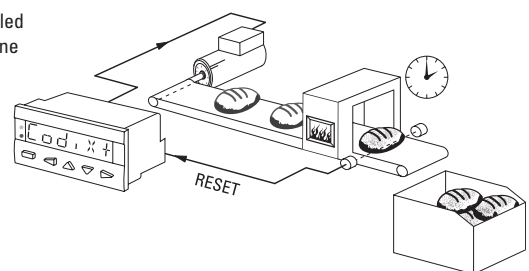Measurement of overall time from switching on the conveyor belt till switching off

InpA. InpB
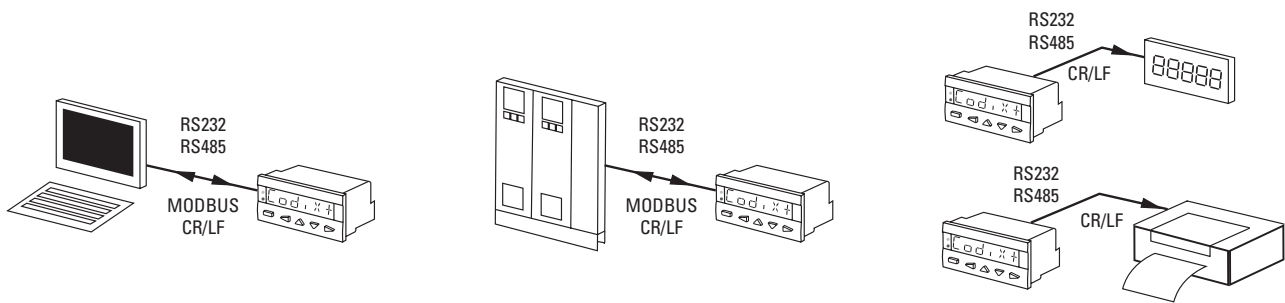
Run-time measurement

Auto

Time-controlled production line

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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

96 [3.78]

48 x 90 [1.89 x 3.543]

max. 35 [1.378]

43 [1.692]

7.35 [0.289]

11.2 [0.441]

90.5 [3.563]

45$^{-0.6}$ [1.77$^{+0.024}$]

Panel cut out

92$^{+0.8}$ [3.622$^{+0.031}$]