



The Codix 52U is a voltage-powered dual function counter with 4 functions in one device:

Counter with 2 totalizing ranges, totalizer and timer, totalizer and frequency meter, timer with 2 time ranges.

For fast and slow count pulses, with 6-digit LED display for NPN, PNP input signals.



## Powerful

- Fast count and frequency input – input frequency max. 60 kHz (can be damped to 30 Hz for mechanical contacts).
- Robust housing – IP65 protected.
- Very bright LED display, 8 mm high, 6 digits.
- Very accurate precise frequency measurement principle (HRA-High Rate Accuracy System)  
Frequencies up to 38 Hz are calculated using time-interval (period duration) measurement. Frequencies > 38 Hz are calculated using a special time base (gate time) measurement. A very high accuracy of < 0.1 % is achieved, even with very short gate times. The resulting measurement is available after a max. of 50 ms.
- Short start-up time – detects input pulses just 16 msec after being switched on => no pulses are lost with a simultaneous motor start-up.

## User-friendly and universal

- Large keys – can also be operated when wearing gloves.
- Programming:
  - Simple uniform menu-driven programming and operation.
  - Possible to enter the programming also during operation with a confirmation prompt.
  - Pressing the right key switches between displays.
- Individually programmable scaling: multiplication and division factor (0.0001...99.9999), to display corresponding engineering units, e.g. position in 1/10 mm and speed in RPM.
- Separate factors for frequency- and pulse counting.
- Inputs: as an alternative to the HTL inputs, devices are available with a 4 ... 30 V DC input level, for use as parallel displays to PLCs.
- Timer specials: timer or hours-run meter with various Start/Stop measurements, time range settings in hours, minutes or seconds, with decimal point. Resolutions up to 1/1000 can be programmed.

## Order code

6.52U	.	01	2	.	3	X	0
						<b>a</b>	

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

### Delivery specification

- Counter
- Mounting clip
- Front bezel for screw mounting (T008181) 56 x 40 mm [2.20 x 1.57"], panel cut-out 50 x 25 mm [1.97 x 0.98"]
- Front bezel for clip mounting (T008180) 53 x 28 mm [2.09 x 1.10"], panel cut-out 50 x 25 mm [1.97 x 0.98"]
- Gasket
- Instruction manual, multilingual

## Multifunction devices, electronic

LED dual function displays	Universal with dual functions, 4 combinations (DC)	Codix 52U
Accessories	Dimensions in mm [inch]	Order no.
<b>Adapter front bezel, 72 x 36 [2.83 x 1.42]</b>	for cut-out 68 x 33 [2.68 x 1.30] to cut-out 45 x 22.2 [1.77 x 0.87], for counters 48 x 24 [1.89 x 0.94], as set	black and silver anodised <b>162704 Set</b>
<b>Adapter front bezel, 48 x 48 [1.89 x 1.89]</b>	for cut-out 45 x 45 [1.77 x 1.77] to cut-out 45 x 22.2 [1.77 x 0.87], with clip mounting for counters 48 x 24 [1.89 x 0.94]	black <b>T008883</b>
<b>Adapter front bezel, 60 x 50 [2.36 x 1.97]</b>	for cut-out 54 x 29 [2.13 x 1.14] to cut-out 45 x 22.2 [1.77 x 0.87], with screw mounting and gasket for counters 48 x 24 [1.89 x 0.94]	black <b>N003001</b>
<b>Transparent cover, lockable, IP65</b>	for cut-out 54 x 29 [2.13 x 1.14], for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 [1.97 x 0.98] or 45 x 22.2 [1.77 x 0.87]	<b>N003002</b>
<b>Sealing cover type K1, IP65</b>	suitable for front bezel 60 x 50 [2.36 x 1.97], for screw mounting of electromech. counters and via adapter front bezel N003001 for counters 48 x 24 [1.89 x 0.94]	<b>G008301</b>
<b>Mounting frame</b> with cut-out 50 x 25 [2.36 x 1.97] via separate adapter also for 45 x 22.2 [1.77 x 0.87]	for snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 53 x 28 [2.09 x 1.10] and via separate adapter (T008180) for counters 48 x 24 [1.89 x 0.94]	chromated <b>G300004</b>

Suitable gaskets, other accessories and installation examples for optional accessories can be found in chapter accessories or in the accessories section under: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

### Technical data

#### General technical data

<b>Display</b>	6 digits, red 7 segment LED display; 8 mm [0.32"] high
<b>Data backup</b>	EEPROM
<b>Operating temperature</b>	10 ... 26 V DC -20°C ... +65°C [-4°F ... +149°F] > 26 ... 30 V DC -20°C ... +55°C [-4°F ... +131°F] (non-condensing)
<b>Storage temperature</b>	-25°C ... +70°C [-13°F ... +158°F]

#### Electrical characteristics

<b>Power supply</b>	10 ... 30 V DC, with integrated reverse polarity protection
<b>Current consumption</b>	max. 40 mA
<b>EMC standards</b>	EN 55011 class B, EN 61000-6-2, EN 61000-6-3 EN 61326-1
<b>UL approval</b>	file E128604

#### Mechanical characteristics

<b>Housing</b>	front panel mount 48x24 mm [1.89 x 0.94"] acc. to DIN 43700; RAL 7021, dark grey
<b>Protection</b>	IP65 (front side)
<b>Weight</b>	approx. 50 g [1.76 oz]
<b>Vibration resistance</b> acc. to EN 60068-2-6	10 ... 55 Hz / 1 mm [0.04"] / 30 min
<b>Shock resistance</b> acc. to EN 60068-2-27	100 G: 2 ms 10 G: 6 ms

#### Inputs

<b>Polarity of inputs</b>	programmable, NPN or PN
<b>Input resistance</b>	approx. 5 kΩ
<b>Counting frequency</b> <sup>1)</sup>	max. 60 kHz, can be damped to 30 Hz
<b>Display range</b>	timer 0.001 s ... 999999 h frequency meter 1/min or 1/sec
<b>Minimum pulse duration of the reset input</b>	5 ms
<b>Input switching level (HTL)</b>	LOW 0 ... 0.2 x U <sub>B</sub> [V DC] HIGH 0.6 x U <sub>B</sub> ... 30 V DC
<b>Input switching level at 4 ... 30 V DC</b>	LOW 0 ... 2 V DC HIGH 4 ... 30 V DC
<b>Accuracy</b>	< 0.1 % frequency meter, tachometer

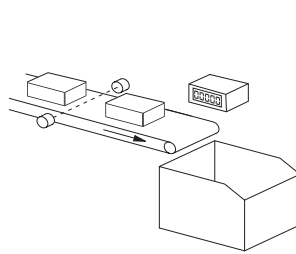
1) Details see manual

# Multifunction devices, electronic

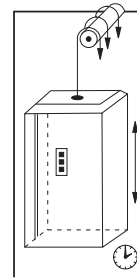
**LED dual function displays**      **Universal with dual functions, 4 combinations (DC)**      **Codix 52U**

### Applications for dual functions

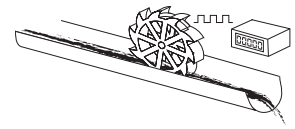
- Pulse and frequency (speed)  
e.g. production data acquisition: total piece count and speed on OEM equipment, flow rate measuring systems – total flow and current flow
- 2 pulse counters  
Measurement of batch and total piece count or of daily production count and total count values
- Pulse and time (maintenance counter)  
Used in the lift industry as trip counters and hours-run meters and on production machines for piece and time counting, flow and time measurement, materials handling time and quantities
- 2 timers  
Measurement of total time and orderspecific times, maintenance intervals and total time, time of day and total time



Piece count on conveyor and production speed

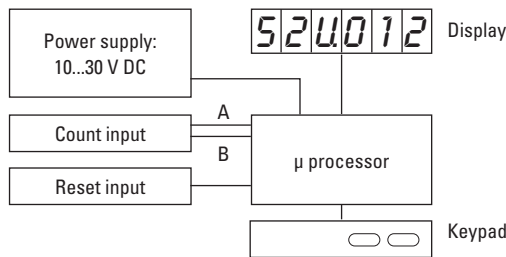


Trip counter and hours-run



Flow rate and total volume

### Block diagram



### Terminal assignment



PIN	DC version
1	10 ... 30 V DC
2	0 V GND
3	INP A
4	INP B
5	Reset

Function of the inputs INP A, INP B

#### Counter with 2 totalizing ranges:

INP A: Dynamic count input counter 1 and counter 2  
INP B: Inactive

#### Totalizer and timer:

INP A: Dynamic count input for totalizer  
INP B: Start/Stop or gate input for timer

#### Totalizer and frequency meter:

INP A: Dynamic count input/frequency input  
INP B: Inactive

#### Timer with 2 time ranges:

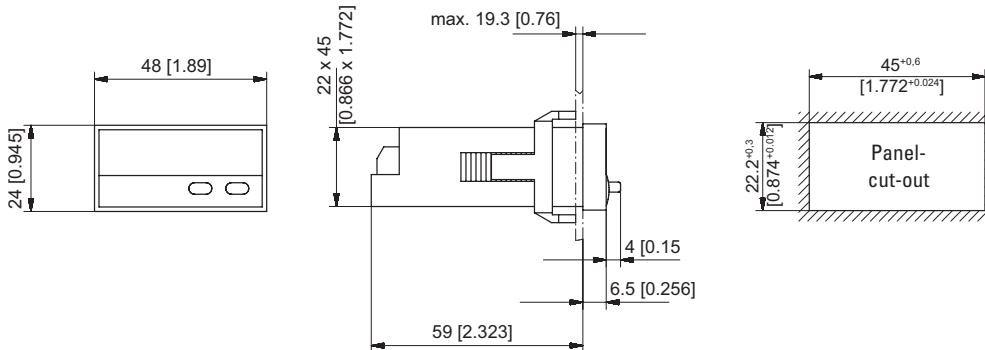
INP A: Start input (depends on input type)  
INP B: Start/Stop or gate input for timer (depends on input type)

# Multifunction devices, electronic

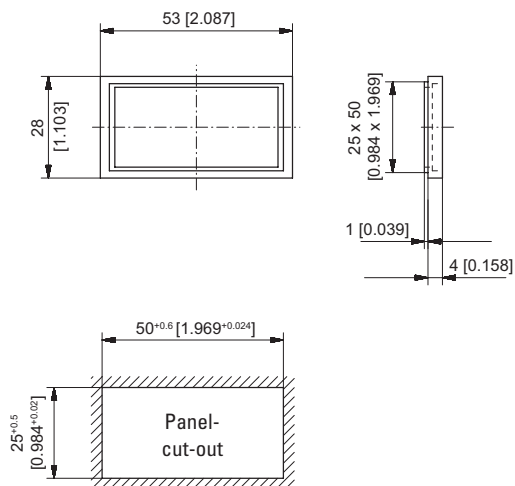
<b>LED dual function displays</b>	<b>Universal with dual functions, 4 combinations (DC)</b>	<b>Codix 52U</b>
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## Dimensions

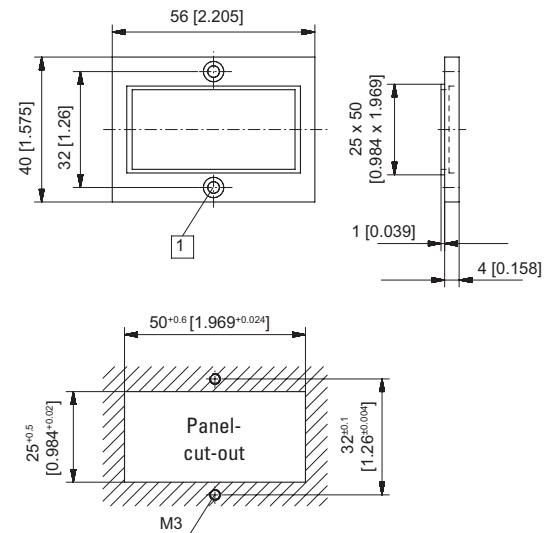
Dimensions in mm [inch]



### Front bezel for clip mounting (included in delivery)



### Front bezel for screw mounting (included in delivery)



1 Countersinking A13, DIN 74