LED dual function displays | Universal with dual functions, 4 combinations (AC+DC) | Codix 54U



The Codix 54U is a voltage-powered dual function counter with 4 functions in one device:

Counter with 2 totalising ranges, totaliser and timer, totaliser and frequency meter, timer with 2 time ranges.
For fast and slow count pulses, with 6-digit LED display for NPN, PNP input signals.



Power supply | DIN front bezel | Temperature range | High protection level | Plug-in screw terminal | Menu-driven programming | Pulse counter/ Totaliser | Frequency meter/ tachometer | Timer | Frequency meter HRA

Powerful

- Fast count and frequency input – input frequency max. 60 kHz
- Robust housing – IP65 protected
- Very bright LED display, 14 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
- AC or DC power supply
- Inputs: as an alternative to the HTL inputs, devices with a 5 V DC input level are available, for use as parallel displays for 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

6.54U	.	01	2	.	X	X	0
					ⓐ	ⓑ	

ⓐ *Power supply*
0 = 100 ... 240 V AC, ± 10%
3 = 10 ... 30 V DC

ⓑ *Input switching level*
0 = Standard (HTL)
A = 4 ... 30 V DC

Delivery specification
– Digital display
– Mounting clip
– Gasket
– 2 plug-in screw terminals
– Instruction manual, multilingual

Replacement parts
7 pin screw terminal RM 3.81 1 ... 7: N100387
2 pin screw terminal RM 5.08 1 ... 2: N100133

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 [3.74 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.

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Technical data

General technical data

Display		6 digit, red 7 segment LED display; 14 mm [0.55“] high
Data backup		EEPROM
Operating temperature	10 ... 26 V DC	-20°C ... +60°C [-4°F ... +140°F] (non-condensing)
Storage temperature		-25°C ... +70°C [-13°F ... +158°F]
Altitude		up to 2000 m [6562’]

Electrical characteristics

Power supply		10...30 V DC, with reverse polarity protection 100 ... 240 V AC, ±10%
Current consumption		max. 50 mA, 6 VA
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 characteristics

Housing	front panel mount 96 x 48 mm [3.74 x 1.89“] acc. to DIN 43700; RAL 7021, dark grey
Protection	IP65 (front side)
Weight	approx. 150 g [5.29 oz]

Inputs

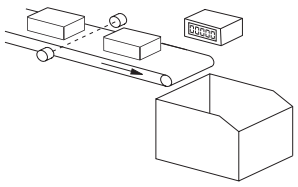
Polarity of inputs			programmable, NPN or PNP for all inputs
Input resistance			approx. 5 kΩ
Counting frequency [1]			max. 60 kHz, can be damped to 30 Hz
Display range		timer	0.001 s ... 999999 h
		frequency meter	1/min or 1/sec
Minimum pulse duration of the reset input			5 ms
Input switching level standard version (HTL)			
DC power supply		LOW	0 ... 0.2 x U_B [V DC]
		HIGH	0.6 x U_B ... 30 V DC
AC power supply		LOW	0 ... 4 V DC
		HIGH	12 ... 30 V DC
Input switching level at 4 ... 30 V DC		LOW	0 ... 2 V DC
		HIGH	4 ... 30 V DC
Accuracy	frequency meter / tachometer		< 0.1 %
	timer		< 50 ppm

Outputs

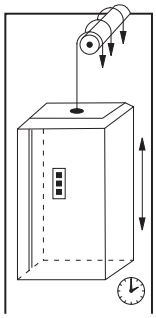
Sensor power supply (AC version)	24 V DC ±15 %/100 mA

Applications for dual functions

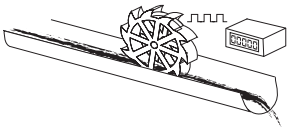
- Pulse and frequency (speed)
  e.g. production data acquisition: total piece count and speed on OEM equipment, flow rate measuring systems – total flow and current flow
- 2 pulse counters
  Measurement of batch and total piece count or of daily production count and total count values
- Pulse and time (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

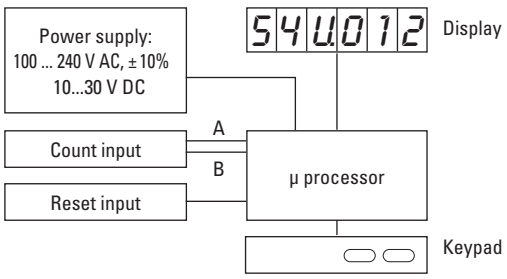


Trip counter and hours-run



Flow rate and total volume

Block diagram

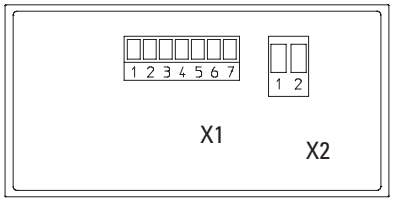


1) Details see manual

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Terminal assignment



Connection X1

PIN	AC version	DC version
1	n.c.	
2	n.c.	
3	Reset	
4	INP B	
5	INP A	
6	GND out	n.c.
7	+24 V out	n.c.

Connection X2

PIN	AC version	DC version
1	100 ... 240 V AC, ±10%	0 V DC (GND)
2	100 ... 240 V AC, ±10%	10 ... 30 V DC

Function of the inputs INP A, INP B

Counter with 2 totalising ranges:
INP A: Dynamic count input counter 1 and counter 2
INP B: Inactive

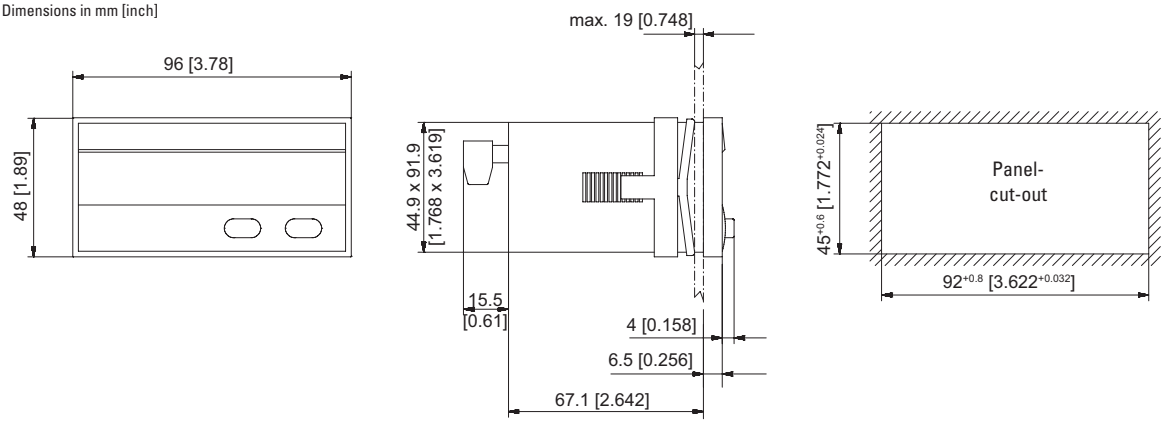
Totaliser and timer:
INP A: Dynamic count input for totaliser
INP B: Start/Stop or gate input for timer, totaliser and frequency meter

Totaliser 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)

Dimensions

Dimensions in mm [inch]



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