

52U

Multifunction Counter, Timer, Totalizer and Process Meter



The 52UK.2 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.

The 52UK.2 is a versatile unit for a range of applications, with a fast count and frequency input - input frequency max. 60 kHz (can be damped to 30 Hz for mechanical contacts) - robust IP65 housing and LED display. It provides a very accurate precise frequency measurement principle (HRA-High Rate Accuracy System) with frequencies up to 38 Hz calculated using time-interval (period duration) measurement. Frequencies > 38 Hz are calculated using a special time base (gate time) measurement and 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.

Key Features

- Short start-up time – detects input pulses just 16 msec after being switched on => no pulses are lost with a simultaneous motor start-up.
- 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.
- Separate factors for frequency and pulse counting.
- Inputs: as an alternative to the HTL inputs, devices are available with a 4-30 VDC input level, for use as parallel displays to PLCs.
- 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.
- 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.

Specification

Display	6 digits, red 7 segment LED display; 8mm [0.32"] high	Vibration resistance	10 - 55 Hz / 1 mm [0.04"] / 30 min acc. to EN 60068-2-6
Data backup	EEPROM	Shock resistance	100 G: 2 ms 10 G: 6 ms acc. to EN 60068-2-27
Operating temp (non condensing)	10-26 VDC: -20°C - +65°C [-4°F - +149°F] >26-30 VDC: -20°C - +55°C [-4°F - +131°F]	Polarity of inputs	programmable, NPN or PN
Storage temp	-25°C - +70°C [-13°F - +158°F]	Input resistance	approx. 5 kΩ
Power supply	10 - 30 VDC, with integrated reverse polarity protection	Counting frequency	max. 60 kHz, can be damped to 30 Hz
Current consumption	max. 40 mA	Display range	timer: 0.001 s - 999999 h frequency meter: 1/min or 1/sec
EMC standards	EN 55011 class B, EN 61000-6-2, EN 61000-6-3 EN 61326-1	Minimum pulse duration of reset input	5 ms
UL approval	file E128604	Input switching level (HTL)	LOW 0 - 0.2 x UB [VDC] HIGH 0.6 x UB - 30 VDC
Housing	front panel mount 48 x 24 mm [1.89 x 0.94"] acc. to DIN 43700; RAL 7021, dark grey	Input switching level at 4 - 30 VDC	LOW 0 - 2 VDC HIGH 4 - 30 VDC
Protection	IP65 (front side)	Accuracy	< 0.1 % frequency meter, tachometer
Weight	approx. 50 g [1.76 oz]		

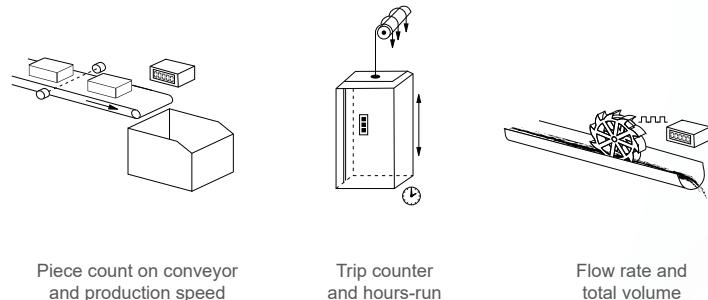
Applications for Dual Functions

Pulse and frequency (speed) e.g. production data acquisition: total piece count and speed on equipment

2 pulse counters measuring 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 hoursrun meters and on production machines for piece and time counting, flow and time measurement, materials handling time and quantities

2 timers measuring of total time and orderspecific times, maintenance intervals and total time, time of day and total time

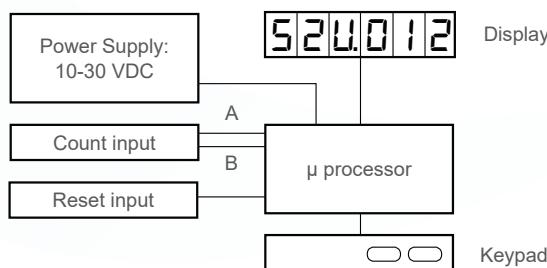


Piece count on conveyor and production speed

Trip counter and hours-run

Flow rate and total volume

Block Diagram



Terminal Assignment

PIN	DC Version
1	10 - 30 VDC
2	0 V GND
3	INP A
4	INP B
5	Reset

Function of the inputs INP A, INP B

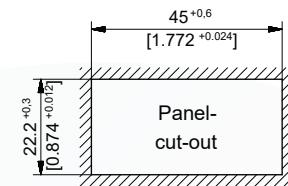
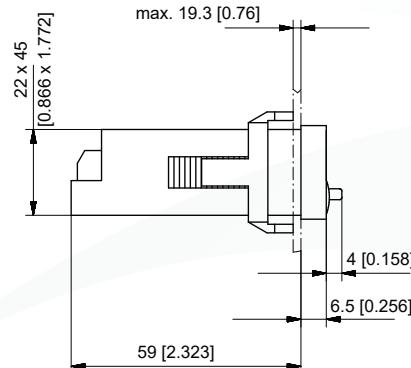
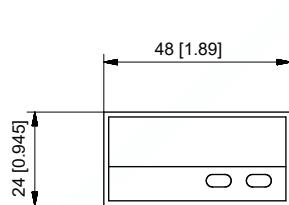
Counter with 2 totalizing ranges:
INP A: Dynamic count input counter 1 and counter 2
INP B: Inactive

Totalizer and frequency meter:
INP A: Dynamic count input/frequency input
INP B: Inactive

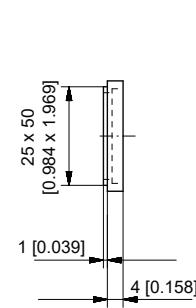
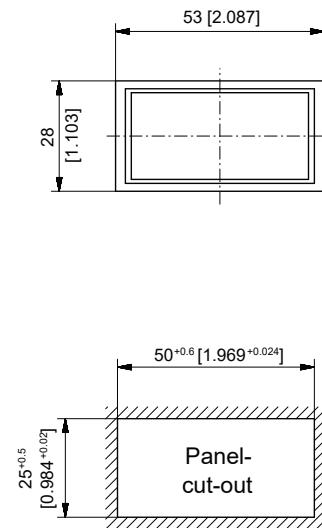
Totalizer and timer:
INP A: Dynamic count input for totalizer
INP B: Start/Stop or gate input for timer

Timer with 2 time ranges:
INP A: Start input (depends on input type)
INP B: Start/Stop or gate input for timer

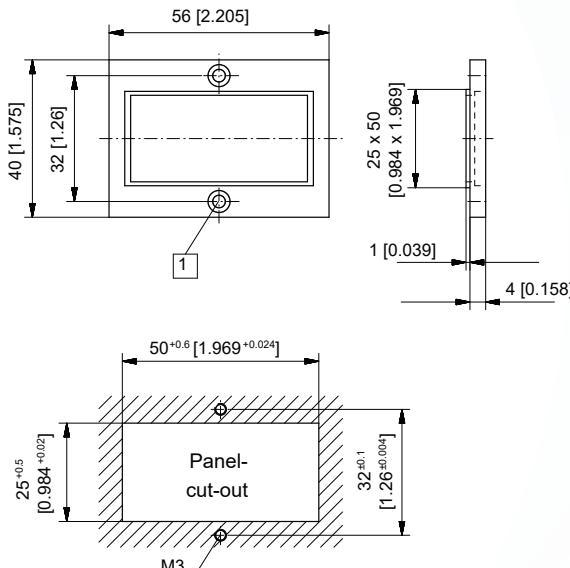
Dimensions



Front bezel for clip mounting (included in delivery)



Front bezel for screw mounting (included in delivery)



1 Countersinking A13, DIN 74

Part Number

52U Voltage-powered Dual Function Counter with 4 combinations



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