

Universal with dual functions **CODIX 52U**

4 dual functions in one device
 > solves all applications where 2 different values must be displayed simultaneously.

- Counter with 2 totalizing ranges
- Totaliser and time counter
- Totaliser and frequency counter
- Timer with 2 time ranges

10 ... 30V	DIN 24 x 48	-10° +50°	IP 65	max.	60 kHz	1/sec 1/min	Timer/ Hour Meter	t / Hz
Power supply DC	Front bezel dimensions	Wide temperature range	High IP protection rating	Menu-driven programming	Pulse counter/ Totaliser	Frequency meter/ Tachometer		Frequency meter HRA

Powerful

- **Fast count input**
Input frequency max. 60 kHz
- **Robust housing**
IP 65 protection
- **LED display**
Very bright, 8 mm high
- **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.
- **Fast start-up time**
Detects incoming pulses just 16 ms after being switched on – so no pulses are lost with a simultaneous motor start-up



User-friendly

- **Big keys**
Can also be operated when using gloves
- **Easy to programme**
Easy menu-driven programming and operation
Possibility to enter the programming mode during operation, with authentication query
Pressing the right key switches between displays

Universal

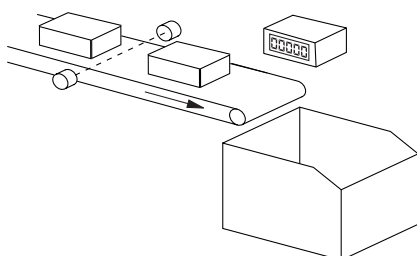
- **Individually programmable scaling**
Multiplication and division factor (0.0001 to 99.9999), to display corresponding engineering units, e.g. position in 1/10 mm and speed in RPM
- **Separate factors for frequency- and pulse counting**
- **DC power supply**
- **Inputs**
As an alternative to the HTL inputs, devices with a 5 VDC input trigger 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

Applications for dual functions

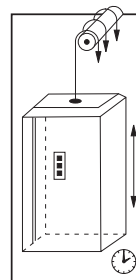
- **Pulse and frequency (speed)**
e.g. production data acquisition: total piece count and speed on OEM equipment, flow rate measuring systems – total flow and current flow
- **2 pulse counters**
Measurement of batch and total piece count or of daily production count and total count values

- **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

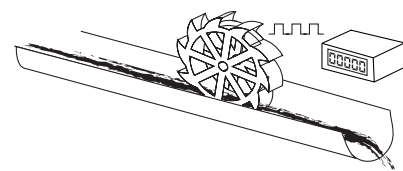
- **2 timers**
Measurement of total time and order-specific times, maintenance intervals and total time, time of day and total time.



Piece count on conveyor and production speed



Trip counter and hours-run



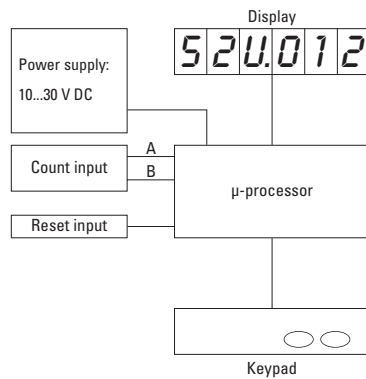
Flow rate and total volume

Universal with dual functions **CODIX 52U**

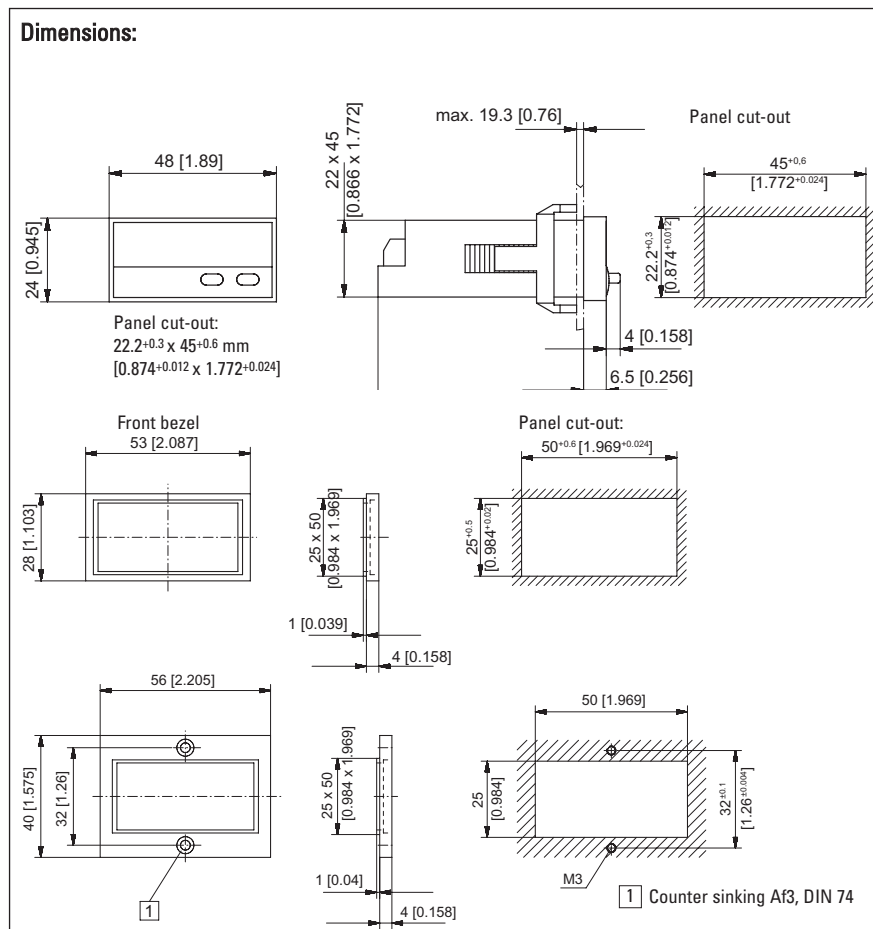
Technical data:

Supply voltage:	10 ... 30 V DC, with reverse polarity protection	Level of inputs:	Low: 0 ... 0.2 x U _B [V DC] High: 0.6 x U _B ... 30 V DC
Current consumption:	max. 40 mA	Level of inputs: 5 V version	Low: 0 ... 2 V DC High: 4 ... 30 V DC
Display:	6-digit red 7-segment LED; 8 mm [0.315"] high	Optocoupler output:	Max. 30 V, 10 mA
Data backup:	EEPROM	Accuracy:	<0.1 % (Frequency display, tachometer)
Housing:	dimension 48 x 24 mm [1.89 x 0.945"] according to DIN 43 700; RAL 7021, grey	EMC:	according to EC EMC directive 89/36/EWG
Polarity of inputs:	programmable, npn or pnp for all inputs	Immunity to interference:	EN 61000-6-4/EN 55011 class B
Input resistance:	approx. 5 kΩ	Emitted interference:	EN 61000-6-2
Display range:	0.001 s ... 999999 h	Ambient temperature:	-10 ... +50 °C [14 ... 122 °F]
Reset time:	5 ms	Storage temperature:	-25 ... +70 °C [-13 ... 158 °F]
		Protection:	IP 65 front side
		Weight:	approx. 50 g [1.764 oz]

Block diagram:



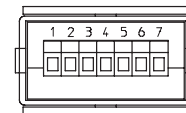
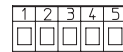
Dimensions:



Connections:

without optocoupler

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



Delivery specifications:

- 1 Digital display
- 1 Panel mounting clip
- 1 Bezel for screw mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Bezel for clip mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Seal
- 1 Multilingual operating instructions

Order code:

6.52U.012.3X0

Input switch level
0 = Standard*
A = 5 V

* standard stock model

LED Pulse Counters – Codix 52T

2 Pulse counters with separate scaling



Power supply
DC



Front bezel
dimensions



Wide temper-
ature range



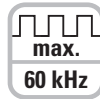
High IP
protection
rating



Menu-driven
programming



Operation
with gloves



Pulse counter/
Totaliser



Input type

Powerful

- **Fast count input**
Input frequency max. 60 kHz
- **Robust housing**
IP 65 protection
- **LED display**
Very bright, 8 mm high
- **Single channel dual totaliser**
Programmable for positive (PNP) or 0 V (NPN) switching input pulses
Fast count input with an input frequency of max. 60 kHz, damped to 30 Hz for mechanical contacts.
- **Fast start-up time**
Detects incoming pulses just 16 ms after being switched on – so no pulses are lost with a simultaneous motor start-up



User-friendly

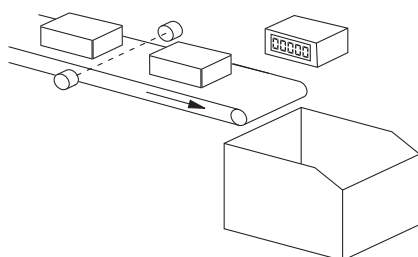
- **Big keys**
Can also be operated when using gloves
- **Easy to programme**
Easy menu-driven programming and operation
Possibility to enter the programming mode during operation, with authentication query

Universal

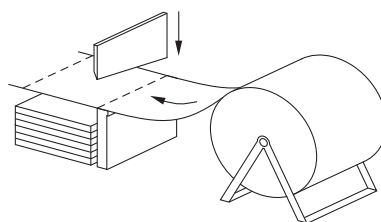
- **Separate scaling for both counters**
Multiplication and division factor (0.0001... 99.9999), to show corresponding units in e.g. litres, length or packaging size.
- **Simple display switching**
between Counter 1 and Counter 2
- **DC power supply**
- **Inputs**
As an alternative to the HTL inputs, models are also available with a fixed signal level threshold >4 V DC for use with TTL signals
- **Reset manual or electrical**
Can be programmed separately for both counters. The reset can also be locked-out.

Application examples for the dual totaliser

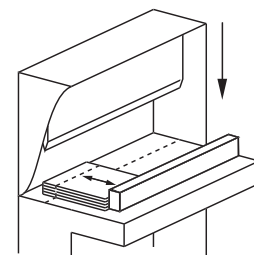
- Logging of production data, piece count and overall total
- Totalising of flow volumes, quantities and other scalable media
- Counting tasks, such as quantities and piece counting
- Accessories, OEM or retrofit equipment for production machinery
- Piece counting on die-cutters, presses, extruders, wood-processing machines, drilling machines, pick-and-place machines, guillotines, special vehicles
- Measurement of packing units and overall total count in one device
- Recording of the total results from 2 work-shifts



Total piece count as well
as packing units



Individual and total quantities



Individual and total quantity from
2 work-shifts

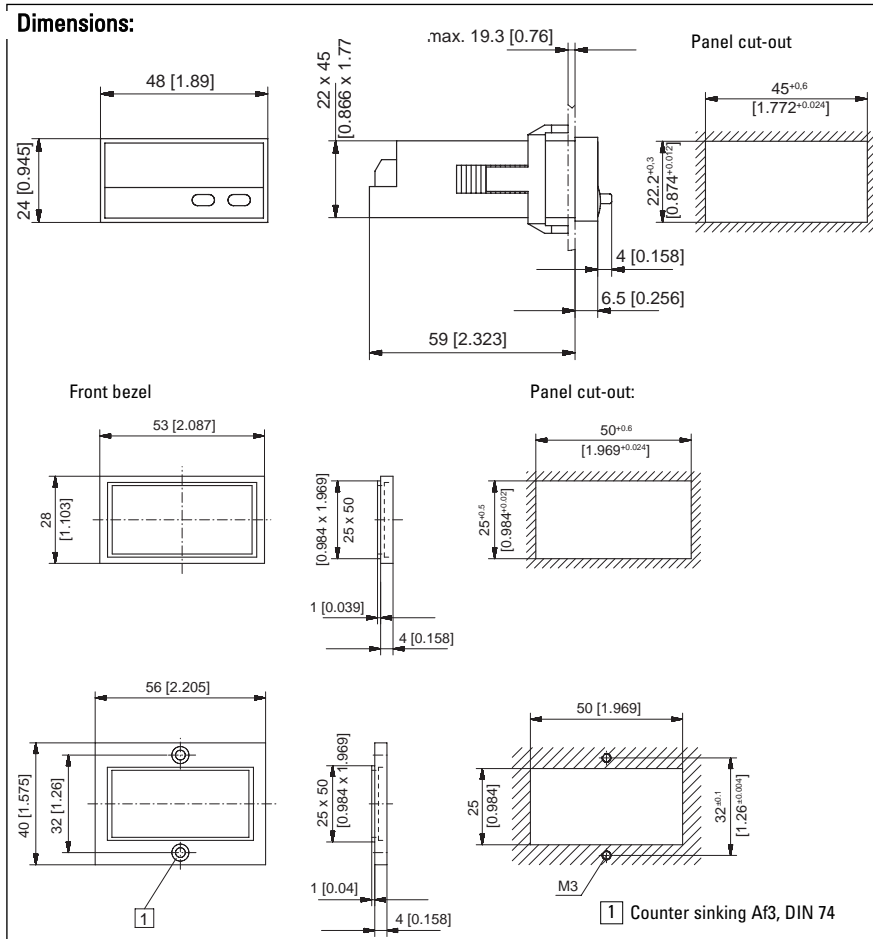
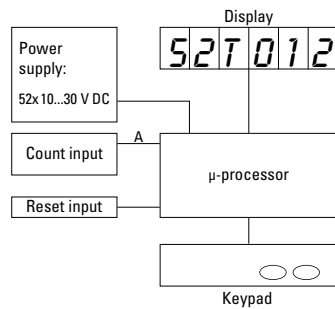
LED Pulse Counters – Codix 52T

Technical data:

Supply voltage:	10 ... 30 V DC, with reverse polarity protection
Current consumption:	max. 40 mA
Display:	6 digit red 7-segment LED; 8 mm [0.315"] high
Data backup:	EEPROM
Housing:	dimensions 48 x 24 mm [1.89 x 0.945"] according to DIN 43 700; RAL 7021, grey
Polarity of inputs:	programmable, npn or pnp for all inputs
Input resistance:	approx. 5 kΩ
Counting frequency:	approx 60 kHz, can be damped to 30 Hz
Reset time:	5 ms

Level of inputs:	low:	0 ... 0,2 x U _B [V DC]
	high:	0,6 x U _B ... 30 V DC
Fixed signal level threshold:	low:	0 ... 2 V DC
	high:	4 ... 30 V DC
Optocoupler output:	Max. 30 V, 10 mA	
Ambient temperature:	-20 ... +65 °C [4 ... 149 °F] at U _B = 10 ... 26 V DC	
	-20 ... +55 °C [4 ... 131 °F] at U _B = >26 ... 30 V DC non condensing	
Storage temperature:	-25 ... +70 °C [-13 ... 158 °F]	
EMC:	Emitted interference: EN 55 011 Class B Immunity to interference: EN 61000-6-2	
Protection:	IP65 front side	
Weight:	approx. 50 g [1.764 oz]	

Block diagram:



Connections:

- 10 ... 30 V DC
- 0 V GND
- INP A
- INP B
- Reset



Delivery specifications:

- 1 Digital display
- 1 Panel mounting clip
- 1 Bezel for screw mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Bezel for clip mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Gasket
- 1 Multilingual operating instruction

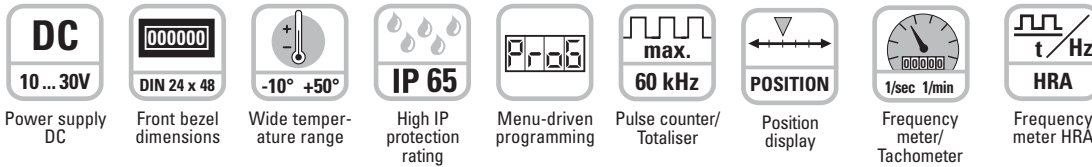
Order code:

6.52T.012.3X0

- Input switch level
- 0 = Standard*
- A = Fixed level:
 - Low 0 ... 2 V DC,
 - High 4 ... 30 V DC
- * Stock model

Position and Frequency display **CODIX 52P**

separate inputs for frequency and position



Powerful

- **Fast count input**
Input frequency max. 60 kHz
- **Robust housing**
IP 65 protection
- **LED display**
Very bright, 8 mm high
- **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.
- **Fast start-up time**
Detects incoming pulses just 16 ms after being switched on – so no pulses are lost with a simultaneous motor start-up



User-friendly

- **Big keys**
Can also be operated when using gloves
- **Easy to programme**
Easy menu-driven programming and operation
Possibility to enter the programming mode during operation, with authentication query
Pressing the right key switches between displays

Universal

- **Individually programmable scaling**
Multiplication and division factor (0.0001 to 99.9999), to display corresponding engineering units, e.g. position in 1/10 mm and speed in RPM.
- **Separate factors and inputs for frequency- and pulse counting**
- **4 different count input modes for the position display**
2-channel input for detecting count direction, difference or adding mode, quadrature x1, x2 or x4. 1 separate input for rotary speed and speed, display in 1/min or 1/sec
- **DC supply**
- **Inputs**
As an alternative to the HTL inputs, devices with a 5 VDC input trigger level are available, for use as parallel displays for PLCs.

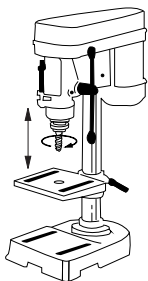
Applications for Frequency and Position Display/ Totaliser

Position and rotary speed applications, e.g.

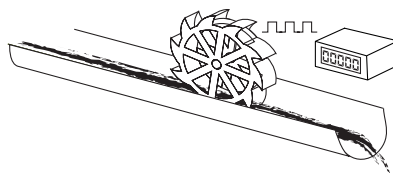
- OEM equipment or retrofitting to drilling machines
- OEM equipment on flow measuring plant, e.g. total flow and current flow

- Total piece count and pieces per minute, where the pulse counting occurs in the add/subtract mode, in order to deduct reject parts

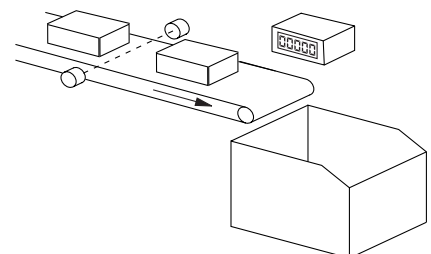
- Production data acquisition: total piece count and production speed, or absolute distance traversed and current speed



Rotary speed and drilling depth



Flow rate and total volume



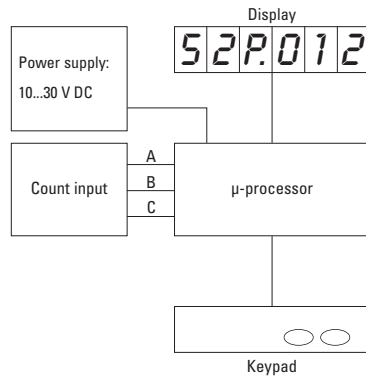
Piece count on conveyor and production speed

Position and Frequency display **CODIX 52P**

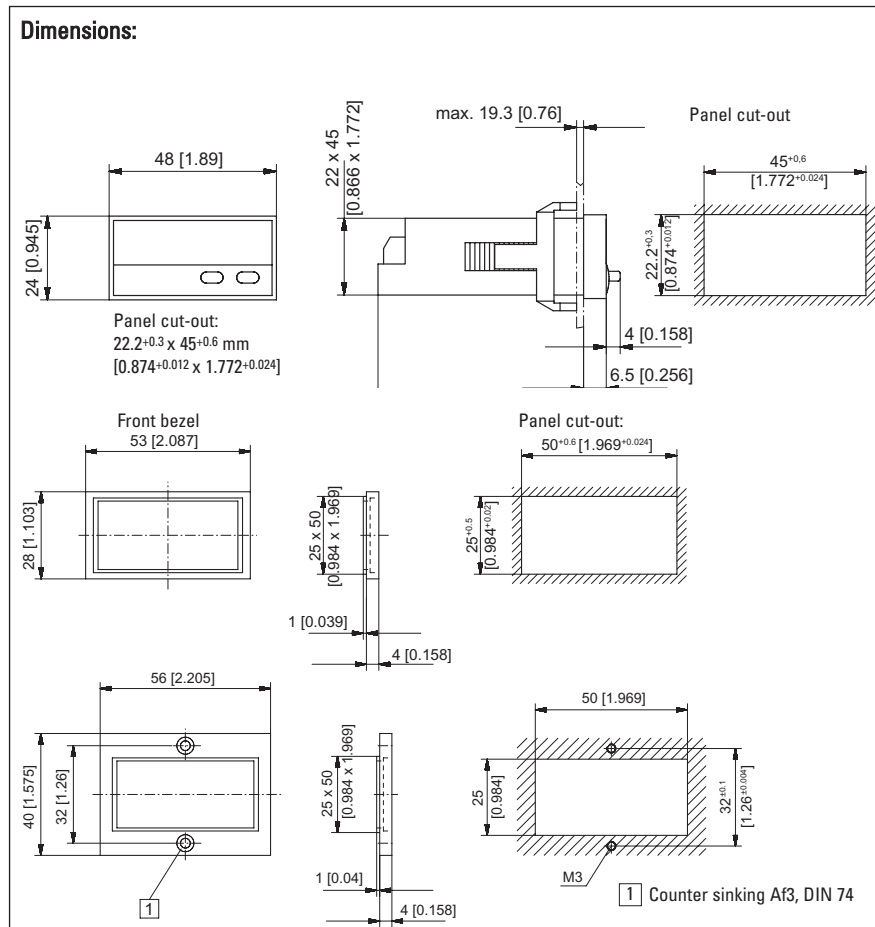
Technical data:

Supply voltage:	10 ... 30 V DC, with reverse polarity protection	Level of inputs:	Low: 0 ... 0.2 x U _B [V DC] High: 0.6 x U _B ... 30 V DC
Current consumption:	max. 40 mA	Level of inputs:	Low: 0 ... 2 V DC 5 V version High: 4 ... 30 V DC
Display:	6 digit red 7-segment LED; 8 mm [0.315"] high	Accuracy:	<0.1 % (Frequency display, tachometer)
Data backup:	EEPROM	EMC:	according to EC EMC directive 89/36/EWG
Housing:	dimension 48 x 24 mm [1.89 x 0.945"] according to DIN 43 700; RAL 7021, grey	Immunity to interference:	EN 61000-6-4/EN 55011 class B
Polarity of inputs:	programmable, npn or pnp for all inputs	Emitted interference:	EN 61000-6-2
Input resistance:	approx. 5 kΩ	Ambient temperature:	-10 ... +50 °C [14 ... 122 °F]
Counting frequency:	30 kHz, can be damped to 30 Hz	Storage temperature:	-25 ... +70 °C [-13 ... 158 °F]
Reset time:	5 ms	Protection:	IP 65 front side
		Weight:	approx. 50 g [1.764 oz]

Block diagram:



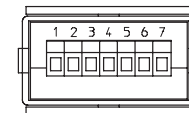
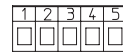
Dimensions:



Connections:

without optocoupler

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



Delivery specifications:

- 1 Digital display
- 1 Panel mounting clip
- 1 Bezel for screw mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Bezel for clip mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Seal
- 1 Multilingual operating instructions

Order code:

6.52P.012.3X0

Input switch level

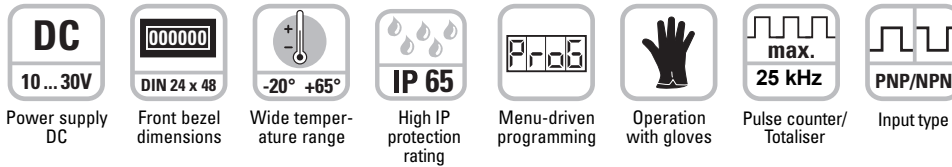
0 = Standard*

A = 5 V

* standard stock model

LED Pulse Counters – Codix 52C

2 Pulse counters with separate inputs and separate scaling



Powerful

- **Fast count input**
Input frequency max. 25 kHz
- **Robust housing**
IP 65 protection
- **LED display**
Very bright, 8 mm high
- **Single channel dual totaliser with 2 separate inputs**
Programmable for positive (PNP) or 0 V (NPN) switching input pulses
Fast count inputs with an input frequency of max. 25 kHz, damped to 30 Hz for mechanical contacts.
- **Fast start-up time**
Detects incoming pulses just 16 ms after being switched on – so no pulses are lost with a simultaneous motor start-up



User-friendly

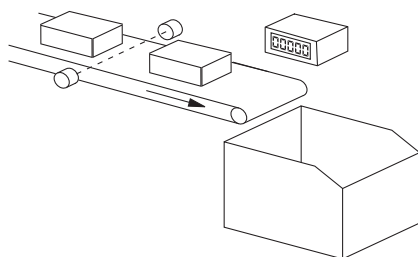
- **Big keys**
Can also be operated when using gloves
- **Easy to programme**
Easy menu-driven programming and operation
Possibility to enter the programming mode during operation, with authentication query

Universal

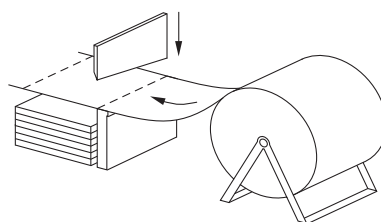
- **Separate scaling for input A and B**
Multiplication and division factor (0.0001... 99.9999), to show corresponding units in e.g. litres, length or packaging size
- **Simple display switching between A to B or A+B, A-B, A/B, (A-B)/A [%]**
- **DC power supply**
- **Inputs**
As an alternative to the HTL inputs, models are also available with a fixed signal level threshold >4 V DC for use with TTL signals
- **Reset manual or electrical**
can be programmed separately for both counters. The reset can also be locked-out.

Application examples for the dual totaliser with separate inputs

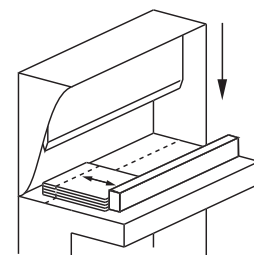
- Logging of production data, piece count and overall total
- Totalising of flow volumes, quantities and other scalable
- Counting tasks, such as quantities and piece counting
- Accessories, OEM or retrofit equipment for production machinery
- Piece counting on die-cutters, presses, extruders, wood-processing machines, drilling machines, pick-and-place machines, guillotines, special vehicles
- Measurement of two different values in just one device: e.g. with 2 inputs both the piece count and the number of packages can be counted.
- Recording of the total results from 2 work-shifts



Total piece count as well as packing units



Individual and total quantities



Individual and total quantity from 2 work-shifts

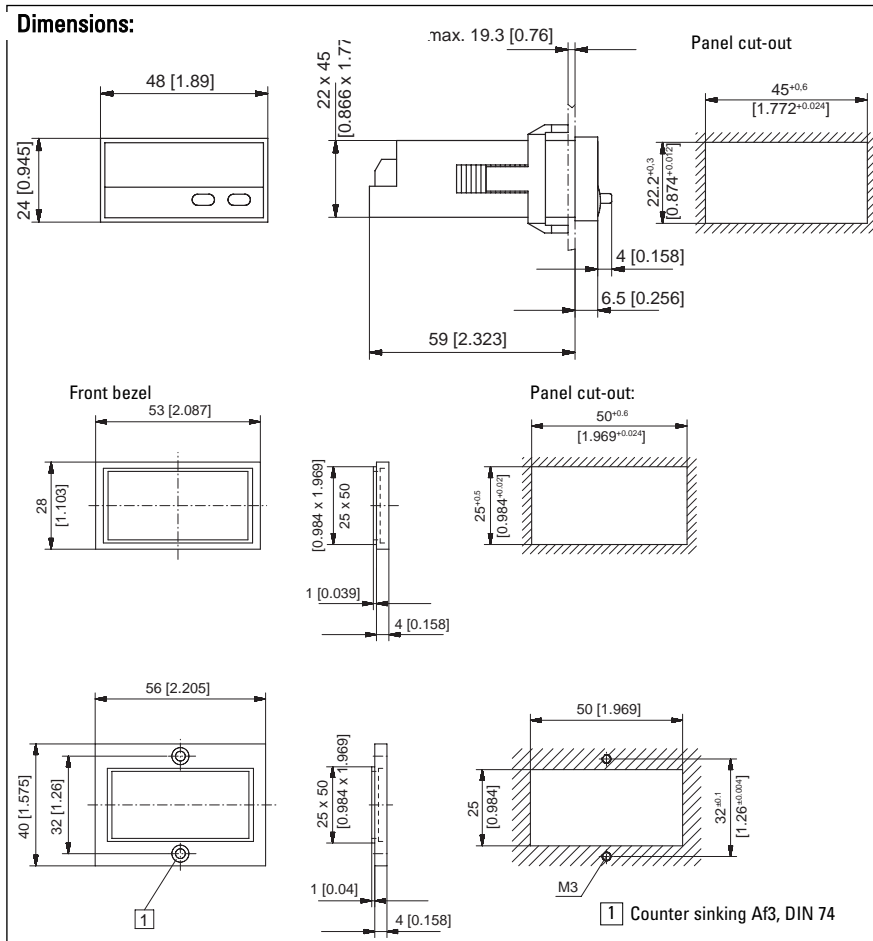
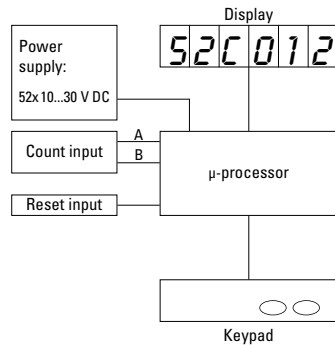
LED Pulse Counters – Codix 52C

Technical data:

Supply voltage:	10 ... 30 V DC, with reverse polarity protection
Current consumption:	max. 40 mA
Display:	6 digit red 7-segment LED; 8 mm [0.315"] high
Data backup:	EEPROM
Housing:	Dimensions 48 x 24 mm [1.89 x 0.945"] according to DIN 43 700; RAL 7021, grey
Polarity of inputs:	programmable, npn or pnp for all inputs
Input resistance:	approx. 5 kΩ
Counting frequency:	approx 25 kHz, can be damped to 30 Hz
Reset time:	5 ms

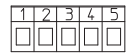
Level of inputs:	Low:	0 ... 0,2 x U _B [V DC]
	High:	0,6 x U _B ... 30 V DC
Fixed signal level threshold:	Low:	0 ... 2 V DC
	High:	4 ... 30 V DC
Optocoupler output:	Max. 30 V, 10 mA	
Ambient temperature:	-20 ... +65 °C [4 ... 149 °F] at U _B = 10 ... 26 V DC	
	-20 ... +55 °C [4 ... 131 °F] at U _B = >26 ... 30 V DC non-condensing	
Storage temperature:	-25 ... +70 °C [-13 ... 158 °F]	
EMC:	Emitted interference: EN 55 011 Class B	
	Immunity to interference: EN 61000-6-2	
Protection:	IP65 front side	
Weight:	approx. 50 g [1.764 oz]	

Block diagram:



Connections:

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



Delivery specifications:

- 1 Digital display
- 1 Panel mounting clip
- 1 Bezel for screw mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Bezel for clip mounting, panel cut out 50 x 25 mm [1.969 x 0.984"]
- 1 Gasket
- 1 Multilingual operating instruction

Order code:

6.52C.012.3X0

- Input switch level
- 0 = Standard*
- A = Fixed level:
 - Low 0 ... 2 V DC,
 - High 4 ... 30 V DC
- * Stock model