

# Pulse counters, electromechanical

<b>Standard counters</b>	<b>6 or 8 digits with/without reset (AC+DC)</b>	<b>B 16 / B 18</b>
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The standard totalizers **B 16** (with manual reset) and **B 16, B 18** (without reset) offer a robust construction.

They are ideal for use in harsh industrial environments as individual counters or as plug-in types in combination with additional **B, BVa, HB** or **HVa** counters.

## Characteristics

- B 16.x1: 6-digit totalizer with manual reset.
- B 16.x0 and B 18.x0: 6- and 8-digit totalizers without reset.
- Counters without front bezel fit into bezels F1B and F2B and can be combined in RM 50 x 25 mm with socket 945.2.
- Very long service life (200 million pulses).

## Benefits

- Can be combined with preset counters BVa and HVa, as well as with timer HB.
- Can be upgraded using various front covers to protect against dust, dirt and humidity – reset can be locked out.

## Applications

General quantity counting, piece counting, event counting, timing.

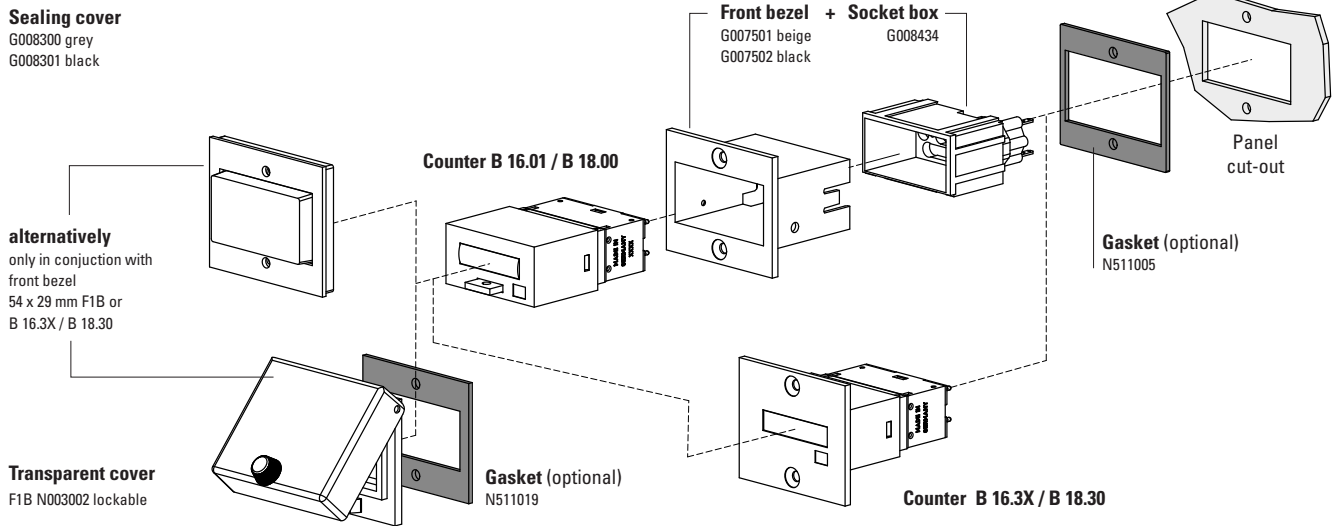
## Type series

Description	6 digits without reset	8 digits without reset	6 digits with reset	Order information
Counter without front bezel, rear mounting, plugs into socket box 945.2 and frontbezel F1	–	<b>B 18.00</b>	<b>B 16.01</b>	- Art. no. - For special voltages, please give type, voltage, kind of voltage and series e.g.: B 16.31, 4.5 V DC, 0 or B 18.00, 48 V AC, a
Panel mount, front bezel size no. 1 with 2 mounting holes	<b>B 16.10</b>	<b>B 18.10</b>	<b>B 16.11</b>	
Panel mount, for clip mounting	<b>B 16.20</b>	<b>B 18.20</b>	<b>B 16.21</b>	
Panel mount, front bezel size no. 3 with 2 mounting holes	<b>B 16.30</b>	<b>B 18.30</b>	<b>B 16.31</b>	

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**Accessories / Mounting examples**



		Type / size	Description		Order no.	suitable gasket
<b>Front bezel</b>		<b>F1B</b>	for 1x counter B 16.01 or B 18.00 for cut-out 54 x 29 mm [2.13 x 1.14"] (only in conjunction with socket box G008434)	beige black	<b>G007501</b> <b>G007502</b>	<b>N511005</b>
		<b>F2B</b>	for 2x counter B 16.01 or B 18.00 for cut-out 54 x 54 mm [2.13 x 2.13"] (only in conjunction with 2 x socket box G008434)	beige black	<b>G007503</b> <b>G007504</b>	<b>N511003</b>
<b>Socket box</b>		<b>945.2</b>	for plug-in connection in front bezel F1B	black	<b>G008434</b>	–
<b>Sealing cover IP65</b>		<b>K1</b>	for counter B 1x.3x or B 1x.0x in conjunction with front bezel F1B	transp. /grey transp. /black	<b>G008300</b> <b>G008301</b>	–
		<b>K2</b>	only in conjunction with front bezel F2B (for 2x counter B 16.01 / B 18.00)	transp. /grey transp. /black	<b>G008302</b> <b>G008303</b>	
<b>Transparent cover IP65</b>		<b>1 Dv</b>	cover lockable for counter B1x.3x or for counter B1x.0x in conjunction with front bezel F1B	transp. /black	<b>N003002</b>	<b>N511019</b>
		<b>2 Dv</b>	cover lockable only in conjunction with front bezel F2B	transp. /black	<b>G008143</b>	
		<b>2 Dvs</b>	cover key lockable only in conjunction with front bezel F2B	transp. /black	<b>G008153</b>	
<b>Gasket counter</b>			56 x 40 mm [2.20 x 1.57"] 53 x 28 mm [2.09 x 1.10"] 60 x 50 mm [2.36 x 1.97"]	B 16.1 / B18.1 B 16.2 / B18.2 B 16.3 / B18.3	<b>N511045</b> <b>N511015</b> <b>N511019</b>	
<b>Mounting frame</b>		<b>cut-out 50 x 25 mm [1.97 x 0.98"]</b>	via adapter T008180 for snap-on mounting on 35 mm [1.38"] top-hat DIN rail	chromated	<b>G300004</b>	–
<b>Enclosure blind</b>		<b>48 x 24 mm [1.89 x 0.94"]</b>	for cut-out 50 x 25 mm [1.97 x 0.98"], for counter 53 x 28 mm [2.09 x 1.10"]	black	<b>T005753</b>	–
<b>DIN rail mount</b>		<b>SR 1</b>	for snap-on mounting on 35 mm [1.38"] top-hat DIN rail		<b>G300000</b>	
		<b>SR 2</b>	for 2x B 16 / B 18		<b>G300001</b>	

# Pulse counters, electromechanical

## Standard counters 6 or 8 digits with/without reset (AC+DC) B 16 / B 18

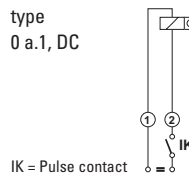
Technical data		
<b>Electrical connection</b>	count mechanism	pin $\varnothing$ 1.6 mm [0.063] with push on connector for flying leads 0.5 ... 1.0 mm <sup>2</sup>
	socket box	flat pin 0.8 x 2.8 mm [0.032 x 0.11"]
<b>Rated voltage</b>	type 0 / 1 / a	12 / 24 / 48 / 115 / 230 V DC $\pm$ 10 % 24 / 48 / 115 / 230 V AC $\pm$ 10 %
<b>Color of counter</b>		grey
<b>Height of figures</b>	B 16	2 x 4.5 mm [0.079 x 0.18]
	B 18	2 x 4 mm [0.079 x 0.16]
<b>Color of figures</b>		white on black
<b>Count mechanism shaft</b>		stainless steel
<b>Relative humidity at +30 °C [+86 °F]</b>		$\leq$ 80 % (non-condensing)
<b>Altitude</b>		up to 2000 m [6562']
<b>Mounting position</b>		any
<b>Operating life</b>		approx. 200 x 10 <sup>6</sup> pulses
<b>Protection</b>	with reset	IP40 (front side)
	without reset	IP41 (front side)
<b>Weight</b>	without reset	81 g [2.86 oz]
	with reset	83 g [2.93oz]
	socket box	14 g [0.49 oz]
<b>Test voltage</b>		2000 V ~ effective, acc. to VDE 0435
<b>EMC standards</b>		EN 55011 class B EN 61000-6-2, EN 61000-6-3
<b>Device safety</b>	designed to protection class	EN 61010 part 1 2
	application area	pollution level 2

Options	
<b>Color of housing black</b>	Art. no. ref. to type 1.XXX.XX1.XXX
<b>Electr. connection at counter</b>	flat pins 0.8 x 2.8 mm [0.032 x 0.11"] with push on connectors Art. no. 1.XX7.XXX.XXX
<b>Counter with flat pin 6.3 x 0.8 mm [0.25 x 0.032"]</b>	on request 1.XXX.XXX.XXX.011
<b>Screw terminal</b>	Art. no. 1.XXX.XXX.XXX.023
<b>Connection with flying leads</b>	on request 1.XX3.XXX.XXX
<b>Extended temperature range</b>	on request
<b>Key locking reset</b>	grey 1.XXX.XX6.XXX
	black 1.XXX.XX7.XXX
	key for reset G050265 (replacement part)

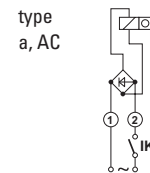


### Connection diagram

type  
0 a.1, DC



type  
a, AC

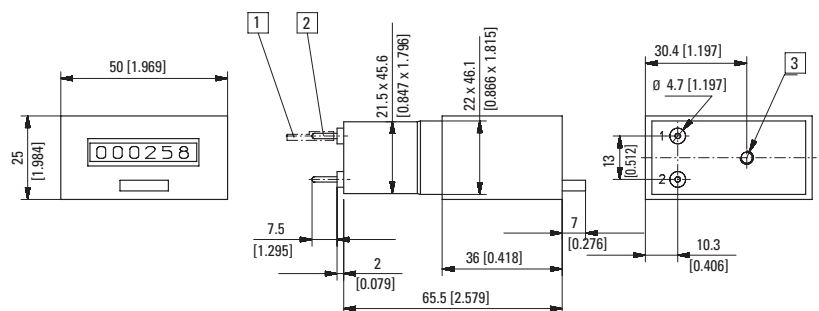


Type / Counting mechanism									
Voltage	Type	Pulse frequency max.	Pulse on time min.	Pulse interval min.	Pulse ratio	On-time	Power consump. approx.	Permi. residual ripple max.	Operating temp. (non-condensing)
V DC	0	10 Hz	60 ms	40 ms	3 : 2	100 %	1 W	48 %	-10 °C ... +60 °C [+14 °F ... +140 °F]
V DC	1	25 Hz	24 ms	16 ms	3 : 2	100 %	2 W	48 %	-10 °C ... +60 °C [+14 °F ... +140 °F]
V AC	a	18 Hz	22.2 ms	33.3 ms	2 : 3	100 %	2.9 VA	—	-10 °C ... +55 °C [+14 °F ... +131 °F]

### Without front bezel, rear mounting

6 digits, with reset

Type B 16.01



1 Push on connector  $\varnothing$  1.5 [0.059], tinned 2 Round pin  $\varnothing$  1.6 [0.063], tinned 3 M4, 5 [0.20] deep

Color of housing: beige (standard) – black, Art. no. 1.230.XX1.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
B 16.01	DC (10 Hz) / 0	6 digits,	1.230.012.012	1.230.012.013		
	DC (25 Hz) / 1	with reset	1.230.012.032	1.230.012.033		
	AC (18 Hz) / a			1.230.012.061	1.230.012.064	1.230.012.066

Dimensions in mm [inch]

# Pulse counters, electromechanical

**Standard counters**

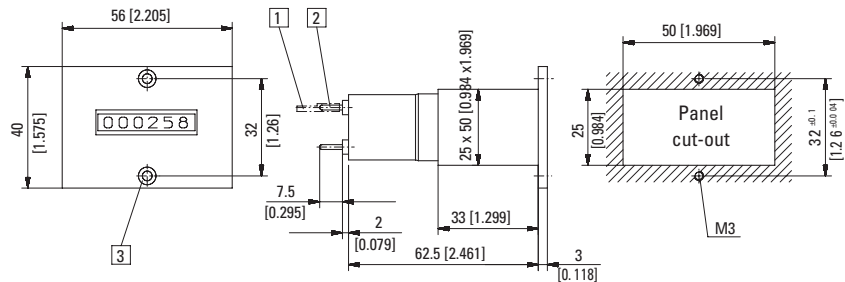
**6 or 8 digits with/without reset (AC+DC)**

**B 16 / B 18**

**Panel mount with front bezel size no. 1 and 2 mounting holes**

6 digits, without reset

**Type B 16.10**



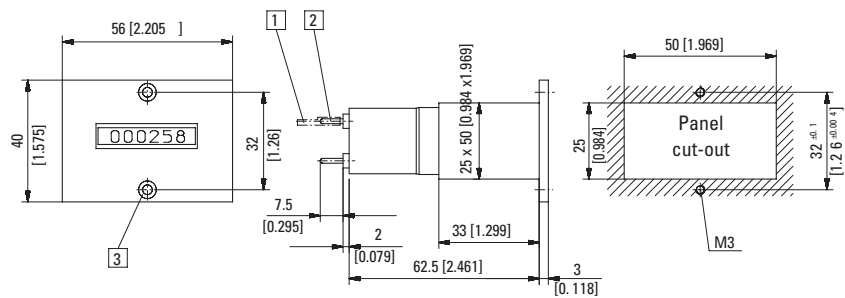
1 Push on connector  $\varnothing$  1.5 [0.059], tinned 2 Round pin  $\varnothing$  1.6 [0.063], tinned 3 Countersinking Af3 DIN 74  
Color of housing: grey (standard) – black, Art. no. 1.230.101.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
B 16.10	DC (10 Hz) / 0	6 digits, without reset	1.230.100.012	1.230.100.013		
	DC (25 Hz) / 1		1.230.100.032	1.230.100.033		
	AC (18 Hz) / a				1.230.100.064	1.230.100.066

**Panel mount front bezel size no. 1 with 2 mounting holes**

6 digits, with reset

**Type B 16.11**



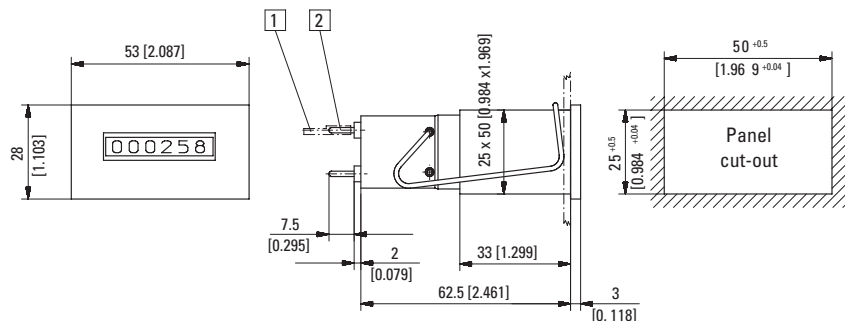
1 Push on connector  $\varnothing$  1.5 [0.059], tinned 2 Round pin  $\varnothing$  1.6 [0.063], tinned 3 Countersinking Af3 DIN 74  
Color of housing: grey (standard) – black, Art. no. 1.230.111.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
B 16.11	DC (10 Hz) / 0	6 digits, with reset	1.230.110.012	1.230.110.013		
	DC (25 Hz) / 1		1.230.110.032	1.230.110.033 <sup>1)</sup>		
	AC (18 Hz) / a			1.230.110.061 <sup>1)</sup>	1.230.110.064	1.230.110.066 <sup>1)</sup>

**Panel mount for clip mounting**

6 digits, without reset

**Type B 16.20**



1 Push on connector  $\varnothing$  1.5 [0.059], tinned 2 Round pin  $\varnothing$  1.6 [0.063], tinned  
Color of housing: grey (standard) – black, Art. no. 1.230.201.XXX

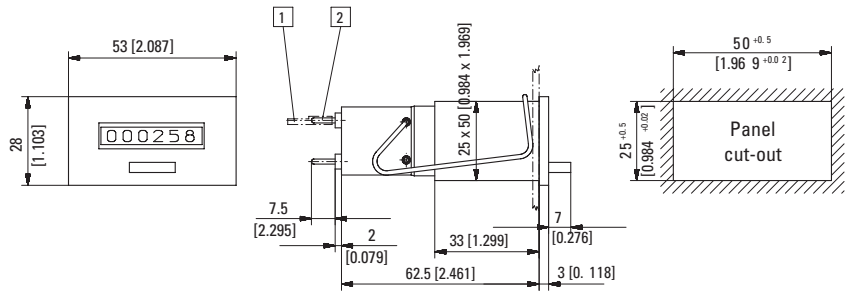
Type	Voltage	Display	Art. no.				Further stock types:
			12 V	24 V	115 V	230 V	
B 16.20	DC (10 Hz) / 0	6 digits, without reset	1.230.200.012	1.230.200.013			1.237.201.066 230 V AC/a with flat pins
	DC (25 Hz) / 1		1.230.200.032	1.230.200.033 <sup>1)</sup>			
	AC (18 Hz) / a			1.230.200.061	1.230.200.064	1.230.200.066	

# Pulse counters, electromechanical

**Standard counters**      **6 or 8 digits with/without reset (AC+DC)**      **B 16 / B 18**

**Panel mount for clip mounting**  
6 digits, with reset

**Type B 16.21**

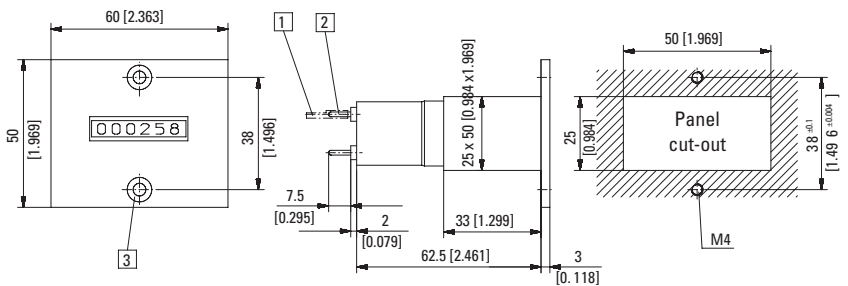


1) Push on connector  $\varnothing$  1.5 [0.059], tinned    2) Round pin  $\varnothing$  1.6 [0.063], tinned  
Color of housing: grey (standard) – black, Art. no. 1.230.211.XXX

Type	Voltage	Display	Art. no.				Further stock types:
			12 V	24 V	115 V	230 V	
<b>B 16.21</b>	DC (10 Hz) / 0	6 digits, with reset	<b>1.230.210.012</b>	<b>1.230.210.013</b> <sup>1)</sup>	<b>1.230.210.064</b>	<b>1.230.210.066</b> <sup>1)</sup>	1.230.211.033 24 V DC/1 sw 1.230.217.013 24 V DC/0 sw vs 1.237.211.066 230 V AC/a sw
	DC (25 Hz) / 1		<b>1.230.210.032</b>	<b>1.230.210.033</b> <sup>1)</sup>			
	AC (18 Hz) / a			<b>1.230.210.061</b>			

**Panel mount with front bezel size no. 3 and 2 mounting holes**  
6 digits, without reset

**Type B 16.30**

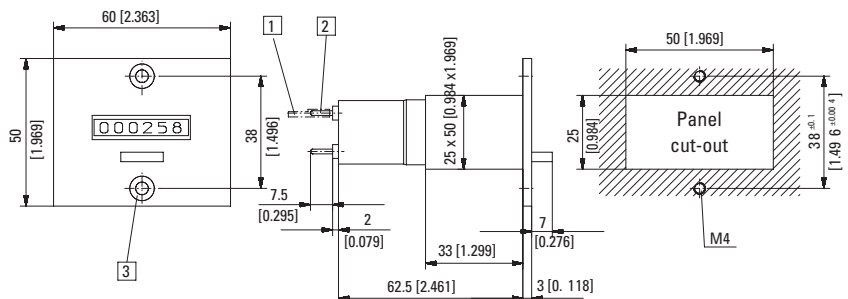


1) Push on connector  $\varnothing$  1.5 [0.059], tinned    2) Round pin  $\varnothing$  1.6 [0.063], tinned    3) Countersinking Am 4 DIN 74  
Color of housing: grey (standard) – black, Art. no. 1.230.301.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
<b>B 16.30</b>	DC (10 Hz) / 0	6 digits, without reset	<b>1.230.300.012</b>	<b>1.230.300.013</b>	<b>1.230.300.064</b>	<b>1.230.300.066</b>
	DC (25 Hz) / 1		<b>1.230.300.032</b>	<b>1.230.300.033</b>		
	AC (18 Hz) / a			<b>1.230.300.061</b>		

**Panel mount with front bezel size no. 3 and 2 mounting holes**  
6 digits, with reset

**Type B 16.31**



1) Push on connector  $\varnothing$  1.5 [0.059], tinned    2) Round pin  $\varnothing$  1.6 [0.063], tinned    3) Countersinking Bf 4 DIN 74  
Color of housing: grey (standard) – black, Art. no. 1.230.111.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
<b>B 16.31</b>	DC (10 Hz) / 0	6 digits, with reset	<b>1.230.310.012</b>	<b>1.230.310.013</b>	<b>1.230.310.064</b>	<b>1.230.310.066</b>
	DC (25 Hz) / 1		<b>1.230.310.032</b>	<b>1.230.310.033</b>		
	AC (18 Hz) / a			<b>1.230.310.061</b>		

Dimensions in mm [inch]

1) Stock types.

# Pulse counters, electromechanical

## Standard counters

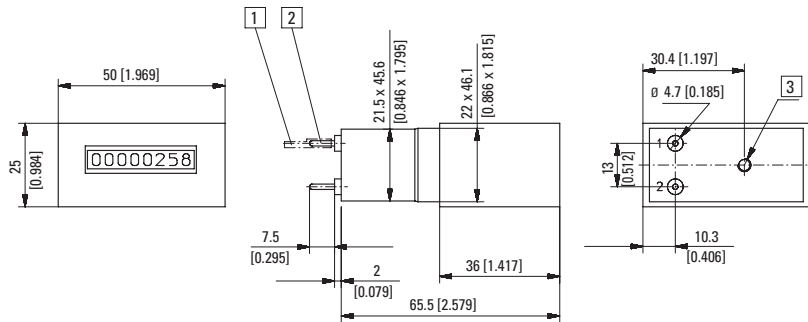
## 6 or 8 digits with/without reset (AC+DC)

## B 16 / B 18

### Without front bezel, rear mounting

8 digits, without reset

#### Type B 18.00



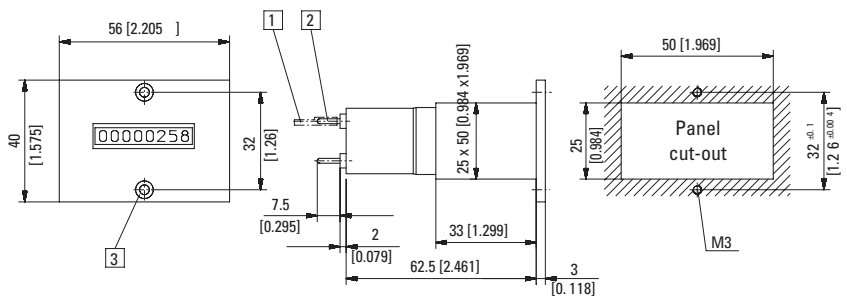
1 Push on connector  $\varnothing$  1.5 [0.059], tinned    2 Round pin  $\varnothing$  1.6 [0.063], tinned    3 M4, 5 [0.20] deep  
Color of housing: beige (standard) – black, Art. no. 1.260.XX1.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
B 18.00	DC (10 Hz) / 0	8 digits, without reset	1.260.002.012	1.260.002.013		
	DC (25 Hz) / 1		1.260.002.032	1.260.002.033 <sup>1)</sup>		
	AC (18 Hz) / a			1.260.002.061	1.260.002.064	1.260.002.066

### Panel mount with front bezel size no. 1 and 2 mounting holes

8 digits, without reset

#### Type B 18.10



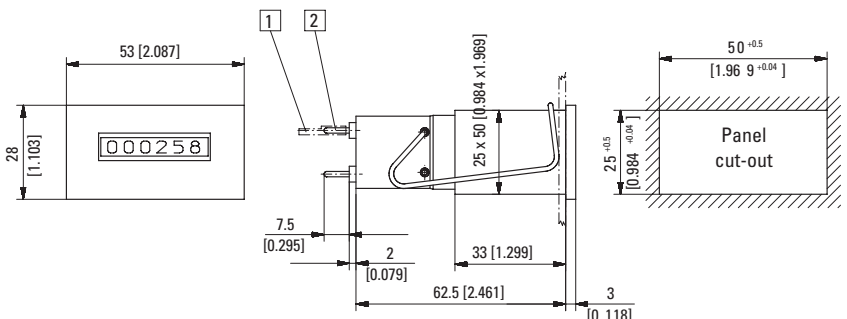
1 Push on connector  $\varnothing$  1.5 [0.059], tinned    2 Round pin  $\varnothing$  1.6 [0.063], tinned    3 Countersinking Af3 DIN 74  
Color of housing: grey (standard) – black, Art. no. 1.260.101.XXX

Type	Voltage	Display	Art. no.			
			12 V	24 V	115 V	230 V
B 18.10	DC (10 Hz) / 0	8 digits, without reset	1.260.100.012	1.260.100.013 <sup>1)</sup>		
	DC (25 Hz) / 1		1.260.100.032	1.260.100.033		
	AC (18 Hz) / a			1.260.100.061	1.260.100.064	1.260.100.066

### Panel mount for clip mounting

8 digits, without reset

#### Type B 18.20



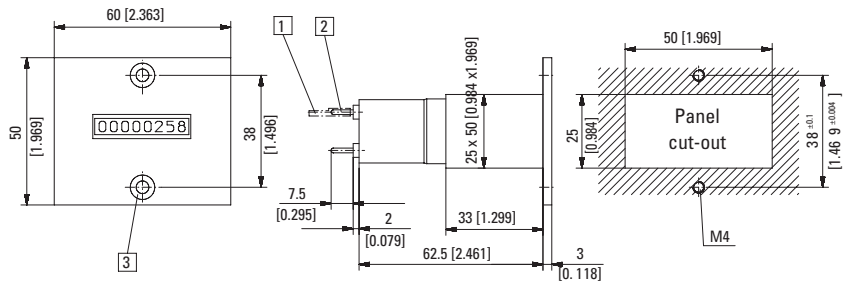
1 Push on connector  $\varnothing$  1.5 [0.059], tinned    2 Round pin  $\varnothing$  1.6 [0.063], tinned  
Color of housing: grey (standard) – black, Art. no. 1.260.201.XXX

Type	Voltage	Display	Art. no.				Further stock types:
			12 V	24 V	115 V	230 V	
B 18.20	DC (10 Hz) / 0	8 digits, without reset	1.260.200.012	1.260.200.013 <sup>1)</sup>			1.260.201.013
	DC (25 Hz) / 1		1.260.200.032	1.260.200.033 <sup>1)</sup>			
	AC (18 Hz) / a			1.260.200.061	1.260.200.064	1.260.200.066 <sup>1)</sup>	

# Pulse counters, electromechanical

**Standard counters**      **6 or 8 digits with/without reset (AC+DC)**      **B 16 / B 18**

**Panel mount with front bezel size no. 3**  
**and 2 mounting holes**  
 8 digits, without reset  
**Type B 18.30**



1 Push on connector  $\varnothing$  1.5 [0.059], tinned    2 Round pin  $\varnothing$  1.6 [0.063], tinned    3 Countersinking Am 4 DIN 74  
 Color of housing: grey (standard) – black, Art. no. 1.260.301.XXX

Type	Voltage	Display	Art. no.				
			12 V	24 V	115 V	230 V	
<b>B 18.30</b>	DC (10 Hz) / 0	8 digits, without reset	<b>1.260.300.012</b>	<b>1.260.300.013</b>			
	DC (25 Hz) / 1		<b>1.260.300.032</b>	<b>1.260.300.033</b>			
	AC (18 Hz) / a			<b>1.260.300.061</b>	<b>1.260.300.064</b>	<b>1.260.300.066</b>	