

# Pulse counters, electromechanical

**Mini counters**      **6 or 7 digits without reset (AC+DC)**      **W 16 / W 17**



The mini totalisers W 16 and W 17 are not resettable, and have been designed for various front panel sizes in a wide variety of applications.

They offer an excellent price / performance ratio and are easy to operate.

Pulse counters

### Characteristics

- 6- or 7-digit miniature pulse counters, adding without reset
- Low power consumption
- Available for all common DC and AC voltages
- Versions available for DIN 48 x 24 mm and many other panel mount dimensions as well as for other types, e.g. PCB mount

### Benefits

- Long service life / Protection IP41 (front side)

### Applications

Battery-powered devices, heat and water consumption measurement, establishing tolls and charges, general quantity counting

### Type series

Description / mounting	Panel mount dim.	Housing	Display	6 digits	7 digits	Order information
Panel mount with mounting clip, 34 x 23 mm	31 x 20 mm	plastic	front side	<b>W 16.20</b>	-	- Art.-No.
Panel mount with mounting clip, 48 x 24 mm	45 x 22.2 mm	plastic	front side	-	<b>W 17.50</b>	- For special voltages, please give type, voltage, kind of voltage and series e.g.: W 16.20, 9 V DC, 05, black
PCB mount, lying		sheet steel	on the top	<b>W 16.60</b>	-	
Panel mount with mounting clip, 42 x 28 mm	37,5 x 23,5 mm	plastic	front side	-	<b>W 17.90</b>	

Accessories		Order-No.
<b>Adapter front bezel, 53 x 28 mm</b>	For cut-out 50 x 25 mm to cut-out 45 x 22.2 mm, with clip mounting for counters 48 x 24 mm	anthracite <b>T008180</b>
<b>Adapter front bezel, 56 x 40 mm</b>	For cut-out 50 x 25 mm to cut-out 45 x 22.2 mm, with screw mounting for counters 48 x 24 mm	anthracite <b>T008181</b>
<b>Adapter front bezel, 72 x 36 mm</b>	For cut-out 68 x 33 mm to cut-out 45 x 22.2 mm, for counters 48 x 24 mm, as set	black and silver anodised <b>162704 Set</b>
<b>Adapter front bezel, 48 x 48 mm</b>	For cut-out 45 x 45 mm to cut-out 45 x 22.2 mm, with clip mounting for counters 48 x 24 mm	black <b>T008883</b>
<b>Adapter front bezel, 60 x 50 mm</b>	For cut-out 54 x 29 mm to cut-out 45 x 22.2 mm, with screw mounting and gasket for counters 48 x 24 mm	black <b>N003001</b>
<b>Transparent cover, lockable, IP65</b>	For cut-out 54 x 29 mm, for screw mounting to front bezel F1B or adapter front bezel N003001, for counters with cut-out 50 x 25 mm or 45 x 22.2 mm	<b>N003002</b>
<b>Sealing cover type K1, IP65</b>	Suitable for front bezel 60 x 50 mm for screw mounting of electromechanical counters and via adapter front bezel N003001, for counters 48 x 24 mm	<b>G008301</b>
<b>Mounting frame with cut-out 50 x 25 mm</b> via separate adapter also for 45 x 22.2 mm	For snap-on mounting on 35 mm top-hat DIN rail, for counters 53 x 28 mm and via separate adapter (T008180) for counters 48 x 24 mm	chromated <b>G300004</b>

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](http://www.kuebler.com/accessories).

1) On request

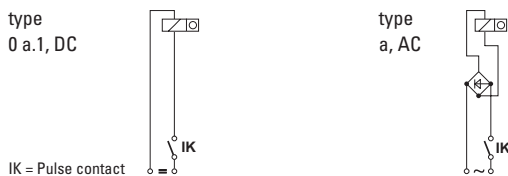
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Technical data	
<b>Electrical connection</b>	panel mount, base mount flying leads AWG 22, approx. 150 mm, $\varnothing$ 0.34 mm <sup>2</sup> , 6 mm stripped wire ends, tinned PCB mount round pin $\varnothing$ 1.6 mm
<b>Rated voltage</b>	type 05 (8 Hz) 1.5 / 3 / 4.5 / 5 / 6 / 12 V DC (+15%, -5%) type 0 (10 Hz) 12 / 24 / 48 / 115 / 185 V DC $\pm$ 10% type a0 (10 Hz) 24 / 48 / 115 / 230 V AC, $\pm$ 10%
<b>Cycle duration factor</b>	100 %
<b>Height of figures</b>	1.7 x 4 mm
<b>Colour of figures</b>	white on black
<b>Counting mechanism shaft</b>	stainless steel
<b>Operating temperature</b>	-10°C ... +50°C (non-condensing)
<b>Mounting position</b>	any
<b>Operating life</b>	> 50 x 10 <sup>6</sup> pulses
<b>Protection</b>	IP41 (front side)
<b>Weight</b>	approx. 50 g

Options	
<b>Electrical connection</b>	<ul style="list-style-type: none"> <li>- round pins <math>\varnothing</math> 1.6 mm and push on connectors (Art.-No.: 1.161.XXX.XXX)</li> <li>- with flat pin 0.8 x 2.8 mm (Art.-No.: 1.169.XXX.XXX)</li> <li>- with flat pin 0.8 x 6.3 and push on connectors (Art.-No.: 1.165.XXX.XXX)</li> <li>- with open screw terminals (Art.-No.: 1.164.XXX.XXX.023)</li> </ul>
<b>Colour of housing</b> (availability see table)	grey Art.-No.: X.XXX.XX0.XXX black Art.-No.: X.XXX.XX1.XXX
<b>Extended temperature range</b>	on request
<b>With lens for digit height 5 or 6.3 mm</b>	on request

### Connection diagram

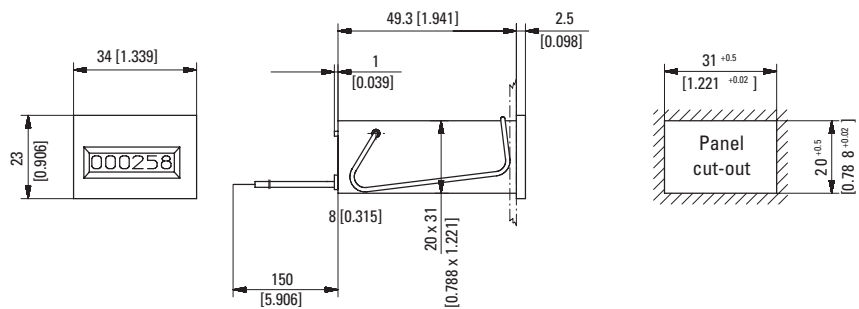


Type / Counting mechanism						
Voltage	Type	Pulse frequency max.	Pulse on time min.	Pulse interval min.	Power consumption approx.	Permi. residual ripple max.
<b>V DC</b>	05	8 Hz	50 ms	75 ms	50 mW	5 %
<b>V DC</b>	0	10 Hz	50 ms	50 ms	0.5 W ( $\leq$ 115 V) 1 W (185 V)	48 %
<b>V AC</b>	a0	10 Hz	50 ms	50 ms	0.75 VA ( $\leq$ 115 V) 1.5 VA (230 V)	—

### Panel mount with mounting clip

Panel mount dimensions 31 x 20 mm

**Type W 16.20**



Colour of housing black: Art.-No. 1.160.201.XXX

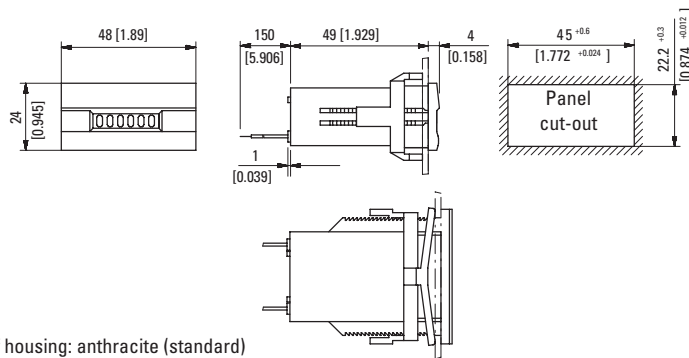
Type	Voltage	Display	Art.-No.				Further stock types: 1.160.201.013 24 V DC/0sw 1.160.201.056 230 V AC/a0sw
			12 V	24 V	115 V	230 V	
<b>W 16.20</b>	DC (8 Hz) / 05	6 digits	<b>1.160.200.049</b>	<b>1.160.200.050</b>			
	DC (10 Hz) / 0		<b>1.160.200.012</b>	<b>1.160.200.013</b> <sup>1)</sup>			
	AC (10 Hz) / a0			<b>1.160.200.051</b>	<b>1.160.200.054</b>	<b>1.160.200.056</b> <sup>1)</sup>	

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**Panel mount with mounting clip 48 x 24 mm**  
 Panel mount dimensions 45 x 22.2 mm

**Type W 17.50**



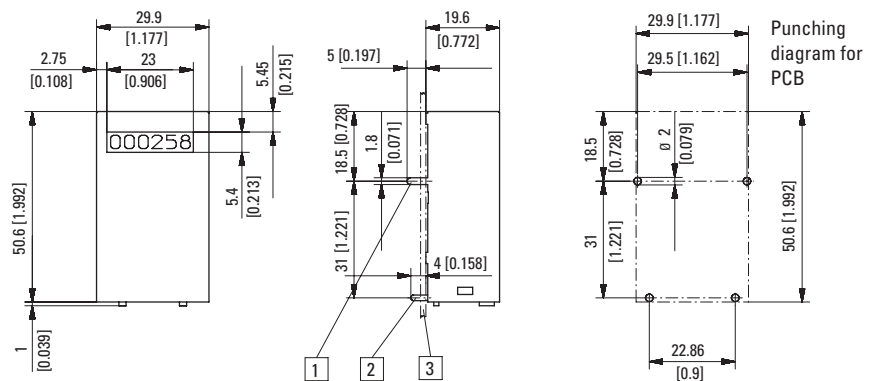
Colour of housing: anthracite (standard)

Type	Voltage	Display	Art.-No.			
			12 V	24 V	115 V	230 V
<b>W 17.50</b>	DC (8 Hz) / 05	7 digits	<b>1.740.500.049.550</b>	<b>1.740.500.050.550</b>		
	DC (10 Hz) / 0		<b>1.740.500.012.550<sup>1)</sup></b>	<b>1.740.500.013.550<sup>1)</sup></b>		
	AC (10 Hz) / a0			<b>1.740.500.051.550</b>	<b>1.740.500.054.550</b>	<b>1.740.500.056.550<sup>1)</sup></b>

**PCB mount, sheet steel**

Display wide side

**Type W 16.60**



1) Mounting pins 1.8 x 0.4 mm 2) Coil connections  $\varnothing$  0.16 3) PCB

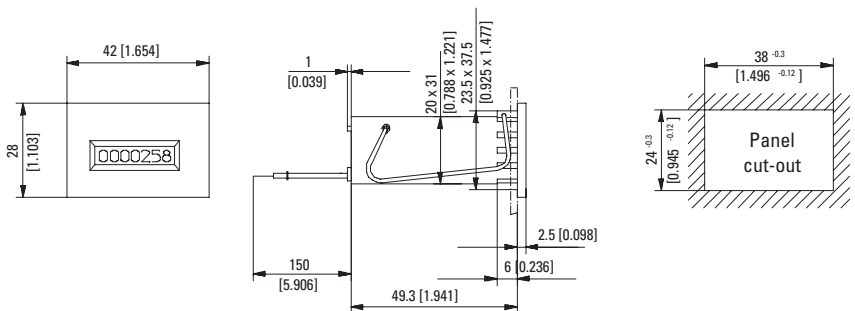
Colour of housing blue (zinc-plated)

Type	Voltage	Display	Art.-No.			
			12 V	24 V	115 V	230 V
<b>W 16.60</b>	DC (10 Hz) / 0	6 digits	<b>1.160.601.012</b>	<b>1.160.601.013</b>		

**Panel mount with mounting clip**

Panel mount dimensions 37.5 x 23.5 mm

**Type W 17.90**



Colour of housing black: Art.-No. 1.XXX.901.XXX

Type	Voltage	Display	Art.-No.			
			12 V	24 V	115 V	230 V
<b>W 17.90</b>	DC (8 Hz) / 05	7 digits	<b>1.740.900.049</b>	<b>1.740.900.050</b>		
	DC (10 Hz) / 0		<b>1.740.900.012</b>	<b>1.740.900.013</b>		
	AC (10 Hz) / a0				<b>1.740.900.054</b>	<b>1.740.900.056</b>

Dimensions in mm [inch]

1) Stock types

Pulse counters