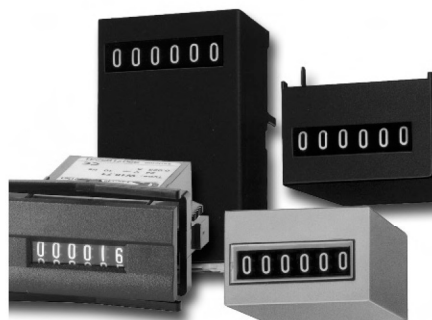


## Mini Pulse Counter – W 16 / AW 16 / W 17



- 6- or 7-digit miniature pulse counter, adding without reset
- Power consumption min. 50 mW
- Power consumption at version 05 and 50 ms pulse length 2.5 mWs/Pulse
- Long operating life
- For all DC and AC voltages
- Types to DIN dimension 24 mm x 48 mm [0.945 x 1.89"] and many other dimensions e.g. PCB mount
- Protection IP 41

### Applications:

Machines and appliances, battery-powered devices, heating and water consumption measurement, establishing tolls and charges, general counting systems

### Technical data:

Electrical connection:	panel and-surface mount model PCB mounting	flying leads AWG 22, approx. 150 mm [5.906"] round pin $\varnothing$ 1.6 mm [0.063"]
Rated voltage:	type 05: 1.5/3/4.5/5/6/12 V DC $\pm 15\%$ –5 % type 0: 12/24/48/115/185 V DC $\pm 10\%$ type a0: 24/48/115/230 V AC $\pm 10\%$	
Cycle duration factor:	100 %	
Height of figures:	approx. 1.7 x 4 mm [0.067 x 0.158"]	
Colour of figures:	white on black	
Shaft:	stainless steel	
Ambient temperature:	-10 ... +50 °C [14 ...122 °F]	
Mounting position:	any	
Operating life:	> 50 x 10 <sup>6</sup> pulses	
Weight:	approx. 50 g [1.764 oz]	

### Options:

- electrical Connection: counter with pins  $\varnothing$  1.6 mm [0.063"] and push on connectors  
Art. no.: 1.161.XXX.XXX
- with flat pin 0.8 x 2.8 mm [0.032 x 0.11"] and push on connectors  
Art. no.: 1.169.XXX.XXX
- ...with flat pin 0.8 x 6.3 [0.032 x 0.248"] and push on connectors  
...Art-No.: 1.165.XXX.XXX
- ...with screw terminal  
... Art. no: 1.164.XXX.XXX
- extended temperature range available on request
- with lens for digit height 5 or 6.3 mm [0.197" or 0.248"] on request
- Colour of housing: light grey: Art. no.: X.XXX.XX0.XXX  
black: Art. no.: X.XXX.XX1.XXX  
availability see table

### Type series:

Type	Housing	Display	Description
W 16.00	Plastic	Small side	Counter without front bezel, rear mounting
W 16.20	Plastic	Small side	Flush mount counter with spring clip, dimension 31 x 20 mm [1.221 x 0.788"]
W 16.20.10	Plastic	Small side	Flush mount counter with spring clip, panel cut-out 33 x 24 mm [1.299 x 0.945"]
W 16.20.31	Plastic	Small side	Flush mount counter with spring clip, panel cut-out 32 x 23 mm [1.26 x 0.906"]
W 16.40	Plastic	Small side	2 two holes at front side
W 16.50	Plastic	Small side	DIN housing 24 x 48 [0.945 x 1.89"], Built in dimension 22 x 45 mm [0.866 x 1.772"]
W 16.60	Steel	Large side	PCB counter
W 16.70	Steel	Small side	PCB counter
W 16.80	Plastic	Small side	PCB counter
W 16.90	Plastic	Small side	Flush mount counter with spring , dimension 37.5 x 23.5 [1.477 x 0.925"]
AW 16.00	Plastic	Small side	Base mount counter
AW 16.80	Plastic	Small side	Base mount counter
AW 16.81	Plastic	Small side	Base mount counter
W 17.50	Plastic	Small side	DIN housing with spring 24 x 48 mm [0.945 x 1.89"], Panel cut-out 22 x 45 mm [0.866 x 1.772"]
W 17.80	Plastic	Small side	PCB counter
W 17.90	Plastic	Small side	Panel counter with spring, Panel cut-out 37.5 x 23.5 mm [1.477 x 0.925"]

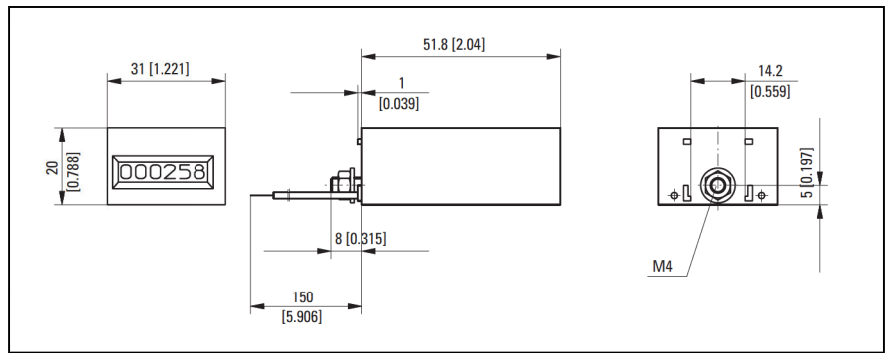
### Counting mechanism:

Voltage	Model	max. Pulse-speed	Pulse on time	Pulse interval min.	Power consumpt approx.	Residual ripple voltage max.
DC	05	8	50 ms	75 ms	50 mW	5 %
	0	10	50 ms	50 ms	0.5 W ( $\leq$ 115 V) 1 W (185 V)	48 %
AC	a0	10	50 ms	50 ms	0.75 VA ( $\leq$ 115 V) 1.5 VA (230 V)	

### Order code:

- Article number
- For special voltages, please give type, voltage, kind of voltage and series e.g. W 16.20, 9 V DC, 05, black.

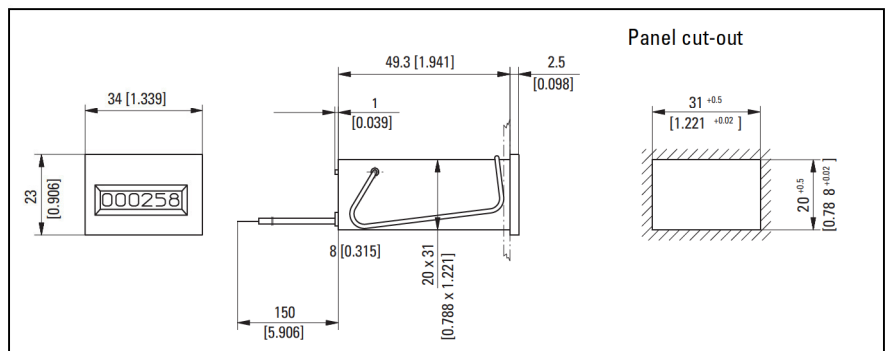
## Type W 16.00



W 16.00 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.000.049	1.160.000.050		
DC (10 Imp/s)	1.160.000.012	1.160.000.013		
AC (10 Imp/s)		1.160.000.051	1.160.000.054	1.160.000.056

Colour of housing black:  
Art. no. 1.160.001.XXX

## Type W 16.20

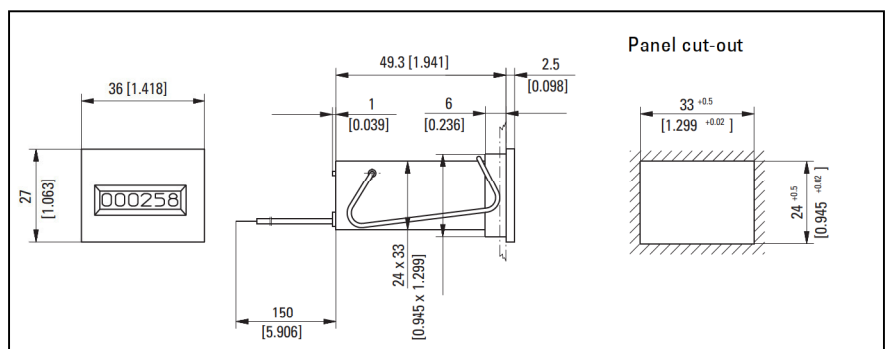


W 16.20 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.200.049	1.160.200.050		
DC (10 Imp/s)	1.160.200.012	1.160.200.013*		
AC (10 Imp/s)		1.160.200.051	1.160.200.054	1.160.200.056*

Colour of housing black:  
Art. no. 1.160.201.XXX

Further stock models:  
1.160.201.012 12 V DC/0sw  
1.160.201.013 24 V DC/0sw  
1.160.201.054 115 V AC/a0sw  
1.160.201.056 230 V AC/a0sw

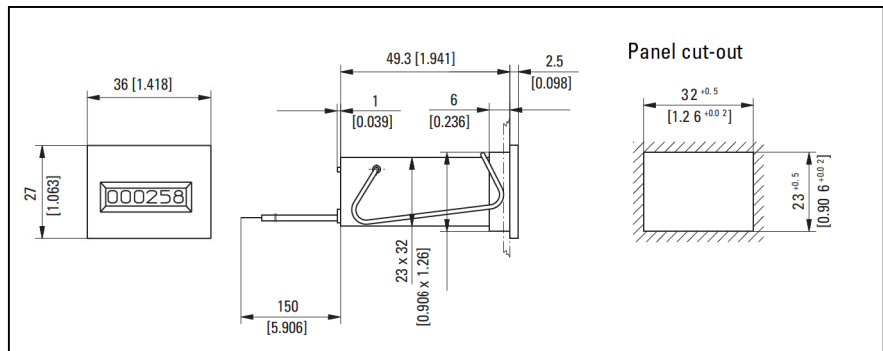
## Type W 16.20.10



W 16.20.10 (6 digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.168.250.049	1.168.250.050		
DC (10 Imp/s)	1.168.250.012	1.168.250.013		
AC (10 Imp/s)		1.168.250.051	1.168.250.054	1.168.250.056

Colour of housing black:  
Art. no. 1.168.251.XXX

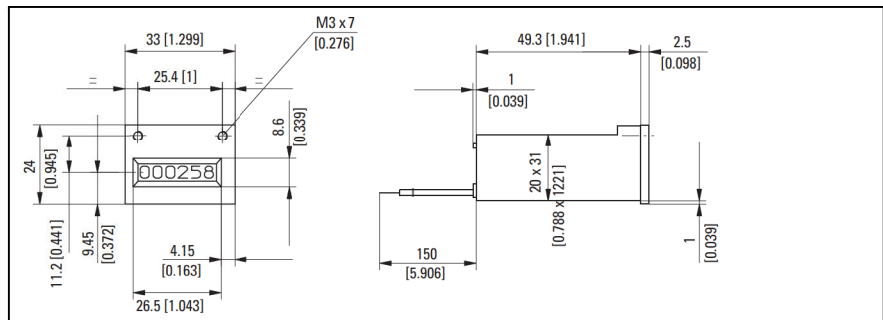
## Type W 16.20.31



W 16.20.31 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.168.260.049	1.168.260.050		
DC (10 Imp/s)	1.168.260.012	1.168.260.013		
AC (10 Imp/s)		1.168.260.051	1.168.260.054	1.168.260.056

Colour of housing black:  
Art. no. 1.168.261.XXX

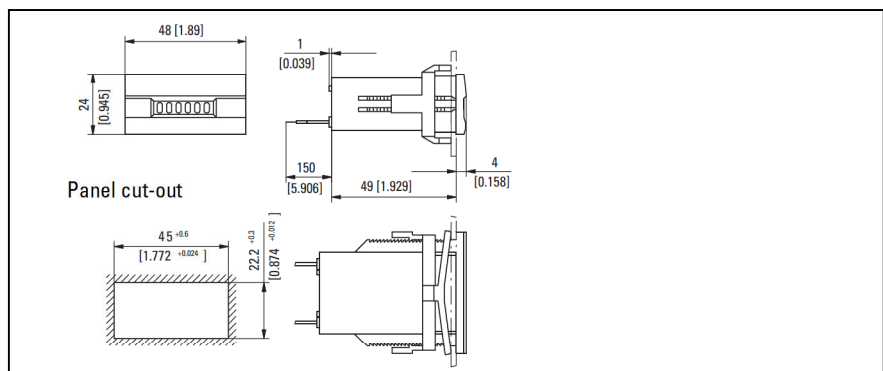
## Type W 16.40



W 16.40 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.401.049	1.160.401.050		
DC (10 Imp/s)	1.160.401.012	1.160.401.013		
AC (10 Imp/s)		1.160.401.051	1.160.401.054	1.160.401.056

Colour of housing black

## Type W 16.50/W17.50

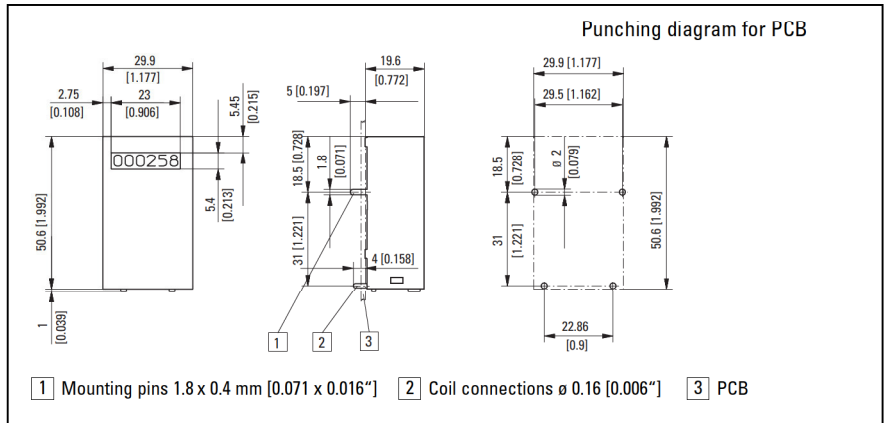


W 16.50 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.500.049.550	1.160.500.050.550		
DC (10 Imp/s)	1.160.500.012.550	1.160.500.013.550		
AC (10 Imp/s)		1.160.500.051.550	1.160.500.054.550	1.160.500.056.550

Colour of housing anthracite

W 17.50 (7-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.740.500.049.550	1.740.500.050.550		
DC (10 Imp/s)	1.740.500.012.550*	1.740.500.013.550*		
AC (10 Imp/s)		1.740.500.051.550	1.740.500.054.550*	1.740.500.056.550*

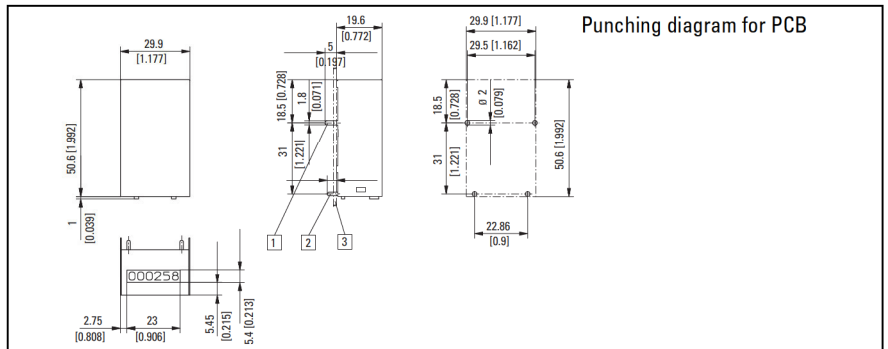
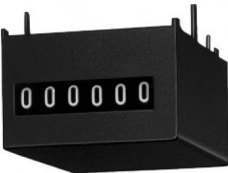
## Type W 16.60



W 16.60 (6-digit)	12 V Art. no.	24 V Art. no.
DC (8 Imp/s)	1.160.601.049	1.160.601.050
DC (10 Imp/s)	1.160.601.012	1.160.601.013

Colour of housing blue (zinc-plated)

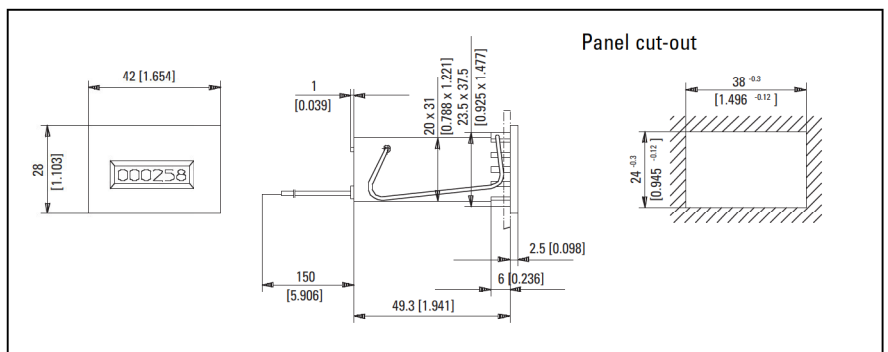
## Type W 16.70



W 16.70 (6-digit)	12 V Art. no.	24 V Art. no.
DC (8 Imp/s)	1.160.701.049	1.160.701.050
DC (10 Imp/s)	1.160.701.012	1.160.701.013

Colour of housing blue (zinc-plated)

## Type W 16.90/W 17.90



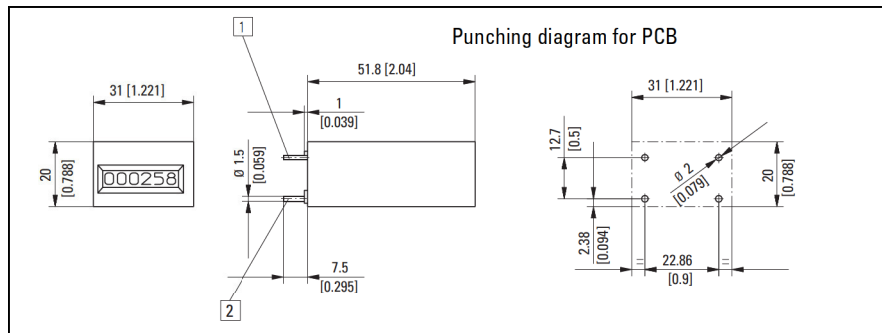
W 16.90 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.900.049	1.160.900.050	—	—
DC (10 Imp/s)	1.160.900.012	1.160.900.013	—	—
AC (10 IMP/s)	—	1.160.900.051	1.160.900.054	1.160.900.056

W 17.90 (7 digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.740.900.049	1.740.700.050	—	—
DC (10 Imp/s)	1.740.900.012	1.740.900.013	—	—
AC (10 IMP/s)	—	—	1.740.900.054	1.740.900.056

Colour of housing black:  
Art. no. 1.160.901.XXX  
Art. no. 1.740.901.XXX

## Type W 16.80/W 17.80

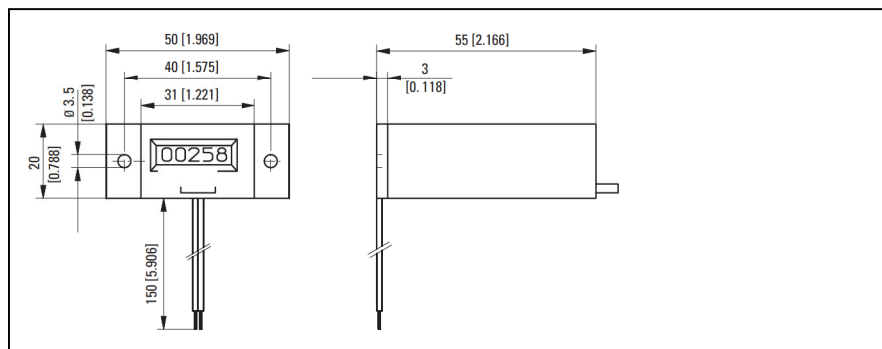


1 Potential free pins 2 Coil connections

	12 V	24 V	115 V	230 V
<b>W 16.80</b> (6-digit)	Art. no.	Art. no.	Art. no.	Art. no.
DC (8 Imp/s)	1.160.800.049	1.160.800.050		
DC (10 Imp/s)	1.160.800.012	1.160.800.013		
AC (10 Imp/s)		1.160.800.051	1.160.800.054	1.160.800.056
<b>W 17.80</b> (7-digit)	Art. no.	Art. no.	Art. no.	Art. no.
DC (10 Imp/s)	1.740.800.012	1.740.800.013		
AC (10 Imp/s)		1.740.800.051	1.740.800.054	1.740.800.056

Colour of housing grey

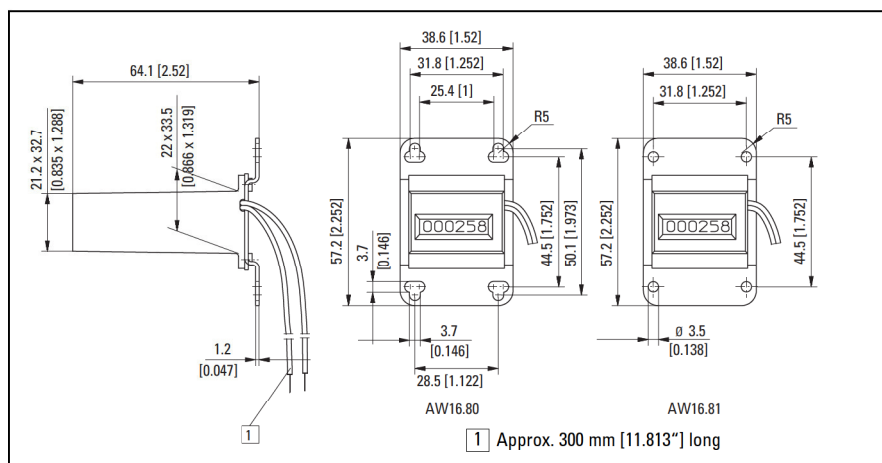
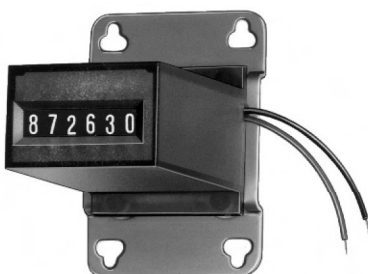
## Type AW 16.00



	12 V	24 V	115 V	230 V
<b>AW 16.00</b> (6-digit)	Art. no.	Art. no.	Art. no.	Art. no.
DC (8 Imp/s)	1.162.001.049	1.162.001.050		
DC (10 Imp/s)	1.162.001.012	1.162.001.013		
AC (10 Imp/s)		1.162.001.051	1.162.001.054	1.162.001.056

Colour of housing black

## Type AW 16.80, AW 16.81 and AW 17.80



Type	Imp/s	12 V DC Art. no.	24 V DC Art. no.
<b>AW 16.80</b>	10	1.162.800.012	1.162.800.013
<b>AW 16.81</b>	10	1.162.810.012	1.162.810.013
<b>AW 17.80</b>	10	1.742.800.012	

Colour of housing:  
grey glass (Makrolon)