

Mini Counters – W 15 / AW 15



- 5-digit miniature pulse counter, adding with manual reset
- Power consumption min. 130 mW
- Suitable for battery and electronic switching operations
- Long operating life (50 Mio. pulses)
- Available for all DC and AC voltages
- DIN housing 24 mm x 48 mm [0.945 x 1.89"] available

Applications:

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

Technical data:

Electrical connection:	standard:	flying leads AWG 22, approx. 150 mm [5.906"] long, \varnothing 0,34 mm ²
	options:	pins \varnothing 1.5 mm [0.059"] with push on connectors
Rated voltage:	type 05:	1.5/3/4.5/5/6/12 V DC +15 % -5 %
	type 0:	12/24/48/115/185 V DC \pm 10 %
	type a0:	12/24/48/115/230 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
Shafts:		stainless steel
Ambient temperature:		-10 ... +50 °C [14 ... 122 °F]
Mounting position:		any
Operating life:		> 50 x 10 ⁶ pulses
Weight:		AC 52 g, DC 62 g [AC 1.834 oz, DC 2.187 oz]

Options:

- electrical Connection: instead of flying leads, pin \varnothing 1.5 mm [0.059"] with push on connectors
Art. no.: 1.151.X1X.XXX
 - with flat pin 0.8 x 2.8 mm [0.032 x 0.11"] and flat push on connectors
Art. no.: 1.159.X1X.XXX
 - ...with flat pin 0.8 x 6.3 [0.032 x 0.248"]
...Art-No.: 1.155.XXX.XXX
 - ...with screw terminal
... Art. no.: 1.154.XXX.XXX
 - different temperature range on request
- Colour of housing: light grey: Art. no.: X.XXX.XX0.XXX
black: Art. no.: X.XXX.XX1.XXX
availability see table

Series:

Type	Description
W 15.01	Housing without front panel, rear screw mount
W 15.21	Panel mount with spring clip 31 x 20 mm [1.221 x 0.788"]
W 15.21.56	Built in counter with spring, dimension 33.5 x 22.5 mm [1.32 x 0.89"]
W 15.51	DIN housing 24 x 48, dimension 22 x 45 mm [0.866 x 1.772"]
W 15.91	Built in counter with spring, dimension 37.5 x 23.5 mm [1.477 x 0.925"]
AW 15.01	Base mount with two mounting holes

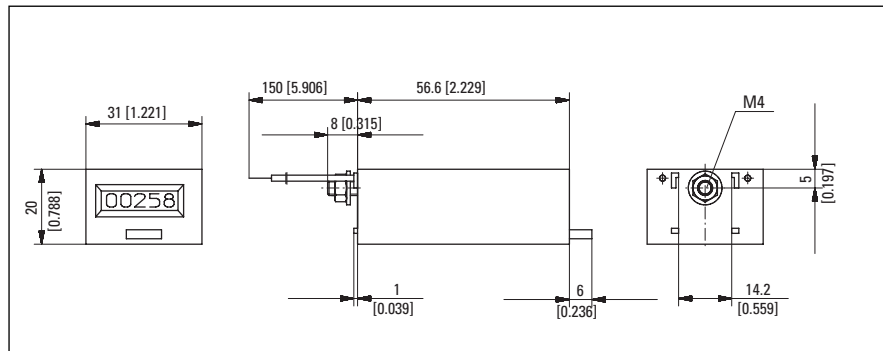
Counting mechanism:

Voltage	Model	Max. pulse speed	Pulse on time	Pulse interval min.	Power consumpt. approx.	Residual ripple voltage max.
V DC	05	8	50 ms	75 ms	130 mW	5 %
	0	10	50 ms	50 ms	0.5 W (\leq 115 V) 1 W (185 V)	48 %
V 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 15.21, 4.5 V DC/0, black.

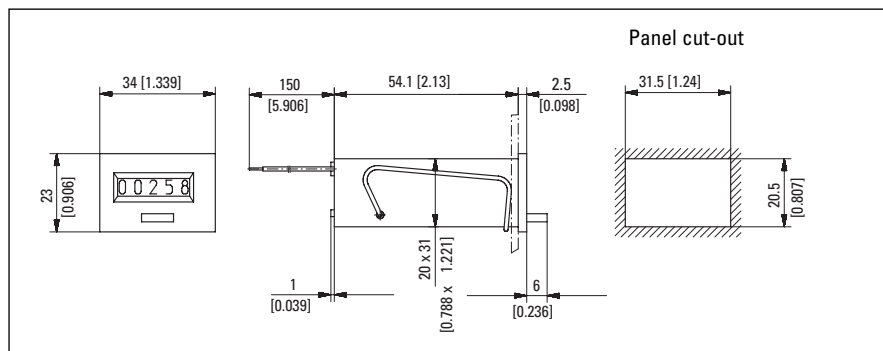
Type W 15.01



W 15.01 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.150.010.049	1.150.010.050		
DC (10 Imp/s)	1.150.010.012	1.150.010.013		
AC (10 Imp/s)		1.150.010.051	1.150.010.054	1.150.010.056

Colour of housing black
Art. no. 1.150.011.XXX

Type W 15.21

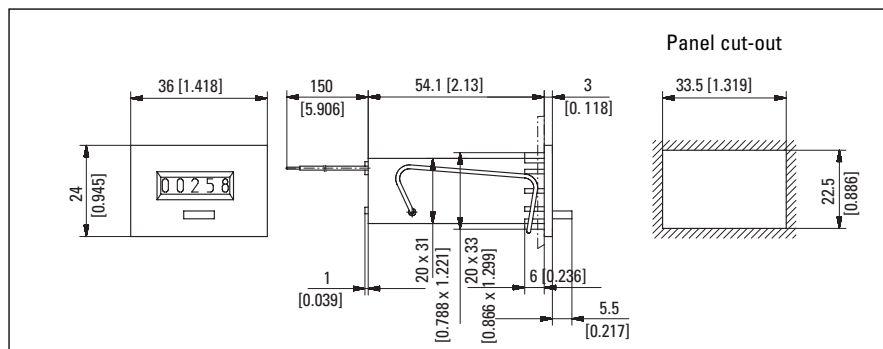


W 15.21 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.150.210.049	1.150.210.050		
DC (10 Imp/s)	1.150.210.012	1.150.210.013*		
AC (10 Imp/s)		1.150.210.051*	1.150.210.054	1.150.210.056*

Colour of housing black:
Art. no. 1.150.211.XXX

Further stock models:
1.150.211.012 12 V DC/0 sw
1.150.211.013 24 V DC/0 sw
1.150.211.050 24 V DC/05 sw
1.150.211.054 115 V AC/a0 sw
1.150.211.056 230 V AC/a0 sw

Type W 15.21.56

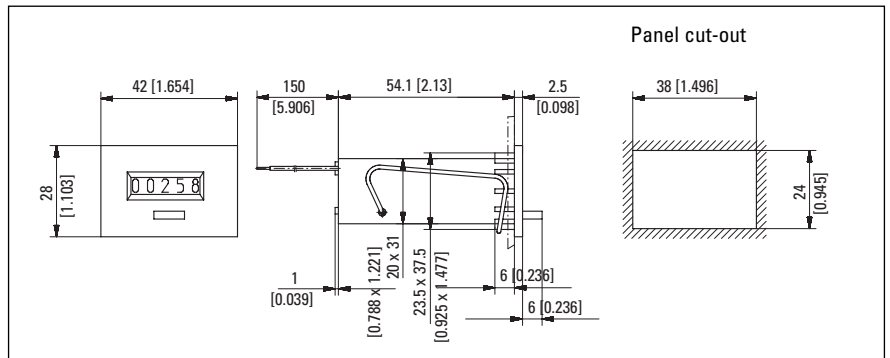


W 15.21.56 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.150.210.049.056	1.150.210.050.056		
DC (10 Imp/s)	1.150.210.012.056	1.150.210.013.056		
AC (10 Imp/s)		1.150.210.051.056	1.150.210.054.056	1.150.210.056.056

Colour of housing black:
Art. no. 1.150.211.XXX.056

*standard stock model

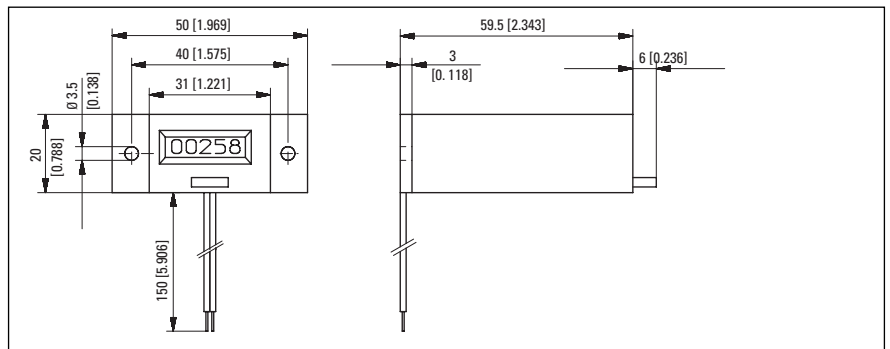
Type W 15.91



W 15.91 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.150.910.049	1.150.910.050		
DC (10 Imp/s)	1.150.910.012	1.150.910.013		
AC (10 Imp/s)		1.150.910.051	1.150.910.054	1.150.910.056

Colour of housing black:
Art. no. 1.150.911.XXX

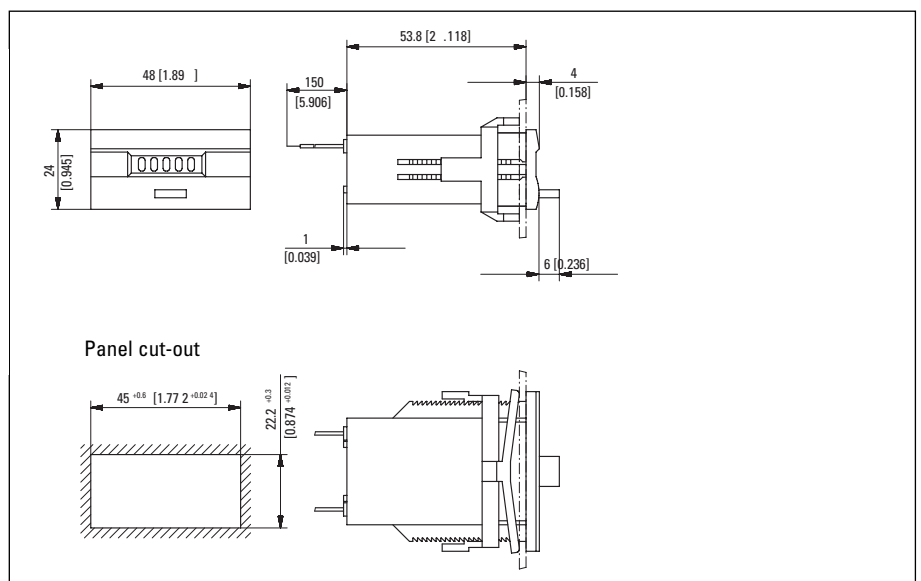
Type AW 15.01



AW 15.01 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.152.011.049	1.152.011.050		
DC (10 Imp/s)	1.152.011.012	1.152.011.013		
AC (10 Imp/s)		1.152.011.051	1.152.011.054	1.152.011.056

Colour of housing black

Type W 15.51

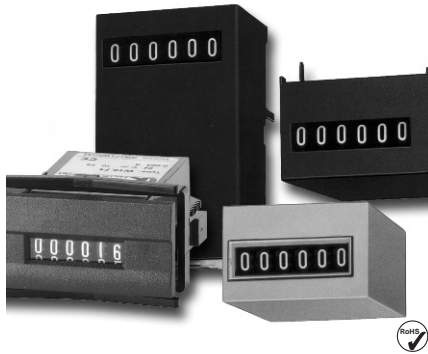


W 15.51 (5-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.150.510.049.550	1.150.510.050.550		
DC (10 Imp/s)	1.150.510.012.550*	1.150.510.013.550*		
AC (10 Imp/s)		1.150.510.051.550	1.150.510.054.550*	1.150.510.056.550*

Colour of housing anthracite

*standard stock model

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 ø 1.6 mm [0.063"]
Rated voltage:	type 05: 1.5/3/4.5/5/6/12 V DC +15 % -5 % type 0: 12/24/48/115/185 V DC ± 10 % type a0: 24/48/115/230 V AC ± 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 ⁶ pulses	
Weight:	approx. 50 g [1.764 oz]	

Options:

- electrical Connection: counter with pins ø 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"]

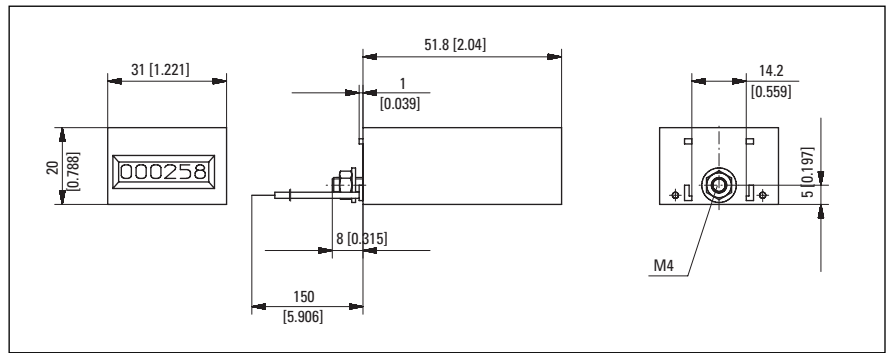
Counting mechanism:

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 (≤ 115 V) 1 W (185 V)	48 %
AC	a0	10	50 ms	50 ms	0.75 VA (≤ 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.

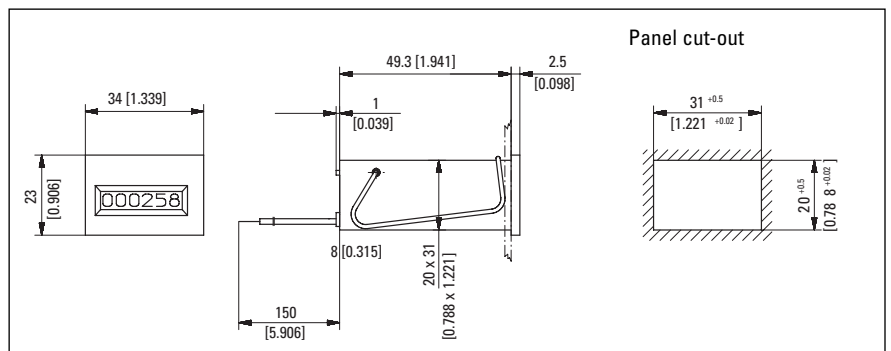
Type W 16.00



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

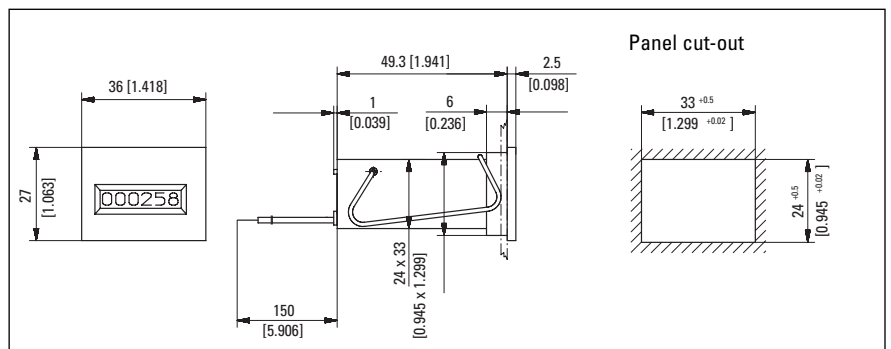


W 16.20 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.200.049	1.160.200.050		
DC (10 Imp/s)	1.160.200.012	1.160.200.013*		
AC (10 Imp/s)		1.160.200.051	1.160.200.054	1.160.200.056*

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

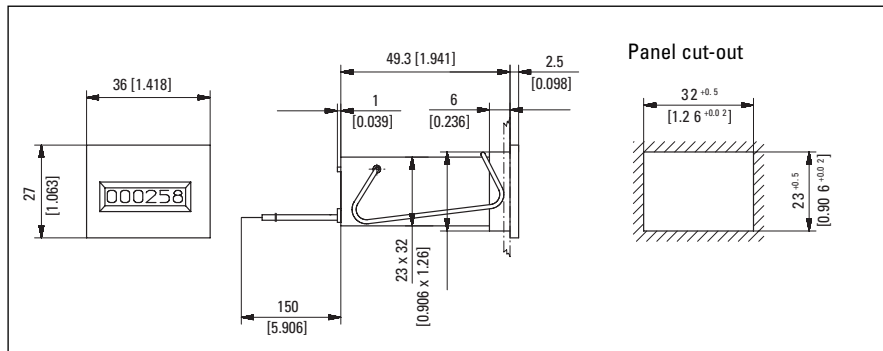


W 16.20.10 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.168.250.049	1.168.250.050		
DC (10 Imp/s)	1.168.250.012	1.168.250.013		
AC (10 Imp/s)		1.168.250.051	1.168.250.054	1.168.250.056

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

*standard stock model

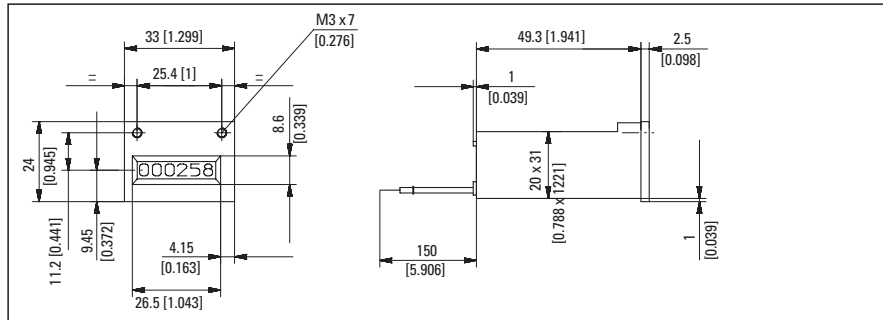
Type W 16.20.31



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

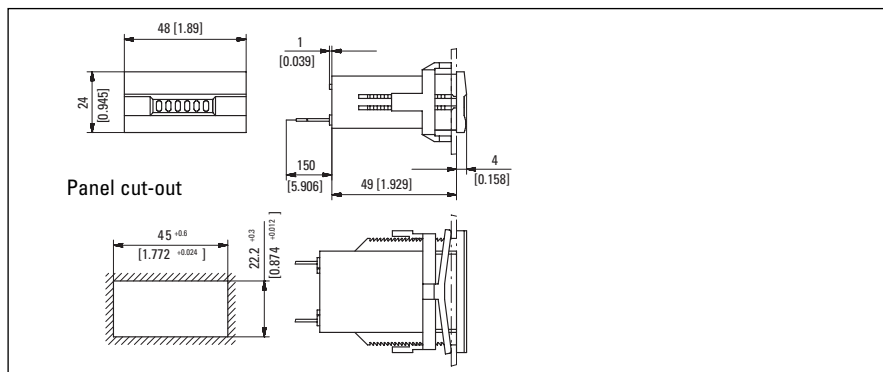
Type W 16.40



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



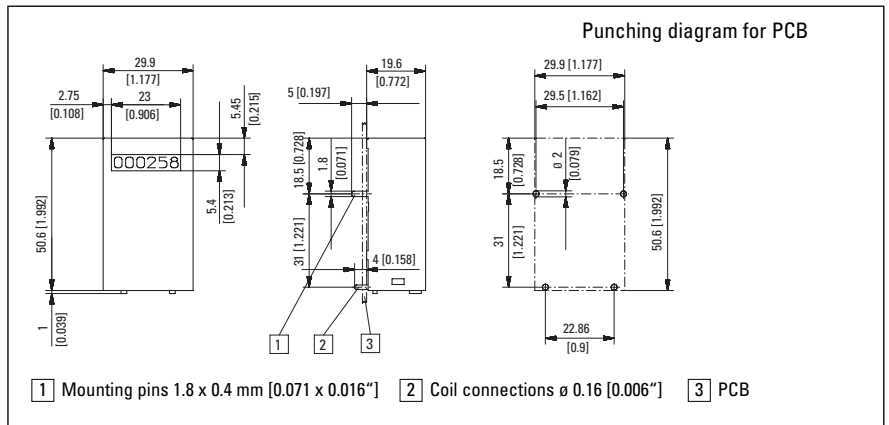
W 16.50 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.160.500.049.550	1.160.500.050.550		
DC (10 Imp/s)	1.160.500.012.550	1.160.500.013.550		
AC (10 Imp/s)		1.160.500.051.550	1.160.500.054.550	1.160.500.056.550

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*

*standard stock model

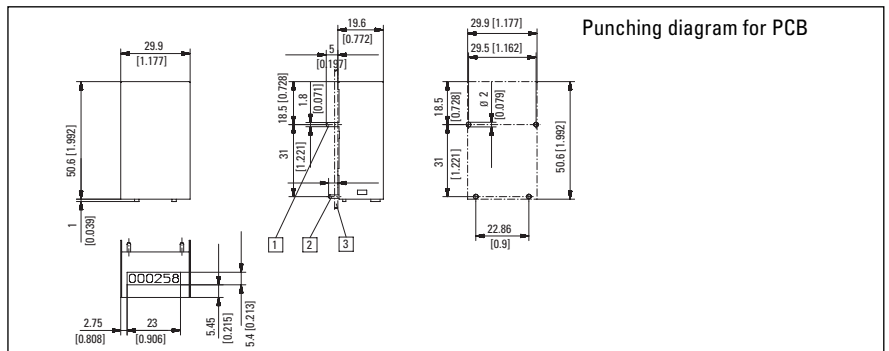
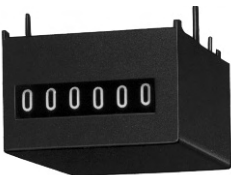
Type W 16.60



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)

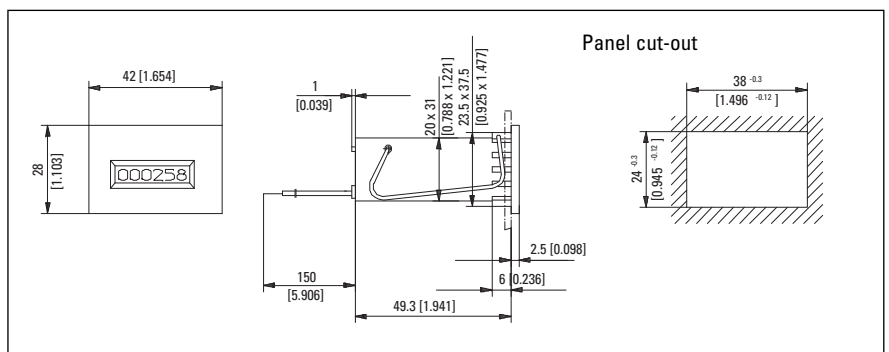
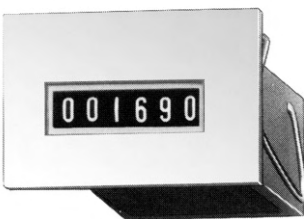
Type W 16.70



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)

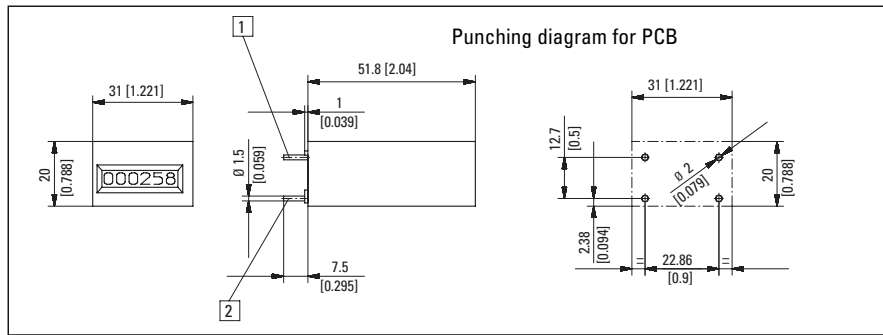
Type W 16.90/W 17.90



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

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

Type W 16.80/W 17.80

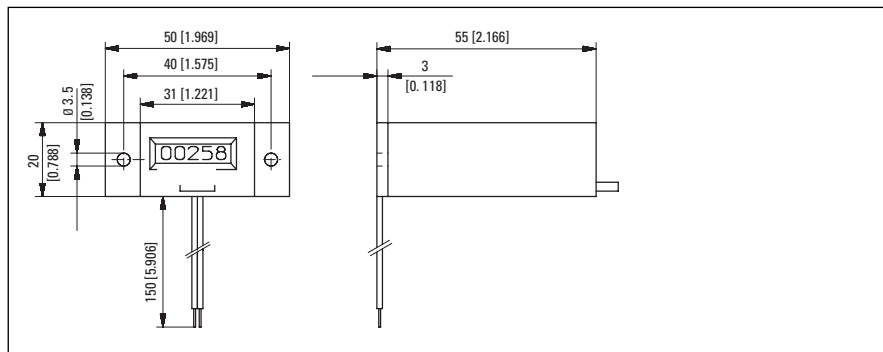


1 Potential free pins 2 Coil connections

W 16.80 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V 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
W 17.80 (7-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V 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

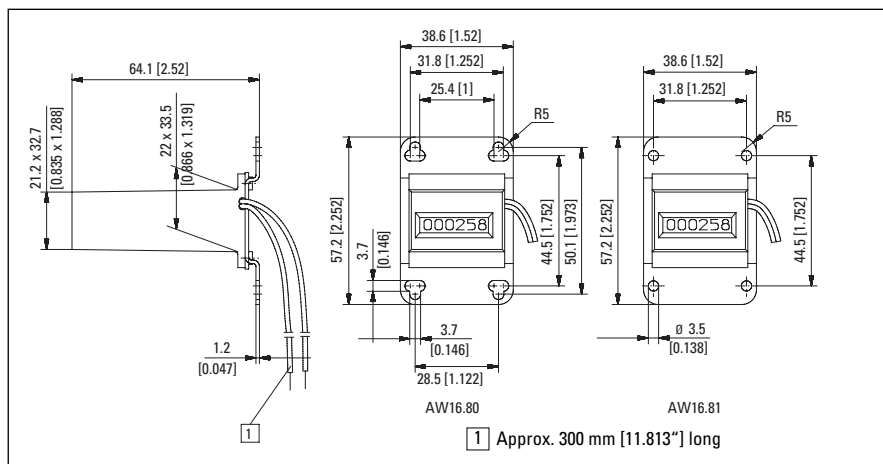
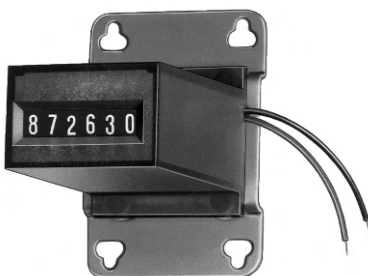
Type AW 16.00



AW 16.00 (6-digit)	12 V Art. no.	24 V Art. no.	115 V Art. no.	230 V Art. no.
DC (8 Imp/s)	1.162.001.049	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.
AW 16.80	10	1.162.800.012	1.162.800.013
AW 16.81	10	1.162.810.012	1.162.810.013
AW 17.80	10	1.742.800.012	

Colour of housing:
grey glass (Makrolon)

*standard stock model