

## Preset Counters – BVa 15



- 3- or 5-digit **adding** preset counter with stationary preset value
- Preset constantly visible
- 0-reset manual
- Potential free changeover contact (microswitch) on reaching the preset. Contact remains switched till a 0-reset occurs
- Counter without front bezel fits into front frame F2B and may be combined in blocks of 50 x 50 mm [1.969 x 1.969"]

- Can be combined with the counter series B-, MVs 36- and HVa.

### Applications:

piece-counting,  
automation

### Technical data:

Electrical connection:	tin-plated tabs $\varnothing$ 1.6 mm [0.063"] with push-on connectors (counter) tin plated tabs 0.8 x 2.8 mm [0.032 x 0.11"] (socket box)
Rated voltages:	counting mechanism: 12/24/48/115 V DC $\pm$ 10 % 24/48/115/230 V AC $\pm$ 10 %
Figures:	counter 4.5 mm [0.177"] , preset 4 mm [0.158"]
Colour of housing:	black
Colour of figures:	counter: white on black preset: yellow on black
Shaft:	stainless steel
Mounting position:	optional
Service life:	approx. $100 \times 10^6$ Pulse
Weight:	approx. 130 g [4.586 oz]
Test voltage:	2 000 V, effective
Switching contact:	1 change over contact (micro switch), release in 2nd half-step on the preset number
Loading (max):	AC: 250 V AC, 2A

Loading (max):	DC:	24 V DC, 2 A 60 V D. 0.7 A 115 V DC, 0.4 A 230 V DC, 0.2 A, with <b>resistive</b> Load.
		Suitable spark quenching is required with <b>inductive</b> load, reducing the max. current to 60 %
Options:		Key-locking zero reset
		Housing grey Art.-N°.: 2.1X0.XX6.XXX
		Housing black Art.-N°.: 2.1X0.XX7.XXX
		Lockable transparent cover I (IP 65)
		Counter with front bezel 3 Art.-N°.: 2.1X0.7XX.XXX
		Flexible cover K2 (IP 54) Counter with front bezel Gr. 3 Art.-N°.: 2.1X0.6XX.XXX
		Lockable transparent cover (IP 65) Art.-N°.: 2.1X0.8XX.XXX Screw terminal connection

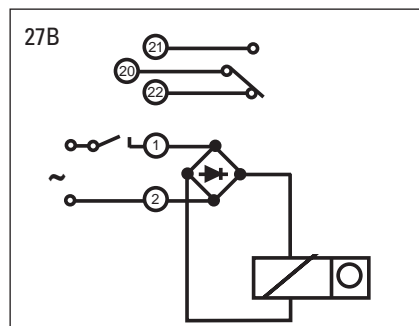
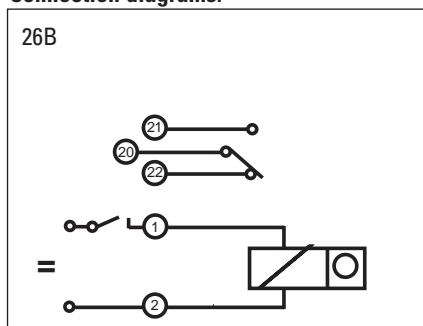
### Type series:

Manual reset		Description
5-digit	3-digit	
BVa 15.01	BVa 15.01/3	no bezel frame
BVa 15.11	BVa 15.11/3	front bezel 1 with mounting holes
BVa 15.21	BVa 15.21/3	front frame 2 with spring clip
BVa 15.31	BVa 15.31/3	front bezel 3 with mounting holes

### Counting mechanism:

Voltage	Model	max. CP7s	Min. pulse-duration	Min. pulse-interval	Pulse-ratio	On time	Power consumption	Ripple voltage max.	Ambient temperature °C (non-condensing)
V DC	I	25/sec	24 ms	16 ms	3:2	100 %	3 W	48 %	-10 ... +60 °C [14 ... 140 °F]
V AC	a	18/sec	27.7 ms	27.7 ms	1:1	100 %	3 VA	-	-10 ... +55 °C [14 ... 131 °F]

### Connection diagrams:



## Preset Counters – BVa 15

### Delivery specification:

Counter complete with push-on connectors

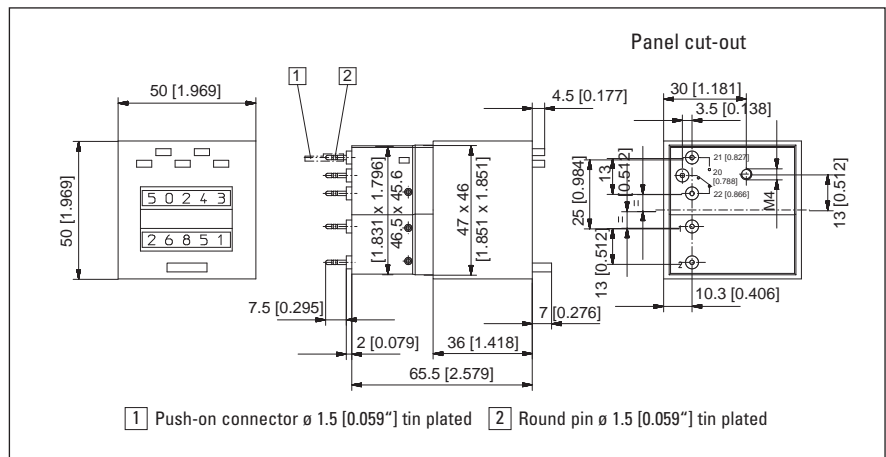
### Accessories:

- Socket box 946.1
- Sealing cover K2
- Front bezel F2B black

### Order code:

- Art-No.
- If special voltages are requested, please state exact counter type, voltage and model e.g. BVa 15.31, 12 V DC....

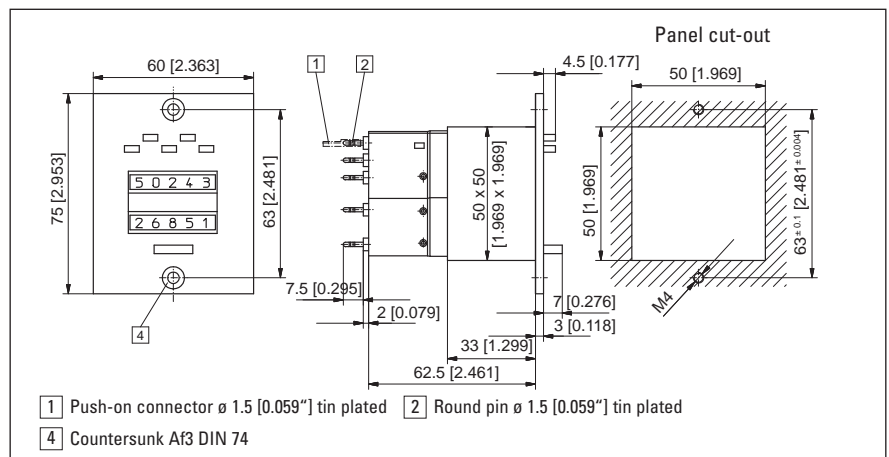
### Type BVa 15.01/3



	BVa 15.01			BVa 15.01/3		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.100.011.033*	-	-	2.120.011.033		
AC (18 Imp/s)	2.100.011.061*	2.100.011.064	2.100.011.066	2.120.011.061	2.120.011.064	2.120.011.066

Colour of housing black:  
Art-No. 2.1X0.011.XXX

### Type BVa 15.11/3



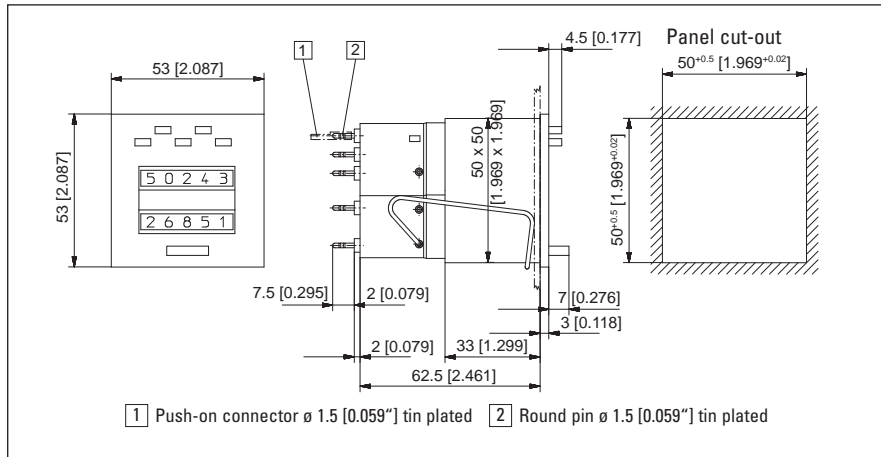
	BVa 15.11			BVa 15.11/3		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.100.110.033	-	-	2.120.110.033		
AC (18 Imp/s)	2.100.110.061	2.100.110.064	2.100.110.066*	2.120.110.061	2.120.110.064	2.120.110.066

Colour of housing black:  
Art-No. 2.1X0.111.XXX

\* standard stock model

## Preset Counters – BVa 15

### Type BVa 15.21/3

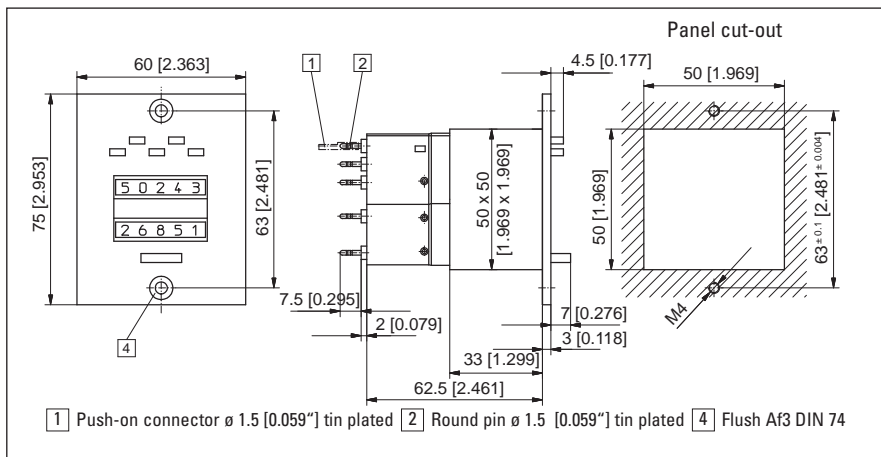


	BVa 15.21			BVa 15.21/3		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.100.210.033*	–	–	2.120.210.033	2.120.210.064	2.120.210.066
AC (18 Imp/s)	2.100.210.061	2.100.210.064	2.100.210.066*	2.120.210.061	2.120.210.064	2.120.210.066

Colour of housing  
black:  
Art-No. 2.1X0.211.XXX

Further Stock models:  
Art-No. 2.100.211.033

### Type BVa 15.31/3



	BVa 15.31			BVa 15.31/3		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.100.310.033	–	–	2.120.310.033	2.120.310.064	2.120.310.066
AC (18 Imp/s)	2.100.310.061	2.100.310.064	2.100.310.066	2.120.310.061	2.120.310.064	2.120.310.066

Colour of housing  
black:  
Art-No. 2.1X0.311.XXX

Further Stock models:  
Art-No. 2.107.311.013  
BVa 15.31.4sw 24 V DC

Art-No. 2.210.310.056  
BVa 15.31/3 230 V AC/0a

**Preset Counters – BVa 15**



BVa 15.21 vs  
(Key lock)



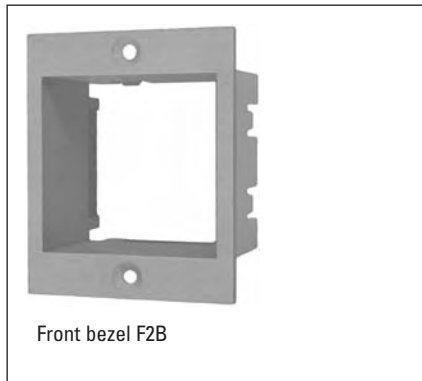
Dv BVa 15.31  
(Knob locking cover)



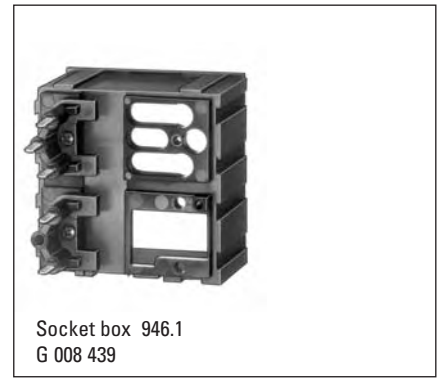
Dvs BVa 15.31  
(Key locking cover)



Flexible cover K2



Front bezel F2B

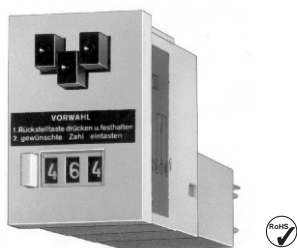


Socket box 946.1  
G 008 439

For more details (dimensions, order information) please refer to our Accessories chapter

Preset Counters

## Preset Counters – MVs 13



- Subtracting preset counter with 2 or 3 digits, stationary preset
- Manual or electrical reset
- Potential free change-over contact (micro switch) when zero is reached
- Contact remains in its position until reset occurs
- Delivery complete with push-on connectors

### Applications:

piece-counting,  
general event counting,  
automation etc.

### Technical data:

Electrical connection:	tin plated flat pins 0,8 x 2,8 mm [0.032 x 0.11"] with push on connectors
Rated voltages:	count magnet: 12/24/48/115/230 V DC $\pm 10\%$ 24/48/115/230 V AC $\pm 10\%$
	reset magnet: 24/48/115/230 V DC $\pm 10\%$ 24/48/115/230 V DC $\pm 10\%$
Figures height:	4 mm [0.158"]
Colour of housing:	grey, similar to RAL 7001
Colour of figures:	white on black background
Shaft:	stainless steel
Mounting position:	optional
Service life:	approx. $100 \times 10^6$ impulses
Weight:	with manual reset approx. 150 g [5.291 oz]
	with electrical reset approx. 190 g [6.702 oz]
Test voltage:	2 000 V, effective
Switching contact:	1 change over contact (micro switch), release in 2nd half-step exactly at zero

Load (max):	AC:	250 V AC, 2A
	DC:	24 V DC, 2 A
		60 V D. 0.7 A
		115 V DC, 0.4 A
	230 V DC, 0.2 A,	with <b>resistive</b> load.
	with <b>inductive</b> :	suitable spark quenching is required on inductive load, reducing the max. current to approx. 60 %
Options:	– electrical reset only	
Electrical Reset:		
On time:	10 % max. 40 seconds	
Minimum pulse time:	0.25 sec.	
Power consumption:	12 W for DC, 14 VA for AC	

### Type series:

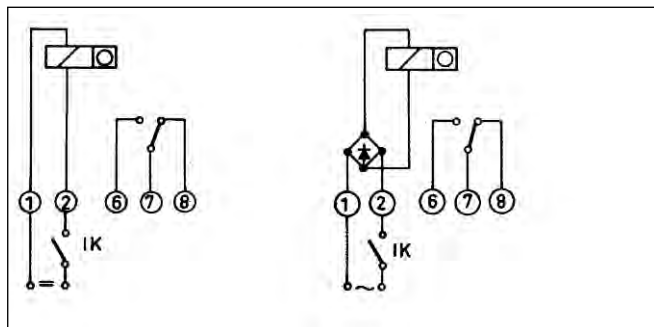
3-digit		2-digit		Description
Reset manual	Reset man. and electr.	Reset manual	Reset man. and electr.	
MVs 13.11	MVs 13.13	MVs 13.11/2	MVs 13.13/2	Front panel with mounting holes
MVs 13.21	MVs 13.23	MVs 13.21/2	MVs 13.23/2	Front panel with spring clip

### Count mechanism:

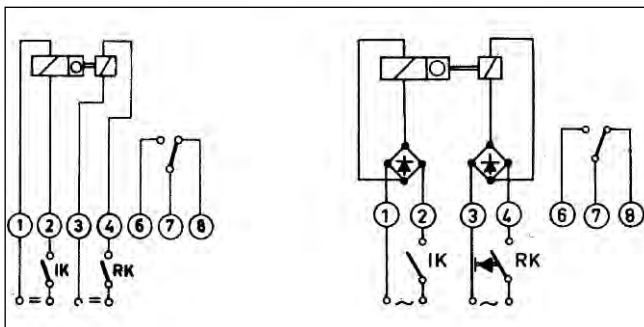
Voltage	Model	Max. pulse-frequency	Min.-pulse-on-time	Min.-pulse-interval	Pulse-ratio	On time approx.	Power consumption	Max. res. ripple	Ambient temperature °C*
V DC	1	25/sec	24 ms	16 ms	3:2	100 %	4 W	48 %	-10 ... +45 °C [14 ... 113 °F]
V AC	a	18/sec	22.2 ms	33.3 ms	2:3	100 %	4.5 VA	–	-10 ... +45 °C [14 ... 113 °F]

\*non-condensing

### Connection diagrams (manual reset):

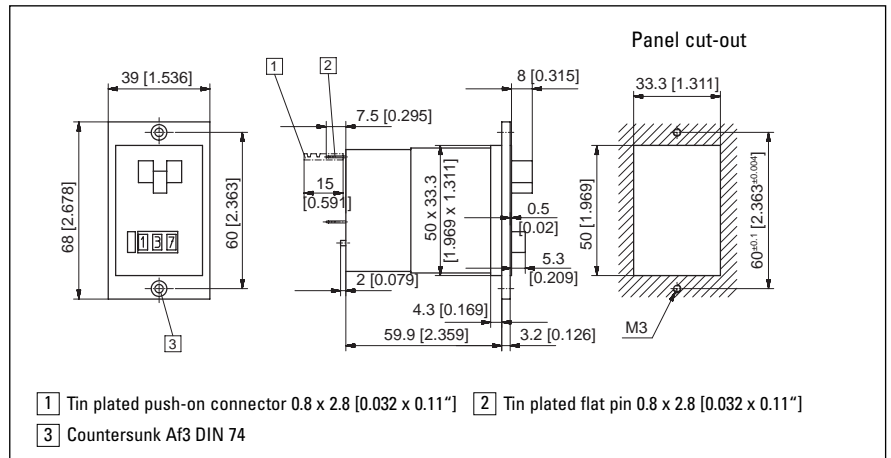


### Connection diagrams (electrical reset):



## Preset Counters – MVs 13

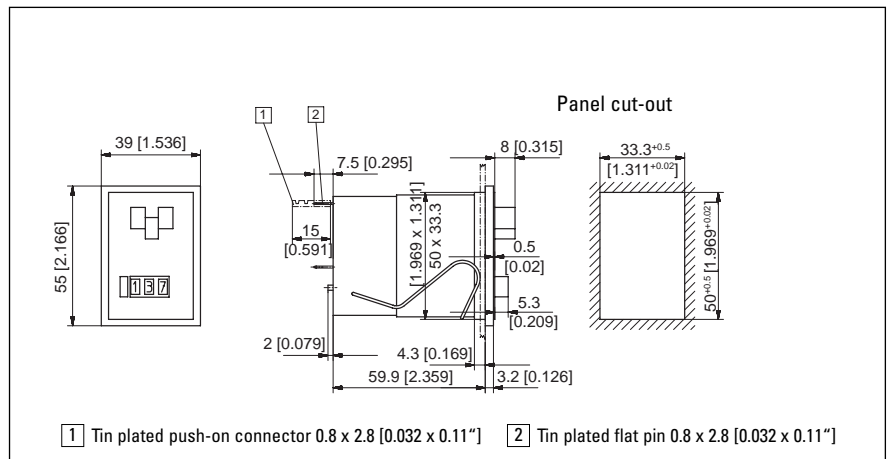
### Type MVs 13.11



### Manual reset

	MVs 13.11 (3-digit)			MVs 13.11/2 (2-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.300.110.033	–	–	2.310.110.033	–	–
AC (18 Imp/s)	2.300.110.061	2.300.110.064	2.300.110.066	2.310.110.061	2.310.110.064	2.310.110.066

### Type MVs 13.21



### Manual reset

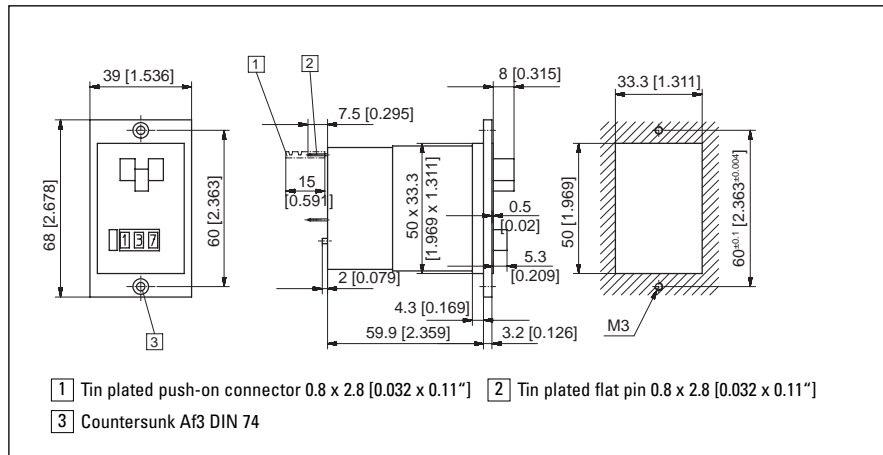
	MVs 13.21 (3-digit)			MVs 13.21/2 (2-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.300.210.033	–	–	2.310.210.033	–	–
AC (18 Imp/s)	2.300.210.061	2.300.210.064	2.300.210.066	2.310.210.061	2.310.210.064	2.310.210.066

Colour of housing  
 black:  
 Art-No. 2.3X0.211.XXX

Preset Counters

## Preset Counters – MVs 13

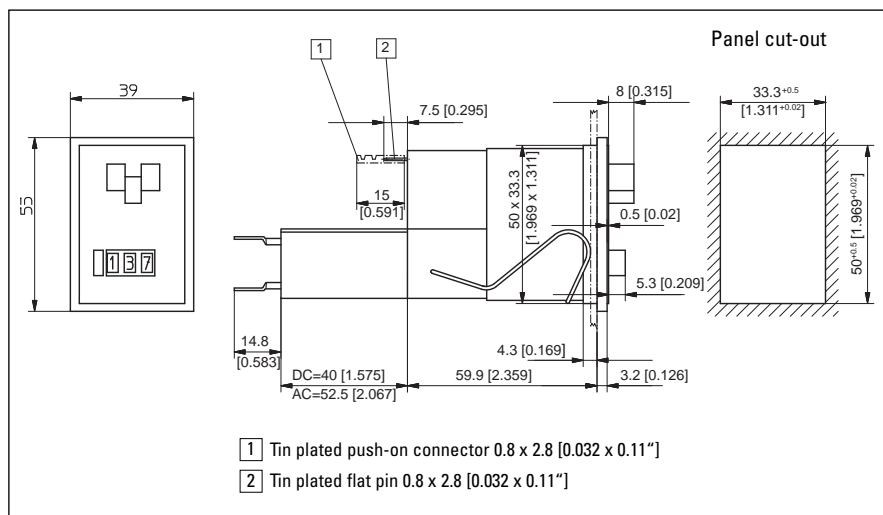
### Type MVs 13.13



### Manual and electrical reset

	MVs 13.13 (3-digit)			MVs 13.13/2 (2-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.300.130.033	–	–	2.310.210.033		
AC (18 Imp/s)	2.300.130.061	2.300.130.064	2.300.130.066	2.310.130.061	2.310.130.064	2.310.130.066

### Type MVs 13.23



### Manual and electrical reset

	MVs 13.23 (3-digit)			MVs 13.23/2 (2-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.300.230.033	–	–	2.310.230.033		
AC (18 Imp/s)	2.300.230.061	2.300.030.064	2.300.230.066	2.310.230.061	2.310.230.064	2.310.230.066

## Preset Counters – MVs 16



- **Subtracting** preset counter with 3 or 6 digits
- Manual or manual and electrical reset
- Potential free charge over contact (micro switch) on reaching zero
- Contact remains in its position until resetting
- Delivery includes counter as ordered and flat push-on connectors

### Applications:

Piece and batch counting, quantities automation processes etc.

### Technical data:

Electrical connection:	tin plated flat pins 0.8 x 2.8 mm [0.032 x 0.11"] with push-on connectors, tin plated flat tabs 0.8 x 2.8 mm [0.032 x 0.11"] (socket box)
Rated voltages:	counting magnet: 12/24/48/115 V DC $\pm 10\%$ 24/48/115/230 V AC $\pm 10\%$ reset magnet: 24/48/115 V DC $\pm 10\%$ 24/48/115/230 V DC $\pm 10\%$
Figures:	4 mm [0.158"]
Colour of housing:	grey, similar to RAL 7001
Colour of figures:	white on black
Shaft:	stainless steel
Mounting position:	optional
Service life:	approx. 100 x 10 <sup>6</sup> pulses
Weight:	with manual reset: approx. 170 g [5.997 oz] with electrical reset: approx. 210 g [7.408 oz]

Test voltage:	2 000 V AC, effective
Switching contact:	1 change over contact (micro switch), contact making in 2nd half step at zero
Load (max):	AC: 250 V AC, 2A DC: 24 V DC, 2 A 60 V D, 0.7 A 115 V DC, 0.4 A 230 V DC, 0.2 A, at <b>resistive</b> load. at <b>inductive</b> load: suitable spark quenching is required on inductive load, reducing the max. current to approx. 60 %
Electrical Reset:	
On time:	20 % max. 1 Minute
Minimum pulse time:	0.25 sec.
Power consumption:	10 W for DC, 14 VA for AC

### Type series:

6-digit		Description
reset manual	reset man. and electr. MVs 16.03	no front bezel, plug-in socket
MVs 16.11	–	front bezel 1 with mounting holes
MVs 16.21	MVs 16.23	front bezel 2 with spring clip

### Options:

Locking transparent cover (IP 55) counter with front bezel 3 3 Art-No. 2.1X0.7XX.XXX  
Transparent locking cover (IP 55)  
Counter with front bezel 3 Art-No. 2.1X0.8XX.XXX  
Flexible sealing cover K2 (IP 54) counter with front bezel size 3 Art-No. 2.1X0.6XX.XXX

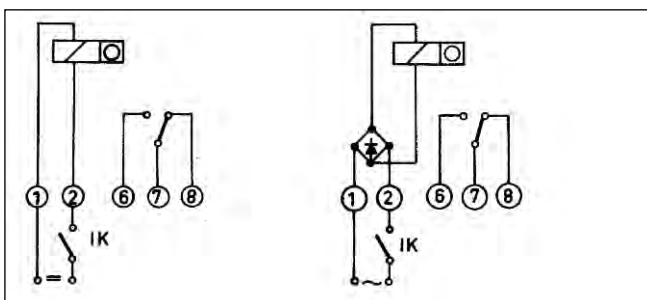
### Accessories:

Socket box 926.1 Art-No. G.008.443  
Sealing cover  
K2 grey: Art-No. G.008.302  
K2 black: Art-No. G.008.303  
Front bezel  
F2M grey Art-No. T.008.105  
Delivery includes flat pin connectors

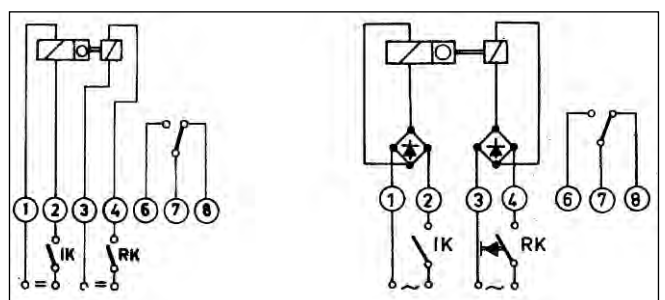
### Count mechanism:

Voltage	Model	Max. impulse-speed	Min. pulse-on-time	Min. pulse-interval	pulse-ratio	On time	Power consumption	Max. res ripple	Ambient temperature °C
V DC	I	25/sec	24 ms	16 ms	3:2	100 %	4 W	48 %	-10 ... +45 °C [14 ... 113 °F] non
V AC	a	18/sec	22.2 ms	33.3 ms	2:3	100 %	4.5 VA	–	-10 ... +45 °C [14 ... 113 °F] condensing

### Connection diagram (manual reset):

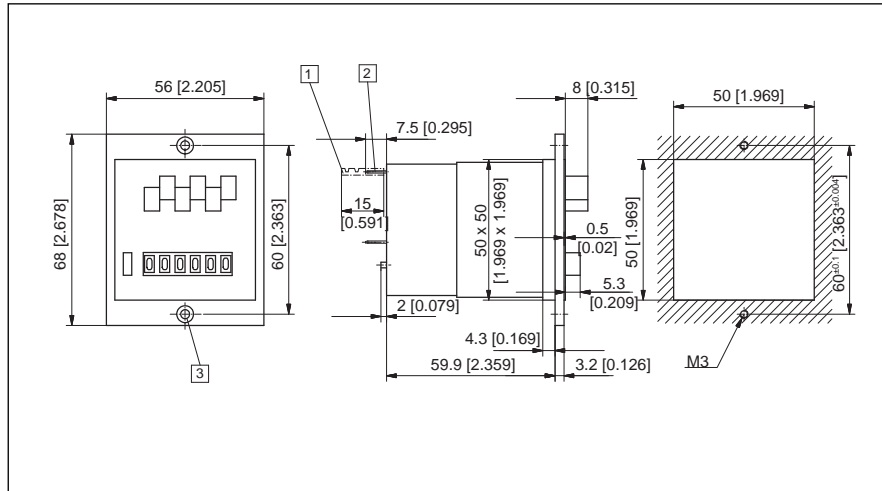


### Connection diagram (electrical reset):



## Preset Counters – MVs 16

### Type MVs 16.11

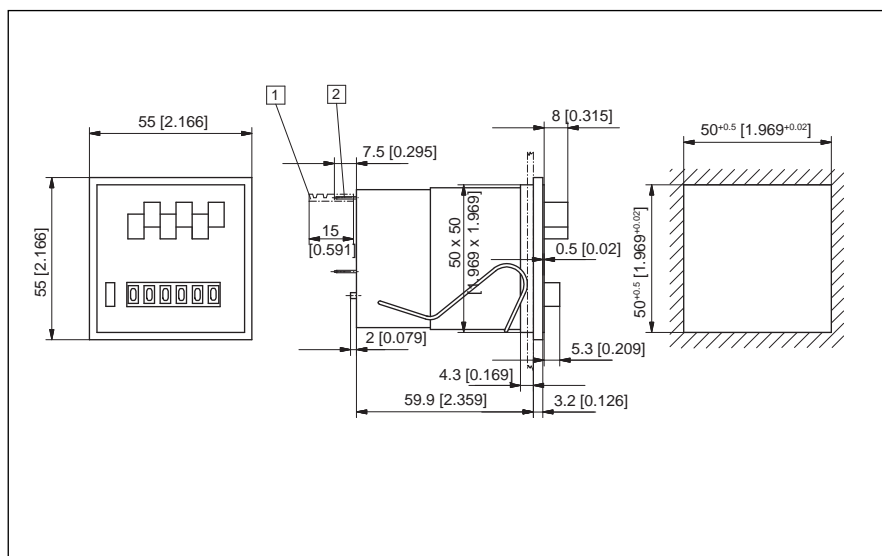


### Manual reset

	MVs 16.11 (6-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.320.110.033	–	–
AC (18 Imp/s)	2.320.110.061	2.320.110.064	2.320.110.066

- 1 Tin plated push-on connector 0.8 x 2.8 [0.032 x 0.11"]
- 2 Tin plated flat pin 0.8 x 2.8 [0.032 x 0.11"]
- 3 Countersunk Af3 DIN 74

### Type MVs 16.21



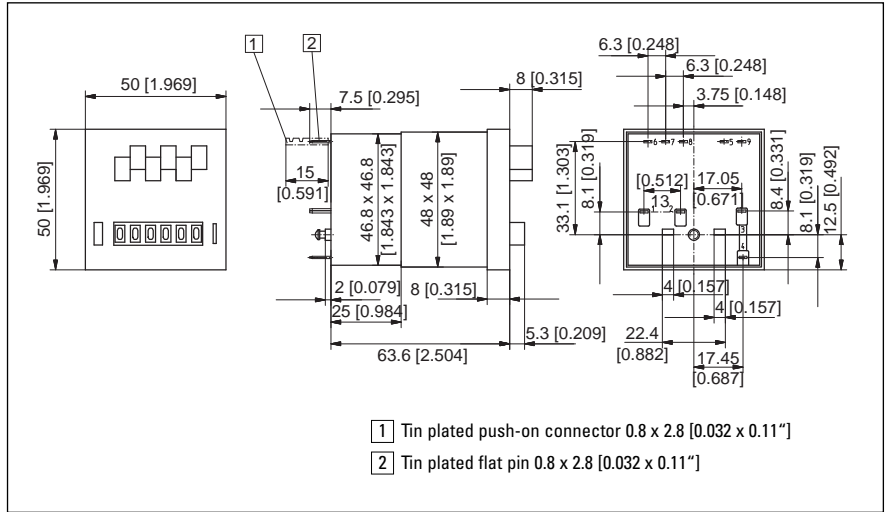
### Manual reset

	MVs 16.21 (6-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.320.210.033	–	–
AC (18 Imp/s)	2.320.210.061	2.320.210.064	2.320.210.066

- 1 Tin plated push-on connector 0.8 x 2.8 [0.032 x 0.11"]
- 2 Tin plated flat pin 0.8 x 2.8 [0.032 x 0.11"]

## Preset Counters – MVs 16

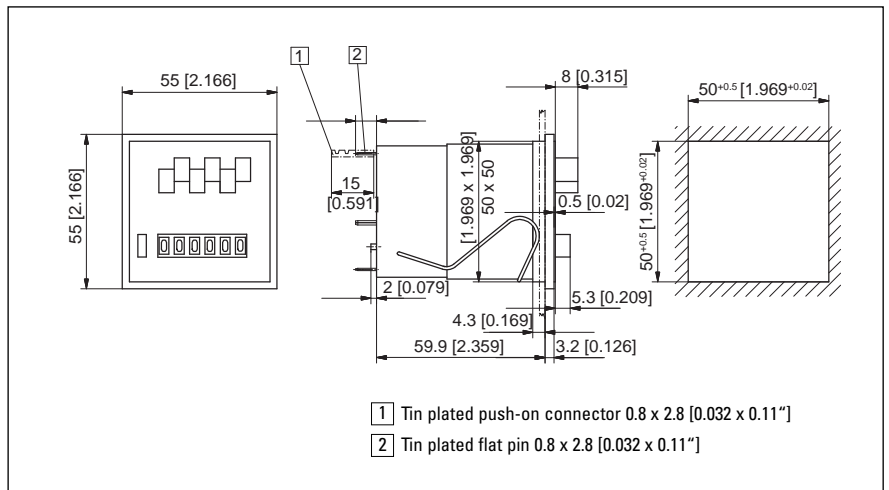
### Type MVs 16.03



### Manual and electrical reset

	MVs 16.03 (6-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.320.030.033	—	—
AC (18 Imp/s)	2.320.030.061	2.320.030.064	2.320.030.066

### Type MVs 16.23



### Manual and electrical reset

	MVs 16.23 (6-digit)		
	24 V Art-No.	115 V Art-No.	230 V Art-No.
DC (25 Imp/s)	2.320.230.033	—	—
AC (18 Imp/s)	2.320.230.061	2.320.230.064	2.320.230.066

Preset Counters

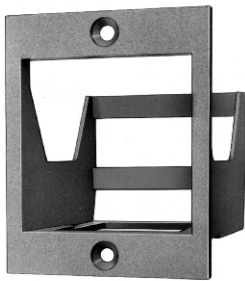
## Preset Counters – MVs 16



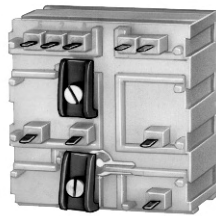
Dv MVs 16.31  
(Knob locking cover)



Dvs 16.31  
(Key locking cover)



Front bezel F2M



Socket box 926.1



Flexible cover K2

For more details, please refer to our  
Accessories chapter