

# Preset counters, electromechanical

Standard counters

Adding, 5 digits (AC+DC)

BVa 15



The electromechanical preset counters BVa 15 (with manual reset) boast a robust construction. They are ideal for use in harsh industrial environments as stand-alone counters or as plug-in variants in combination with additional B, BVa, HB or HVa counters.

Display shows actual count and preset value.



## Characteristics

- 3- or 5-digit adding preset counter with stationary preset value
- Manual reset to zero
- Potential free changeover contact (microswitch) on reaching the preset
- Contact remains switched till a zero reset occurs
- Counters without front bezel fit into bezel F2B and can be combined in RM 50 x 50 mm

## Benefits

- Can be combined with counters of the B, BVa, HB and HVa series
- Count value and preset constantly visible
- Versions with transparent cover, sealing cover, zero reset key-lock

## Applications

Piece counting, automation

## Type series

### Description

(Reset manual)

Without front bezel, plugs into socket box

Front bezel 1, mounting holes

Mounting clip

Front bezel 3, mounting holes

### Further versions, fully assembled (on request)

Counter with lockable reset

Counter with transparent cover

### Order-No.

**BVa 15.01**

**BVa 15.11**

**BVa 15.21**

**BVa 15.31**

### Delivery specification

Counter complete with socket box

### Order information

- Art.-No.

- For special voltages, please give type, voltage and series  
e.g.: BVa 15.31, 12 V DC ...

### BVa 15.21 vs



### Dv BVa 15.31 lockable



### Dvs BVa 15.31 key lockable



## Type / Counting mechanism

Voltage	Type max.	Pulse frequency min.	Pulse on time min.	Pulse interval	Pulse ratio	On-time approx.	Power consump. ripple max.	Permi. residual (non-condensing)	Operating temp.
<b>V DC</b>	1	25 Hz	24 ms	16 ms	3 : 2	100 %	3 W	48 %	-10°C ... +60°C [+14°F ... +140°F]
<b>V AC</b>	a	18 Hz	27.7 ms	27.7 ms	1 : 1	100 %	3 VA	–	-10°C ... +55°C [+14°F ... +131°F]

# Preset counters, electromechanical

Standard counters	Adding, 5 digits (AC+DC)	BVa 15
<b>Accessories</b>		
<b>Front bezel type F2B</b>	For cut-out 54 x 54 [2.13 x 2.13], with screw mounting for plug-in counters BVa 15.0x in socket box type 946.1	beige black
<b>Socket box type 946.1</b>	Für Zähler BVa 15.01, can be used for plug-in connections, in front bezel F2B	black
<b>Sealing cover type K2, IP65</b>	For front bezel 75 x 60 [2.95 x 2.36] with screw mounting, for elektrom. counters and via adapter front bezel T008860 for counters 48 x 48 [1.89 x 1.89]	grey black
<b>Mounting frame</b> with cut-out 50 x 50 [2.36 x 2.36] via separate adapter also for 45 x 45 [1.77 x 1.77]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 48 x 48 [1.89 x 1.89], 53 x 53 [2.09 x 2.09] and 55 x 55 [2.17 x 2.17]	chromated
<b>DIN rail mount SR 3</b>	For snap-on mounting on 35 [1.38] top-hat DIN rail	
<b>Replacement parts</b>		
<b>Transparent cover, IP65</b>	Type 2 Dv, suitable for Dv BVa 15 and Dv HVa 15 Type 2 Dvs, suitable for Dvs BVa 15 and Dvs HVa 15	lockable key lockable
<b>Key for key-locking zero reset</b>		
		<b>G007503</b> <b>G007504</b> <b>G008439</b> <b>G008302</b> <b>G008303</b> <b>G300003</b> <b>G300002</b> <b>G008141</b> <b>G008151</b> <b>G050265</b>

Preset counters

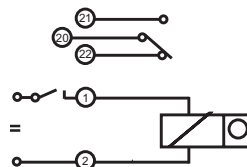
Suitable gaskets as well as further accessories can be found in the accessories section or in the accessories area of our website at: [www.kuebler.com/accessories](http://www.kuebler.com/accessories).

Technical data		
<b>Electrical connection</b>	counter	tinned tabs ø 1.6 mm [0.063"] with push-on connectors socket box tinned plated tabs 0.8 x 2.8 mm [0.032 x 0.11"]
<b>Rated voltages</b>	counting mechanism	12 / 24 / 48 / 115 V DC ±10 % 24 / 48 / 115 / 230 V AC ±10 %
<b>Height of figures</b>	counter preset	4.5 mm [0.18"] 4 mm [0.16"]
<b>Colour of housing</b>	grey black	Art.-No. x.xxx.xx0.xxx Art.-No. x.xxx.xx1.xxx
<b>Colour of figures</b>	counter preset	white on black yellow on black
<b>Counting mechanism shaft</b>		stainless steel
<b>Einbaulage</b>		any
<b>Service life</b>		approx. 100 x 10 <sup>6</sup> pulses
<b>Protection</b>		IP40 (front side)
<b>Weight</b>		approx. 130 g [4.59 oz]
<b>Test voltage</b>		2000 V, effective
<b>Switching contact</b>		1 change over contact (micro switch), release in 2nd half-step on the preset number
<b>Loading (max)</b> (with resistive Load.)	<b>AC</b>	250 V AC 2.0 A
	<b>DC</b>	24 V DC 2.0 A 60 V DC 0.7 A 115 V DC 0.4 A 230 V DC 0.2 A
Suitable spark quenching is required with inductive load, reducing the max. current to 60 %		

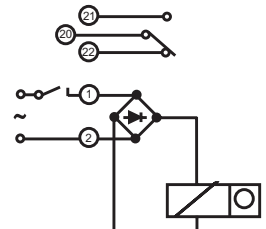
Options		
<b>Key-locking zero reset</b>	Housing grey Housing black	Art.-No.: 2.1X0.XX6.XXX Art.-No.: 2.1X0.XX7.XXX
<b>Lockable transparent cover (IP65)</b>		Dv BVa counter with front bezel 3 Art.-No.: 2.1X0.7XX.XXX
<b>Key lockable transparent cover (IP65)</b>		Dvs BVa counter with front bezel 3 Art.-No.: 2.1X0.8XX.XXX
<b>Flexible sealing cover K2 (IP54)</b>		K2 BVa counter with front bezel 3 Art.-No.: 2.1X0.6XX.XXX
<b>Screw terminal connection</b>		Art.-No.: 2.XXX.XXX.XXX.023
<b>Flat pin connection 2.8 x 0.8 mm</b> (on request)		Art.-No.: 2.XX7.XXX.XXX

## Connection diagrams

DC



AC



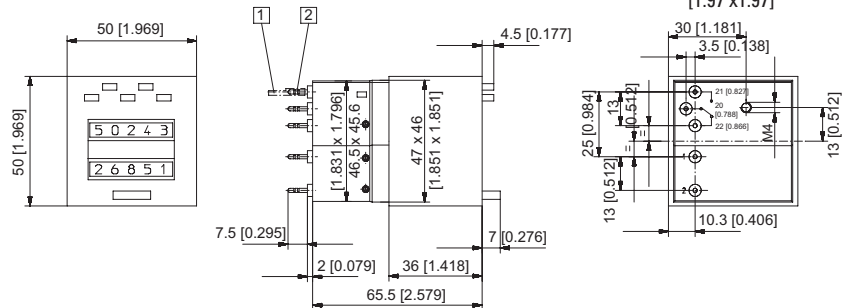
# Preset counters, electromechanical

Standard counters

Adding, 5 digits (AC+DC)

BVa 15

Without front bezel,  
plugs into socket box type 946.1  
Type BVa 15.01

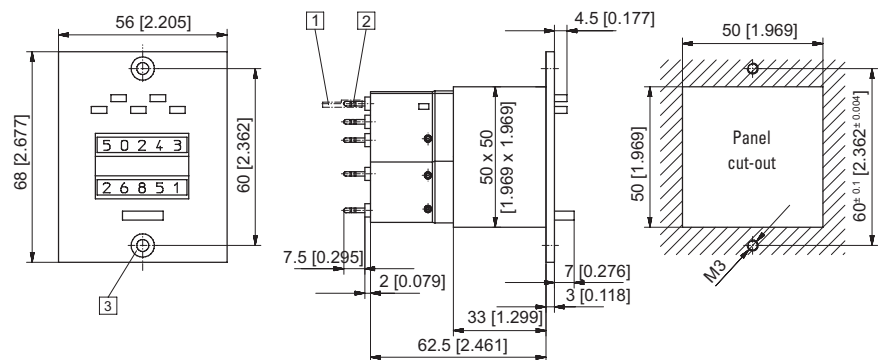


1 Push-on connector  $\varnothing$  1.5 [0.059] tinned    2 Round pin  $\varnothing$  1.6 [0.063] tinned  
Colour of housing grey (standard)

Type	Voltage	Display	Art.-No.		
			24 V	115 V	230 V
<b>BVa 15.01</b>	DC (25 Hz)	5 digits	<b>2.100.010.033</b>	—	—
	AC (18 Hz)		<b>2.100.010.061</b>	<b>2.100.010.064</b>	<b>2.100.010.066</b> <sup>1)</sup>

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

Front bezel 1,  
with mounting holes  
Type BVa 15.11



1 Push-on connector  $\varnothing$  1.5 [0.059] tinned    2 Round pin  $\varnothing$  1.6 [0.063] tinned    3 Countersinking Af3 DIN 74  
Colour of housing grey (standard)

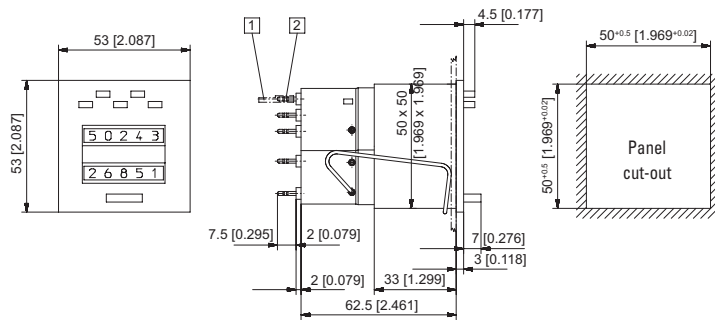
Type	Voltage	Display	Art.-No.		
			24 V	115 V	230 V
<b>BVa 15.11</b>	DC (25 Hz)	5 digits	<b>2.100.110.033</b>	—	—
	AC (18 Hz)		<b>2.100.110.061</b>	<b>2.100.110.064</b>	<b>2.100.110.066</b> <sup>1)</sup>

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

# Preset counters, electromechanical

**Standard counters**    **Adding, 5 digits (AC+DC)**    **BVa 15**

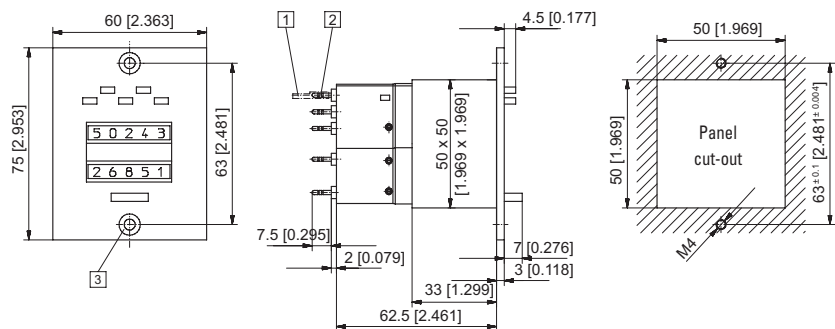
**With mounting clips**  
**Type BVa 15.21**



- 1) Push-on connector  $\varnothing$  1.5 [0.059] tinned    2) Round pin  $\varnothing$  1.6 [0.063] tinned  
Colour of housing grey (standard)

Type	Voltage	Display	Art.-No.		
			24 V	115 V	230 V
<b>BVa 15.21</b>	DC (25 Hz)	5 digits	<b>2.100.210.033</b> <sup>1)</sup>	—	—
	AC (18 Hz)		<b>2.100.210.061</b>	<b>2.100.210.064</b>	<b>2.100.210.066</b> <sup>1)</sup>
Colour of housing black: Art.-No. 2.1X0.211.XXX			Further stock types: Art.-No. 2.100.211.033		

**Front bezel 3, with mounting holes**  
**Type BVa 15.31**



- 1) Push-on connector  $\varnothing$  1.5 [0.059] tinned    2) Round pin  $\varnothing$  1.6 [0.063] tinned    3) Countersinking Af3 DIN 74  
Colour of housing grey (standard)

Type	Voltage	Display	Art.-No.		
			24 V	115 V	230 V
<b>BVa 15.31</b>	DC (25 Hz)	5 digits	<b>2.100.310.033</b>	—	—
	AC (18 Hz)		<b>2.100.310.061</b>	<b>2.100.310.064</b>	<b>2.100.310.066</b>
Colour of housing black: Art.-No. 2.1X0.311.XXX			Further stock types: BVa 15.31.4sw 24 V DC / Art.-No. 2.107.311.013		

# Preset counters, electromechanical

Standard counters

Subtracting, 2 or 3 digits (AC+DC)

MVs 13



The electromechanical preset counters MVs 13 (with manual and manual/electrical reset) boast a robust construction with very small dimensions.

They are ideal for use in harsh industrial environments. The subtracting counters are set to a value via the front keys, the signal occurs when the count value reaches 0.



## Characteristics

- 2- or 3-digit subtracting preset counter
- Manual or manual and electrical reset
- Potential free changeover contact (microswitch) on reaching zero
- Contact remains switched till reset occurs

## Benefits

- Delivery complete with push-on connectors
- Very small dimensions
- Versions with sealing cover on request

## Applications

Piece counting, batch quantities and automation

## Type series

	3 digits manual reset	3 digits manual and electr. reset	2 digits manual reset	2 digits manual and electr. reset
Front bezel with mounting holes	<b>MVs 13.11</b>	<b>MVs 13.13</b>	<b>MVs 13.11/2</b>	<b>MVs 13.13/2</b>
Front bezel with mounting clip	<b>MVs 13.21</b>	<b>MVs 13.23</b>	<b>MVs 13.21/2</b>	<b>MVs 13.23/2</b>

## Accessories

### Sealing cover type KV3, IP65

Dimensions in mm [inch]

For front bezel 39 x 68 [1.54 x 2.68] , with screw mounting

transparent, grey  
transparent, black

Order-No.

**G008310**  
**G008311**

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# Preset counters, electromechanical

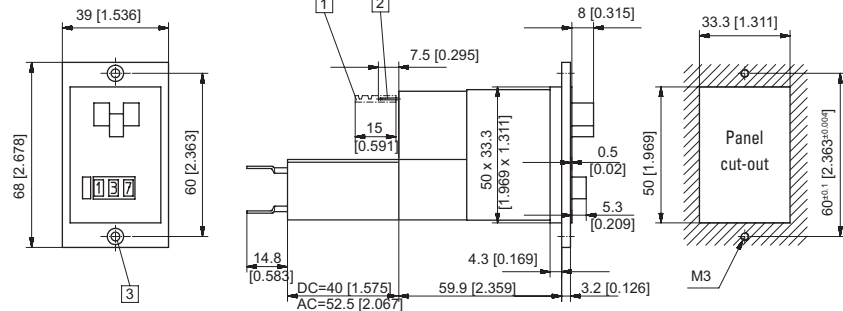
## Standard counters

## Subtracting, 2 or 3 digits (AC+DC)

## MVs 13

Front bezel with mounting holes,  
manual and electrical reset

Type MVs 13.13, MVs 13.13/2

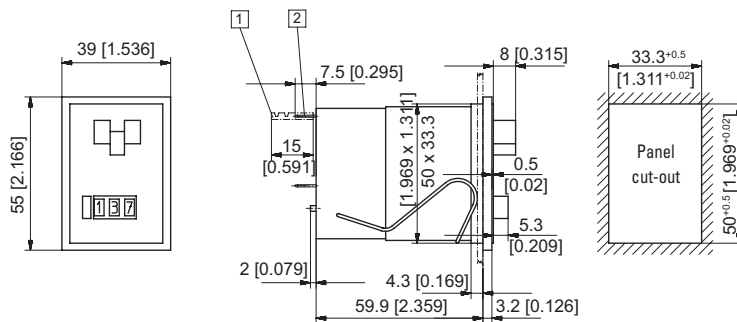


- 1 Push-on connector 0.8 x 2.8 [0.032 x 0.11] tinned    2 Flat pin 0.8 x 2.8 [0.032 x 0.11] tinned  
3 Countersinking Af3 DIN 74    Colour of housing grey (standard)

Art.-No.	Type	MVs 13.13 (display 3 digits)			MVs 13.13/2 (display 2 digits)		
		24 V	115 V	230 V	24 V	115 V	230 V
Colour of housing grey (standard)	DC (25 Hz)	2.300.130.033	–	–	2.310.130.033	–	–
	AC (18 Hz)	2.300.130.061	2.300.130.064	2.300.130.066	2.310.130.061	2.310.130.064	2.310.130.066

Front bezel with clip mounting,  
manual reset

Type MVs 13.21, MVs 13.21/2



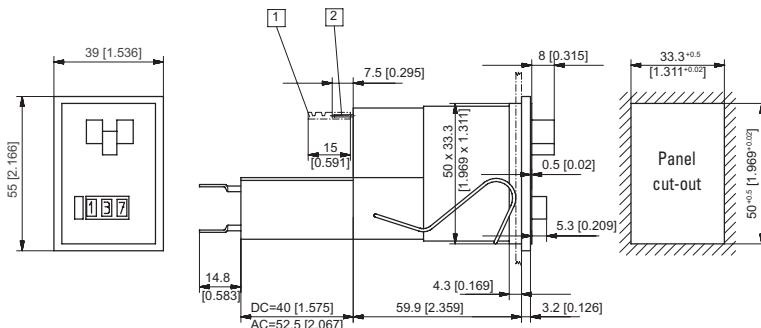
- 1 Push-on connector 0.8 x 2.8 [0.032 x 0.11] tinned    2 Flat pin 0.8 x 2.8 [0.032 x 0.11] tinned  
Colour of housing grey (standard)

Voltage	Type / Art.-No.	MVs 13.21 (display 3 digits)			MVs 13.21/2 (display 2 digits)		
		24 V	115 V	230 V	24 V	115 V	230 V
DC (25 Hz)		2.300.210.033	–	–	2.310.210.033	–	–
AC (18 Hz)		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

Front bezel with clip mounting,  
manual and electrical reset

Type MVs 13.23, MVs 13.23/2



- 1 Push-on connector 0.8 x 2.8 [0.032 x 0.11] tinned    2 Flat pin 0.8 x 2.8 [0.032 x 0.11] tinned  
Colour of housing grey (standard)

Voltage	Type / Art.-No.	MVs 13.23 (display 3 digits)			MVs 13.23/2 (display 2 digits)		
		24 V	115 V	230 V	24 V	115 V	230 V
DC (25 Hz)		2.300.230.033	–	–	2.310.230.033	–	–
AC (18 Hz)		2.300.230.061	2.300.230.064	2.300.230.066	2.310.230.061	2.310.230.064	2.310.230.066

Colour of housing black: Art.-No. 2.3X0.231.XXX

Dimensions in mm [inch]

# Preset counters, electromechanical

<b>Standard counters</b>	<b>Subtracting, 6 digits (AC+DC)</b>	<b>MVs 16</b>
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The electromechanical preset counters MVs 16 (with manual and electrical reset) boast a robust construction. They are ideal for use in harsh industrial environments. The subtracting counters are set to a value via the keys on the front, the signal occurs when the count value reaches 0.

Preset counters

<p><b>Characteristics</b></p> <ul style="list-style-type: none"> <li>• 6-digit subtracting preset counter</li> <li>• Manual and electrical reset</li> <li>• Potential free changeover (microswitch) on reaching zero</li> <li>• Contact remains switched till reset occurs</li> </ul>	<p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Delivery complete with push-on connectors</li> <li>• Versions with transparent cover or sealing cover on request</li> </ul> <p><b>Applications</b></p> <p>Piece counting, batch quantities and automation</p>
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Type series	
Description	Order-No.
Front bezel 2 with mounting clip	<b>MVs 16.23</b>

Accessories	Dimensions in mm [inch]	Order-No.
<b>Socket box, type 926.1</b>	For counters MVs 16 for plug-in connections	transparent <b>G008433</b>
<b>Mounting frame</b> with cut-out 50 x 50 [2.36 x 2.36] via separate adapter also for 45 x 45 [1.77 x 1.77]	For snap-on mounting on 35 [1.38] top-hat DIN rail, for counters 48 x 48 [1.89 x 1.89], 53 x 53 [2.09 x 2.09] and 55 x 55 [2.17 x 2.17]	chromated <b>G300003</b>

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Type / Counting mechanism									
Voltage	Type max.	Pulse frequency min.	Pulse on time min.	Pulse interval	Pulse ratio	On-time approx.	Power consump. ripple max.	Permi. residual (non-condensing)	Operating temp.
<b>V DC</b>	1	25 Hz	24 ms	16 ms	3 : 2	100 %	4 W	48 %	-10°C ... +45°C [+14°F ... +113°F]
<b>V AC</b>	a	18 Hz	22.2 ms	33.3 ms	2 : 3	100 %	4.5 VA	–	-10°C ... +45°C [+14°F ... +113°F]



# Preset counters, electromechanical

## Standard counters Subtracting, 6 digits (AC+DC) MVs 16

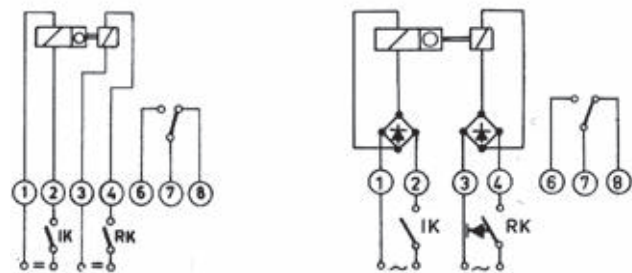
Technical data	
<b>Electrical connection</b>	tinned flat pins 0.8 x 2.8 mm [0.032 x 0.11"] (with push-on connectors) socket box 0.3 x 2.8 mm [0.012 x 0.11"]
<b>Rated voltages</b>	
counting mechanism	12 / 24 / 48 / 115 V DC ±10 % 24 / 48 / 115 / 230 V AC ±10 %
reset magnet	24 / 48 / 115 V DC ±10 % 24 / 48 / 115 / 230 V AC ±10 %
<b>High of figures</b>	4 mm
<b>Colour of housing</b>	similar to RAL 7001
<b>Colour of figures</b>	white on black
<b>Counting mechanism shaft</b>	stainless steel
<b>Mounting position</b>	any
<b>Service life</b>	approx. 100 x 10 <sup>6</sup> pulses
<b>Protection</b>	IP40 (front side)
<b>Weight</b>	approx. 170 g [6.00 oz], with electrical reset approx. 210 g [7.41 oz]
<b>Test voltage</b>	2000 V AC, effective
<b>Switching contact</b>	1 change over contact (micro switch), contact making in 2nd half step at zero
<b>Load (max.)</b>	
(at resistive load)	<b>AC</b> 250 V AC 2.0 A <b>DC</b> 24 V DC 2.0 A 60 V DC 0.7 A 115 V DC 0.4 A 230 V DC 0.2 A

At inductive load: suitable spark quenching is required on inductive load, reducing the max. current to approx. 60 %

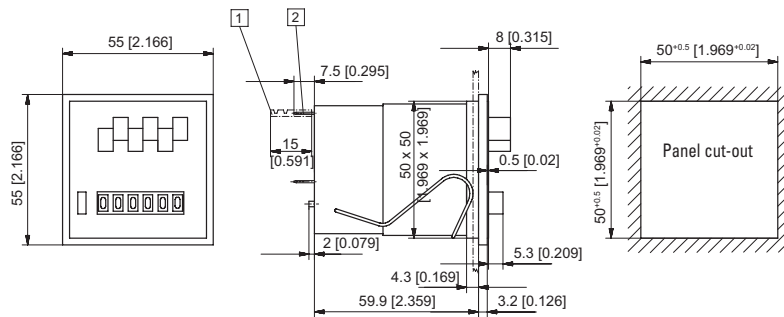
Options	
<b>Electrical reset</b>	
On time	20 % max. 1 minute
Minimum pulse time	0.25 sec.
Power consumption	10 W at DC, 14 VA at AC

### Connection diagrams

#### Manual and electrical reset



### Front bezel 2 with mounting clips, manual and electrical reset Type MVs 16.23



1 Push-on connector 0.8 x 2.8 tinned [0.032 x 0.11] 2 Flat pin 0.8 x 2.8 [0.032 x 0.11] tinned  
Colour of housing grey (standard)

Type	Voltage	Display	Art.-No.		
			24 V	115 V	230 V
MVs 16.23	DC (25 Hz)	6-digits	2.320.230.033	—	—
	AC (18 Hz)		2.320.230.061	2.320.230.064	2.320.230.066

## Preset counters, electromechanical