

## Vario-Series • Accessories

### Low Voltage Current Transformers, Class 1 and 0.5

#### Current Transformers

#### Wound- Primary Current Transformers

#### Description

Current transformers for direct mounting to bus bars or insulated round conductor and wound-primary current transformers with fixed primary coil.

Application: indirect measurement of sinusoidal alternating current.



Typ ASK 31.3

Type	Current Transformers				Wound-Primary Current Transformers		
	ASK 31.3	ASK 412.4	ASK 63.4	ASK 105.6	WSK 30	WSK 40	WSK 70.6 N
For Bars up to	30 x 10 mm 25.4 x 13 mm 2 x 20 x 10 mm	40 x 12 mm 30 x 15 mm	60 x 30 mm 50 x 40 mm	100 x 55 mm	—	—	—
For Round Conductors to	∅ 26 mm	∅ 30.5 mm	∅ 44 mm	∅ 55 mm	—	—	—
Rated Primary Current	50 to 750 A (Cl. 0.5 as of 100 A)	50 to 1000 A (Cl. 0.5 as of 100 A)	750 to 2000 A	1500 to 4000 A	1 to 20 A	1 to 40 A	30 to 150 A
Class	1 or 0.5	1 or 0.5	1 or 0.5	1 or 0.5	1 or 0.5	1 or 0.5	1 or 0.5
Housing Material	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate	polycarbonate
Transformer Width	60 mm	70 mm	95 mm	129 mm	60 mm	70 mm	70 mm <sup>1)</sup>
Max. Weight	0.28	0.45	0.41	1.2	0.25	0.4	0.5

#### Technical Data, Characteristics Values

Polycarbonate housing per	UL 94 V-0
Angle bracket and rail Screw Clip Screws with insulated protective cover as standard mount (rail Screw Clip Screws only with current transformer)	
Tightening torque for rail Screw Clip Screws	2 ... 3 Nm
Maximum device voltage $U_m$ (RMS value) = max. allowable operating voltage	0.72 kV
Rated short-time alternating withstand voltage (RMS value) = test voltage	3 kV
Ambient temperature (operating temperature range)	- 5 ... 40 °C (no condensation)
Design applies for	40 °C ambient temperature and 70 °C bus bar temperature
Rated thermal continuous current	1.0 x $I_N$
Rated frequency	50 – 60 Hz
Rated thermal short-time current	60 x $I_N$
Insulation class	E
Overcurrent limiting factor (FS)	FS 5 to 1500 A rated primary current FS 10 from 1600 A rated primary current

#### Regulations and Standards

IEC 185 /DIN VDE 0414 part 1

BGV A2

VDE 0106 part 100/DIN 57106 part 100 (safe from finger-touch)

## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type ASK 31.3

Current Transformer

Primary Conductor 30 x 10 mm  
25.4 x 13 mm  
2 x 20 x 10 mm

Round Conductor  $\varnothing$  26 mm

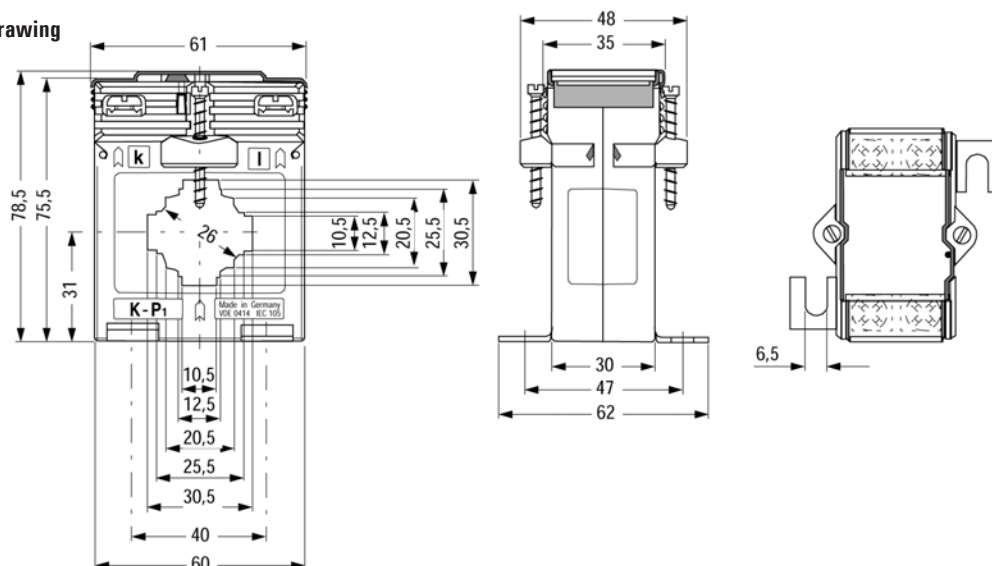
Transformer Width 60 mm

Rated Primary Current		Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec.1 A
		Order No.	Order No.	Order No.	Order No.
<b>A</b>	<b>VA</b>	<b>1715V</b> + ↓	<b>1715V</b> + ↓	<b>1715V</b> + ↓	<b>1715V</b> + ↓
50	1.0	0100	1100	—	—
60	1.0	0110	1110	—	—
75	1.5	0120	1120	—	—
80	2.5	0130	1130	—	—
100	2.5	0140	1140	2140	3140
150	2.5	0150	1150	2150	3150
200	5	0160	1160	2160	3160
250	5	—	—	2170	3170
250	10	0170	1170	—	—
300	5	—	—	2180	3180
300	10	0180	1180	—	—
400	5	—	—	2190	3190
400	10	0190	1190	—	—
500	10	0200	1200	2200	3200
600	10	0210	1210	2210	3210
750	10	0220	1220	2220	3220

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Adaptor for 35 mm mounting rail to DIN EN 50022	1722V9010
Protective Cover	1722V9110

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type ASK 412.4

Current Transformer

Primary Conductor 40 x 12 mm  
30 x 15 mm

Round Conductor  $\varnothing$  30.5 mm

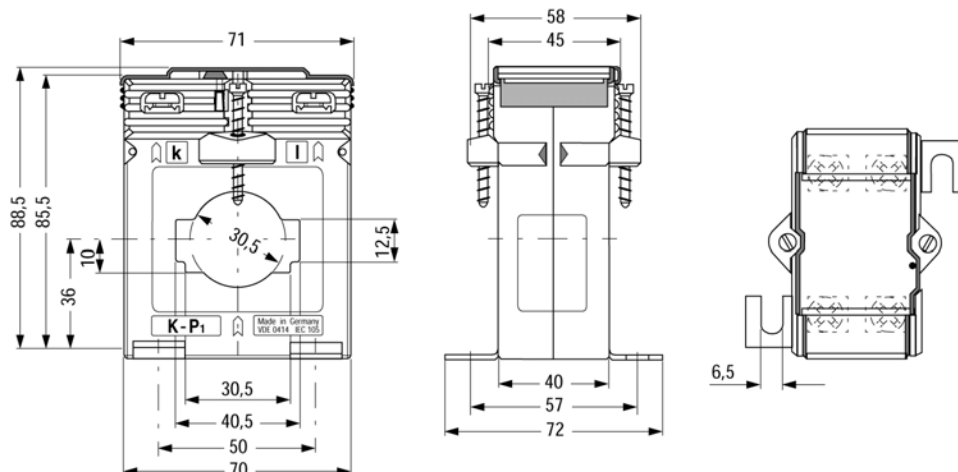
Transformer Width 70 mm

Rated Primary Current  <b>A</b>	<b>VA</b>	Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec.1 A
		Order No. <b>1716V</b> + ↓	Order No. <b>1716V</b> + ↓	Order No. <b>1716V</b> + ↓	Order No. <b>1716V</b> + ↓
50	1.5	<b>0100</b>	<b>1100</b>	—	—
60	1.5	<b>0110</b>	<b>1110</b>	—	—
75	2.5	<b>0120</b>	<b>1120</b>	—	—
80	2.5	<b>0130</b>	<b>1130</b>	—	—
100	1.5	—	—	<b>2140</b>	<b>3140</b>
100	3.75	<b>0140</b>	<b>1140</b>	—	—
150	2.5	—	—	<b>2150</b>	<b>3150</b>
150	5	<b>0150</b>	<b>1150</b>	—	—
200	2.5	—	—	<b>2160</b>	<b>3160</b>
200	10	<b>0160</b>	<b>1160</b>	—	—
250	5	—	—	<b>2170</b>	<b>3170</b>
250	10	<b>0170</b>	<b>1170</b>	—	—
300	5	—	—	<b>2180</b>	<b>3180</b>
300	10	<b>0180</b>	<b>1180</b>	—	—
400	10	<b>0190</b>	<b>1190</b>	<b>2190</b>	<b>3190</b>
500	10	<b>0200</b>	<b>1200</b>	<b>2200</b>	<b>3200</b>
600	10	<b>0210</b>	<b>1210</b>	<b>2210</b>	<b>3210</b>
750	10	<b>0220</b>	<b>1220</b>	<b>2220</b>	<b>3220</b>
800	10	<b>0230</b>	<b>1230</b>	<b>2230</b>	<b>3230</b>
1000	10	<b>0240</b>	<b>1240</b>	<b>2240</b>	<b>3240</b>

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories	Order No.
Adaptor for 35 mm mounting rail to DIN EN 50022	<b>1722V9020</b>
Protective Cover	<b>1722V9120</b>

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type ASK 63.4

Current Transformer

Primary Conductor 60 x 30 mm  
50 x 40 mm

Round Conductor  $\varnothing$  44 mm

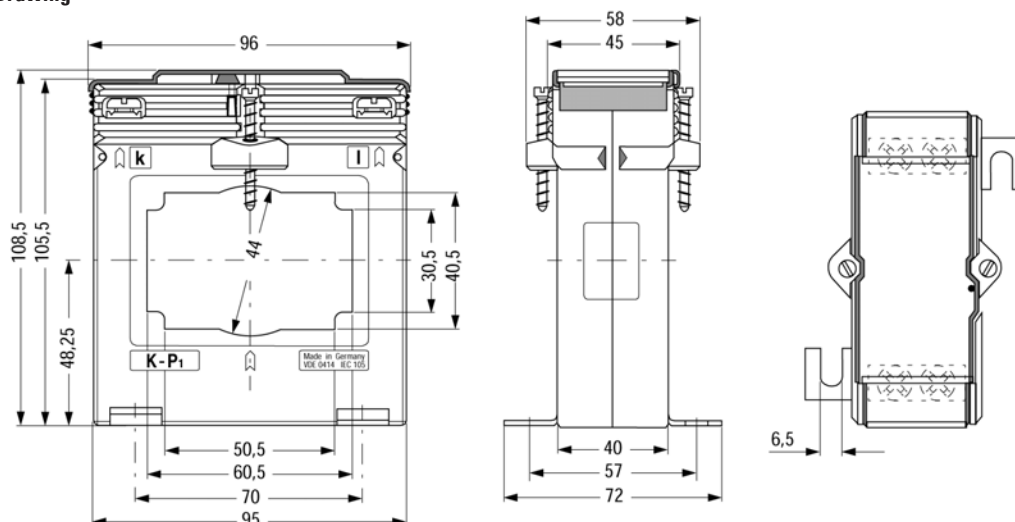
Transformer Width 95 mm

Rated Primary Current <b>A</b>	<b>VA</b>	Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec. 1 A
		Order No. <b>1717V</b> + ↓	Order No. <b>1717V</b> + ↓	Order No. <b>1717V</b> + ↓	Order No. <b>1717V</b> + ↓
750	10	<b>0220</b>	<b>1220</b>	<b>2220</b>	<b>3220</b>
800	10	<b>0230</b>	<b>1230</b>	<b>2230</b>	<b>3230</b>
1000	10	<b>0240</b>	<b>1240</b>	<b>2240</b>	<b>3240</b>
1200	10	<b>0250</b>	<b>1250</b>	<b>2250</b>	<b>3250</b>
1500	10	<b>0260</b>	<b>1260</b>	<b>2260</b>	<b>3260</b>
1800	10	<b>0270</b>	<b>1270</b>	<b>2270</b>	<b>3270</b>
2000	10	<b>0280</b>	<b>1280</b>	<b>2280</b>	<b>3280</b>

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Protective Cover	<b>1722V9130</b>

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type ASK 105.6

Current Transformer

Primary Conductor 100 x 55 mm

Round Conductor  $\varnothing$  55 mm

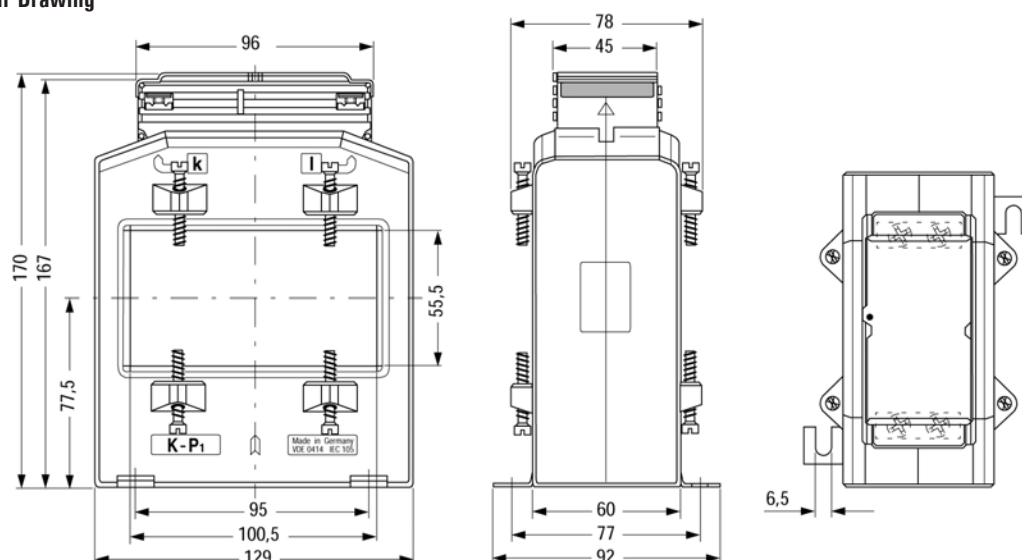
Transformer Width 129 mm

Rated Primary Current <b>A</b>	<b>VA</b>	Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec. 1 A
		Order No. <b>1718V</b> + ↓	Order No.. <b>1718V</b> + ↓	Order No. <b>1718V</b> + ↓	Order No. <b>1718V</b> + ↓
1500	10	<b>0260</b>	<b>1260</b>	<b>2260</b>	<b>3260</b>
1800	10	<b>0270</b>	<b>1270</b>	<b>2270</b>	<b>3270</b>
2000	10	<b>0280</b>	<b>1280</b>	<b>2280</b>	<b>3280</b>
2500	10	<b>0290</b>	<b>1290</b>	<b>2290</b>	<b>3290</b>
3000	10	<b>0300</b>	<b>1300</b>	<b>2300</b>	<b>3300</b>
4000	10	<b>0310</b>	<b>1310</b>	<b>2310</b>	<b>3310</b>

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Protective Cover	<b>1722V9130</b>

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type WSK 30

### Wound-Primary Current Transformer

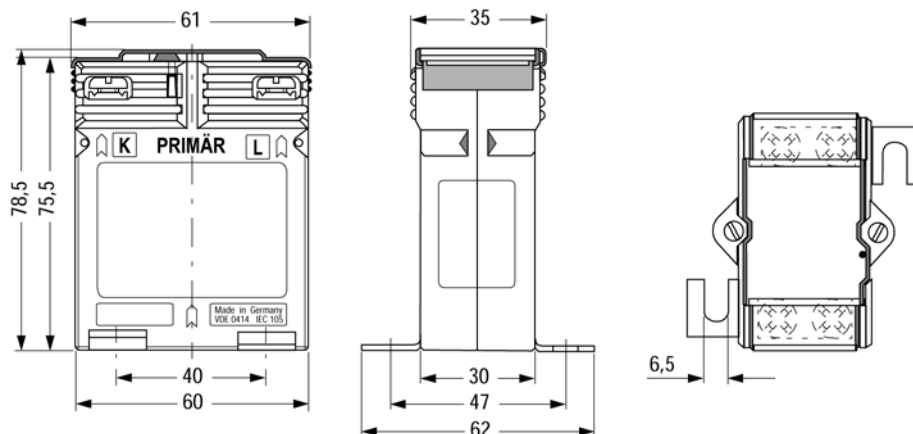
Transformer Width 60 mm

Rated Primary Current  A	VA	Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec.1 A
		Order No 1719V + ↓	Order No 1719V + ↓	Order No 1719V + ↓	Order No 1719V + ↓
1	2.5	—	—	<b>2010</b>	<b>3010</b>
1	5	<b>0010</b>	<b>1010</b>	—	—
2.5	2.5	—	—	<b>2020</b>	<b>3020</b>
2.5	5	<b>0020</b>	<b>1020</b>	—	—
5	2.5	—	—	<b>2030</b>	<b>3030</b>
5	5	<b>0030</b>	<b>1030</b>	—	—
10	2.5	—	—	<b>2040</b>	<b>3040</b>
10	5	<b>0040</b>	<b>1040</b>	—	—
15	2.5	—	—	<b>2050</b>	<b>3050</b>
15	5	<b>0050</b>	<b>1050</b>	—	—
20	2.5	—	—	<b>2060</b>	<b>3060</b>
20	5	<b>0060</b>	<b>1060</b>	—	—

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Adaptor for 35 mm mounting rail to DIN EN 50022	<b>1722V9010</b>
Protective Cover	<b>1722V9110</b>

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type WSK 40

### Wound-Primary Current Transformer

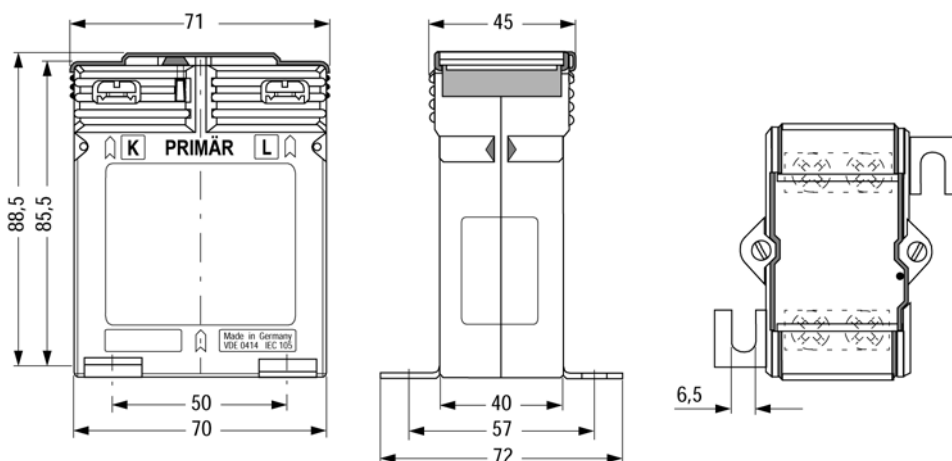
Transformer Width 70 mm

Rated Primary Current		Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec.1 A
		Order No.	Order No.	Order No.	Order No.
<b>A</b>	<b>VA</b>	<b>1720V</b> + ↓	<b>1720V</b> + ↓	<b>1720V</b> + ↓	<b>1720V</b> + ↓
1	10	0010	1010	2010	3010
2.5	10	0020	1020	2020	3020
5	10	0030	1030	2030	3030
10	10	0040	1040	2040	3040
15	10	0050	1050	2050	3050
20	10	0060	1060	2060	3060
25	10	0070	1070	2070	3070
30	5	—	—	2080	3080
30	10	0080	1080	—	—
40	5	—	—	2090	3090
40	10	0090	1090	—	—

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Adaptor for 35 mm mounting rail to DIN EN 50022	1722V9020
Protective Cover	1722V9120

### Dimensional Drawing



## Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

### Type WSK 70.6 N

### Wound-Primary Current Transformer

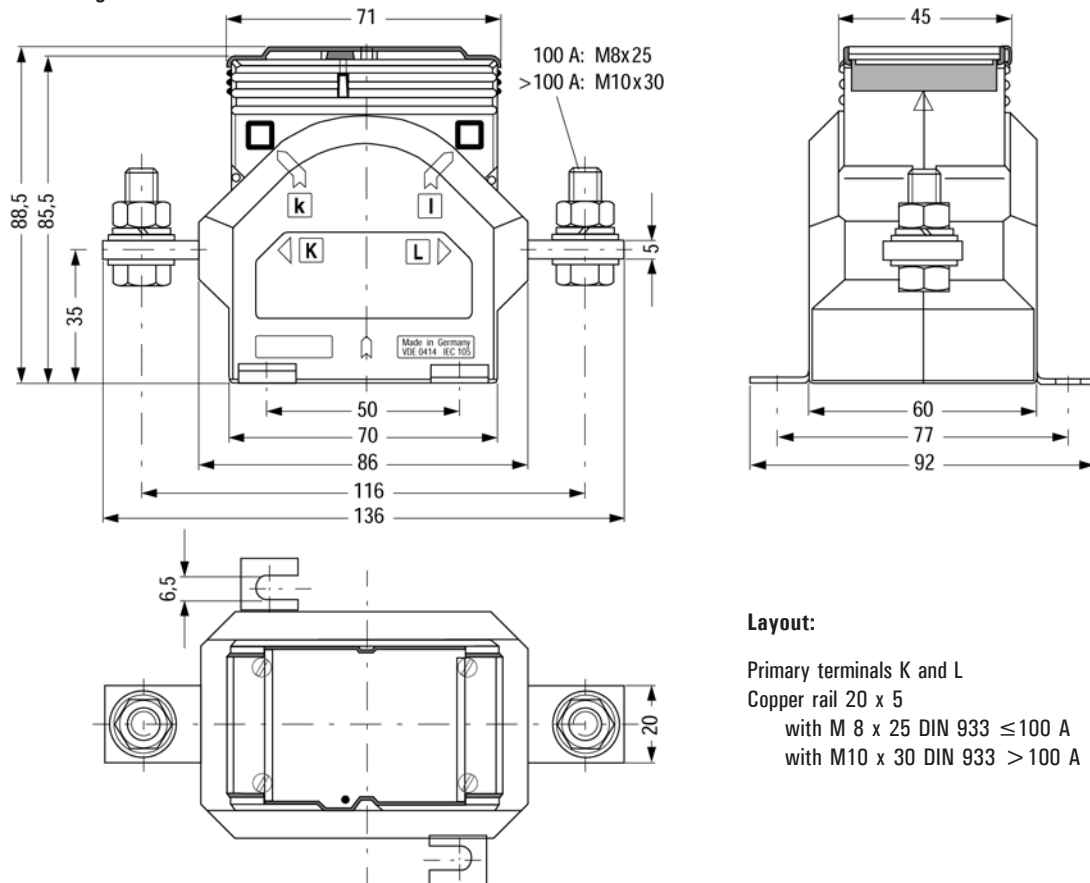
Transformer Width 70 mm

Rated Primary Current  A	VA	Class 1		Class 0.5	
		Sec. 5 A	Sec. 1 A	Sec. 5 A	Sec.1 A
		Order No. 1721V + ↓	Order No. 1721V + ↓	Order No. 1721V + ↓	Order No. 1721V + ↓
30	10	0080	1080	2080	3080
40	10	0090	1090	2090	3090
50	10	0100	1100	2100	3100
60	10	0110	1110	2110	3110
75	10	0120	1120	2120	3120
80	10	0130	1130	2130	3130
100	10	0140	1140	2140	3140
150	10	0150	1150	2150	3150

Rated frequency 400 Hz, extra charge = specify in clear text

Accessories:	Order No.
Protective Cover	1722V9120

#### Dimensional Drawing





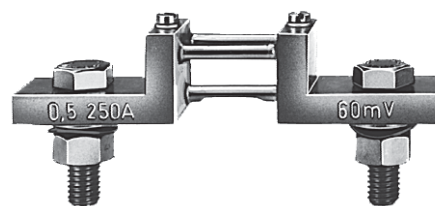
## Vario-Series • Accessories

### Shunt Resistors, Class 0.5

#### Technical Data

Type	60 mV	150 mV
Accuracy Class per DIN EN 60051	0.5	0.5
Dimensions per	DIN 43703 <sup>1)</sup>	
Balancing	An instrument power consumption value of 6 mA is taken into consideration for balancing when shunt resistors are used	

1) Model with insulation base can be screw or snap mounted (for top-hat rail per DIN EN 50022-35), overall length: 140 mm. Overall height for model with cover is increased to 40.5 mm.



Shunt Resistor, 250 A / 60 mV

#### Ordering Example

Techn. data	Order No.
Shunt Resistor, Nominal Current $I_N$ 250 A. Voltage Drop 60 mV	<b>1700V3340</b>

Nominal Current	60 mV		Nominal Current	150 mV	
$I_N$	Weigth approx. (kg)	Order No.	$I_N$	Weigth approx. (kg)	Order No.
1 A	0.10	<b>1700V3010</b> ◇	1 A	0.10	<b>1700V4010</b> ◇
1.5 A	0.10	<b>1700V3030</b> ◇	1.5 A	0.10	<b>1700V4030</b> ◇
2.5 A	0.10	<b>1700V3050</b> ◇	2.5 A	0.10	<b>1700V4050</b> ◇
4 A	0.10	<b>1700V3070</b> ◇	4 A	0.10	<b>1700V4070</b> ◇
6 A	0.10	<b>1700V3090</b> ◇	6 A	0.10	<b>1700V4090</b> ◇
10 A	0.10	<b>1700V3110</b> ◇	10 A	0.10	<b>1700V4110</b> ◇
15 A	0.10	<b>1700V3130</b> ◇	15 A	0.10	<b>1700V4130</b> ◇
25 A	0.10	<b>1700V3170</b> ◇	25 A	0.10	<b>1700V4170</b> ◇
40 A	0.10	<b>1700V3200</b>	40 A	0.14	<b>1700V4200</b>
60 A	0.10	<b>1700V3230</b>	60 A	0.15	<b>1700V4230</b>
100 A	0.10	<b>1700V3280</b>	100 A	0.17	<b>1700V4280</b>
150 A	0.15	<b>1700V3300</b>	150 A	0.20	<b>1700V4300</b>
250 A	0.50	<b>1700V3340</b>	250 A	0.70	<b>1700V4340</b>
400 A	0.70	<b>1700V3370</b>	400 A	1.10	<b>1700V4370</b>
500 A	1.00	<b>1700V3390</b>	500 A	1.10	<b>1700V4390</b>
600 A	1.20	<b>1700V3400</b>	600 A	1.70	<b>1700V4400</b>
1 kA	1.45	<b>1700V3460</b>	1 kA	2.50	<b>1700V4460</b>
1.5 kA	1.95	<b>1700V3480</b>	1.5 kA	3.70	<b>1700V4480</b>
2.5 kA	2.90	<b>1700V3520</b>	2.5 kA	5.20	<b>1700V4520</b>
4 kA	4.20	<b>1700V3550</b>	4 kA	8.30	<b>1700V4550</b>
5 kA	4.30	<b>1700V3570</b>	5 kA	10.60	<b>1700V4570</b>
6 kA	10.50	<b>1700V3580</b>	6 kA	15.00	<b>1700V4580</b>
10 kA	21.00	<b>1700V3630</b>	10 kA	28.00	<b>1700V4630</b>
15 kA	32.00	<b>1700V3650</b>			

Nominal Current $I_N$	60 mV
	Order No.
40 A	<b>1700V7200</b> ◇
60 A	<b>1700V7230</b> ◇
100 A	<b>1700V7280</b> ◇
150 A	<b>1700V7300</b> ◇

◇ On insulating base (screws or snaps onto top-hat rail per DIN EN 50 022-35)

◇ Cover for shunt resistor on insulating base: **Order No. 1700V8210**

#### One Pair Cables with Cable Lugs <sup>2)</sup>

Length	Cross-Section	Cable per VDE 0281 part 401	Order No.
1.3 m	0.75 mm <sup>2</sup>	H03V-H	<b>1700V8010</b>
2.6 m	1.5 mm <sup>2</sup>	H07V-H	<b>1700V8020</b>
4.3 m	2.5 mm <sup>2</sup>	H07V-H	<b>1700V8030</b>
7.0 m	4.0 mm <sup>2</sup>	H07V-H	<b>1700V8040</b>
10.5 m	6.0 mm <sup>2</sup>	H07V-H	<b>1700V8050</b>

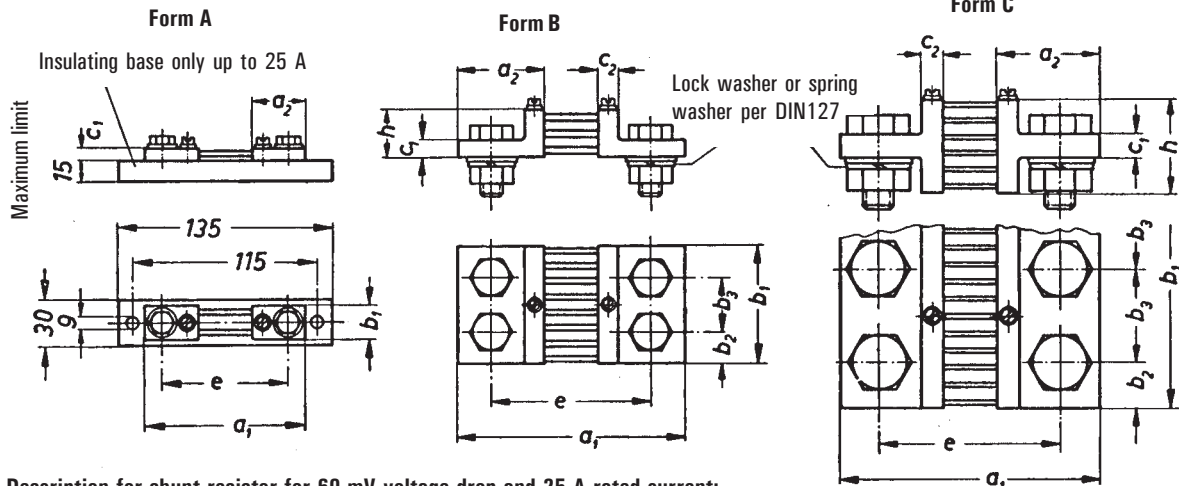
2) 0.06 Ω cable resistance per cable pair

Vario-Series • Accessories

Shunt Resistors, Class 0.5

Drawings to Scale

Dimensions in mm



Description for shunt resistor for 60 mV voltage drop and 25 A rated current:

Shunt Resistor 60/25 DIN EN 60051

Voltage Drop mV	Dim.	For rated current in A													
		1	1.5	2.5	4	40	60	250	400	600	1000	1500	2500	4000	6000
60		Form A				Form B				Form C					
	a <sub>1</sub>	90	100	145				165				165	175	185	
	a <sub>2</sub>	28	33	55				65				65	70	75	
	b <sub>1</sub>	20	20	30	40	60	90	120	120	154	206	310			
	b <sub>2</sub>	—	—	15	20	30	21	30	30	—	25	—			
	b <sub>3</sub>	—	—	—	—	—	48	60	60	—	52	—			
	c <sub>1</sub>	8	8	10				15				25	30		
	c <sub>2</sub>	—	—	10				10				15	20		
	e	78	80	105				115				115	125	135	
	h	—	—	30				60				130	170		
150		Form A				Form B				Form C					
	a <sub>1</sub>	90	225	270				290				300		310	
	a <sub>2</sub>	28	33	55				65				70		75	
	b <sub>1</sub>	20	25	30	40	70	90	120	154	206	310				
	b <sub>2</sub>	—	—	15	20	35	21	30	—	25	—				
	b <sub>3</sub>	—	—	—	—	—	48	60	—	52	—				
	c <sub>1</sub>	8	8	10				15				25	30		
	c <sub>2</sub>	—	—	10				10				15	20		
	e	78	205	230				240		240		250	260		
	h	—	—	50				60		60		130	170		
Number of supply terminals	2x1				2x2				2x3	2x4	2x6				
Hexagonal bolt DIN 933-5	M 5 <sup>5)</sup> x12	M 8 <sup>5)</sup> x15	M 12x40	M 16x45	M 20x50	M 16 <sup>2)</sup> x45	M 20 <sup>3)</sup> x50	M 20 <sup>4)</sup> x60	M 20x75	M 20x85					
Washer DIN 125 - mild steel	5,3	8,4	13,5	17	21	17	21								
Nut DIN 934-5	—	—	M 12	M 16	M 20	M 16	M 20								
Voltage terminals	2 socket-head capscrews AM 5 x 8 DIN 84-4 and washer 5.3 DIN 433, mild steel														

Unspecified details are to be selected appropriate.

Accuracy class 0.5 per DIN 57 410, rules for measuring instruments.

Shunts exchangeable, if power consumption of measuring instrument connected does not exceed 500 μW.

<sup>1)</sup> To maintain a constant contact pressure, place a lock washer or a spring washer between the washer and the nut

<sup>2)</sup> For 150 mV: bolt M 16 x 60 <sup>3)</sup> For 150 mV: bolt M 20 x 60

<sup>4)</sup> For 150 mV: bolt M 20 x 75

<sup>5)</sup> When bolts M 5 and M 8 are available, use preferably M 5 per DIN 267

## Vario-Series • Accessories

### Voltage Divider for Direct Voltage

Voltage divider for direct voltage,  
Can be combined with any moving-coil type

#### Technical Data

Design	Film resistors with porcelain insulators on pressed paper sheet
Mounting	on isolater necessary
Weight approx. (kg)	0.2
Protection	IP 00
Resistor	ca. 2 k $\Omega$ /V (voltage divider in comb. with moving-coil meter)
Terminals	can be connected to any moving-coil voltmeter

#### Description

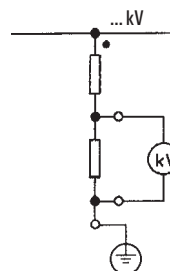
Voltage divider for direct voltage meters, made of film resistors. For Usage in single-ended high voltage facilities up to 10 kV.

Design of the test circuit: At full scale deflection of the meter, 250  $\mu$ A each pass through the protective resistor an the meter. 25 V are impressed on the indicator.

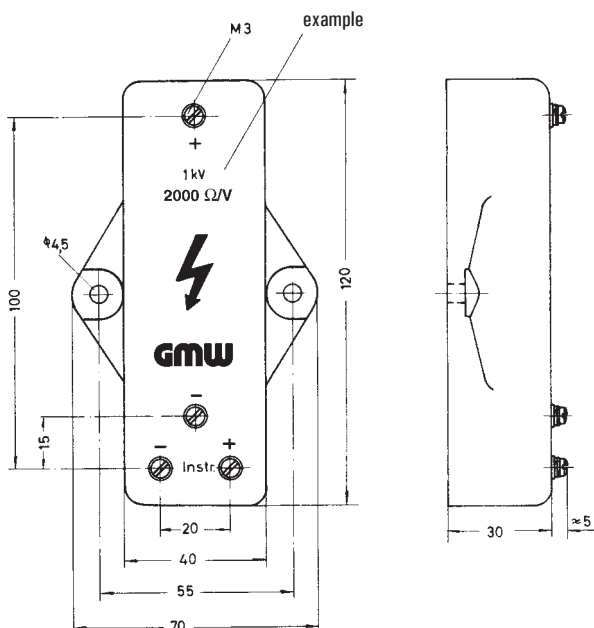


SP

#### Schematic Diagram



#### Basic Dimensions



#### Order Information

Voltage Divider for Direct Current 25 V / 250  $\mu$ A

Type	SP Order No.	Scale-Order No.
Nominal Voltage	↓	+ ↓
1000 V	48900 13370	DH1
1500 V	48900 13390	DH1.5
2000 V	48900 13400	DH2
2500 V	48900 13410	DH2.5
3000 V	48900 13420	DH3
4000 V	48900 13430	DH4
5000 V	48900 13440	DH5
6000 V	48900 13450	DH6
10000 V	48900 13460	DH10

#### Ordering Example for Meters with Voltage Divider:

Techn. Data	Order No.
Square Panel Meter with moving-coil movement V-PQS 96 Measuring range 0-1 kV	<b>1604P, BE76, DH1</b>

## Vario-Series • Accessories

### Power Supply Unit for Indicator/Controllers

#### Description

Due to the compact design of indicator/controllers with smaller sizes, a built in power supply, that differs from the necessary 24 V direct voltage is not realisable.

Therefore GMW developed power supplies that enable the user to accomodate an individual auxiliary voltage supply according to the available supply voltage and the necessary power consumption of the the indicator/controller.

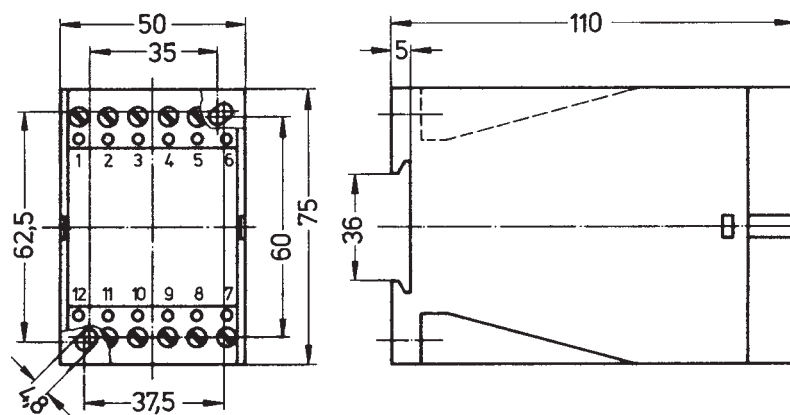


NG 24/200-1

#### Technical Data

Type Order No.	NG 24/200-1 49900 09610	NG 24/200-1 49900 09630	NG 24/200-2 49900 09640
Weight approx. (kg)		0.5	
Max. Operating Voltage		300 V	
Test Voltage		3.5 kV	
Protection (Terminals)		IP 10	
<b>Input</b>	230 V AC (198 ... 242 V) 45 ... 65 Hz	115 V AC (99 ... 121 V) 45 ... 65 Hz	24 V AC (21.6 ... 26.4 V) 45 ... 400 Hz
<b>Output</b>		24 V DC $\pm 20\%$ Max. output current 200 mA Ripple $\leq 3$ Vss; Without electrical isolation; Protection from short circuit	

#### Basic Dimensions



## Vario-Series • Accessories and Spare Parts

Blanking Plates, Protective Caps, Rubber Seals

**Blanking Plates, protective covers, rubber seals,  
Clear cover with rubber seal for IP 65**




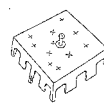


	Type ↓	Order No. ↓
<b>BLANKING PLATES</b>		
<b>Narrow-frame types</b>		
clear, plain glass	<b>Q 48 S</b>	<b>27863 15945</b>
	<b>Q 72 S</b>	<b>27863 15900</b>
	<b>Q 96 S</b>	<b>27863 15905</b>
	<b>Q 144 S</b>	<b>27863 15915</b>
	<b>PF 72 x 36</b>	<b>27863 15920</b>
	<b>PFN 96 x 48</b>	<b>27863 15925</b>
	<b>PF 144 x 72</b>	<b>27863 15930</b>
opaque, white plastic	<b>Q 48 S</b>	<b>27863 15946</b>
	<b>Q 72 S</b>	<b>27863 15901</b>
	<b>Q 96 S</b>	<b>27863 15906</b>
	<b>Q 144 S</b>	<b>27863 15916</b>
	<b>PF 72 x 36</b>	<b>27863 15921</b>
	<b>PFN 96 x 48</b>	<b>27863 15926</b>
	<b>PF 144 x 72</b>	<b>27863 15931</b>
opaque, black plastic	<b>Q 48 S</b>	<b>27863 15948</b>
	<b>Q 72 S</b>	<b>27863 15903</b>
	<b>Q 96 S</b>	<b>27863 15908</b>
<b>PROTECTIVE COVER</b>		
Plexiglass protective cover for front housing-panel protection IP 54	<b>PR 144 x 36</b>	<b>32512 86760</b>
<b>RUBBER SEAL</b>		
(Mounting with screw clamp necessary)		
for versions with narrow front frames – for tropic resistant versions –	<b>Q 48</b>	<b>1799V2290</b>
	<b>Q 72</b>	<b>1799V2230</b>
	<b>Q 96 S</b>	<b>1799V2240</b>
	<b>Q 96</b>	<b>1799V2260</b>
	<b>Q 144</b>	<b>1799V2250</b>
	<b>PF 72 x 36</b>	<b>35235 86120</b>
	<b>PFN 96 x 48</b>	<b>35235 86125</b>
	<b>PF 144 x 72</b>	<b>35235 86130</b>
<b>CLEAR PROTECTIVE COVER</b>		
with rubber seal for front housing-panel protection IP 65	<b>Q 48</b>	<b>27863 15955</b>
	<b>Q 72</b>	<b>27863 15950</b>
	<b>Q 96</b>	<b>27863 15960</b>

## Vario-Series • Accessories and Spare Parts

Terminal Covers, Spare Parts for Indicator/Controllers

### Finger-proof full cover

Per BGV A3 / DIN 57 106, part 100

CONTACT PROTECTION for	Type ↓	Order No. ↓	
Types QS 48 und Q 48-250	R1 <sup>1)</sup>	1799V-9050	
Types with screw terminals M4 (packed in pairs)	E <sup>2)</sup>	1799V-9110	
Types (V-)QS 72, (V-)QS 72-250, QS 144 and Q144-250 with screw terminals M6 (M8)	R2 <sup>1)</sup>	1799V-9150	
Types (V-)QS 96 and (V-)Q 96-250 with screw terminals M6 (M8)	R3 <sup>1)</sup>	1799V-9160	
Types PF 48 x 24 and PFF 72 x 24	R6 <sup>1)</sup>	1799V-9090	
<b>RUBBER CAPS</b>			
All remaining square and rectangular types per DIN 43 700 (except sizes 96 x 24 mm and 96 x 48 mm)			
Screw terminals M4 or M5 (packed in pairs)	R8 <sup>2)</sup>	1799V-9080	
Screw Terminals M6 (packed in pairs)	R9 <sup>2)</sup>	1799V-9120	

1) Overall terminal cover

2) Single terminal cover

### Spare Parts for Indicator/Controllers

KODPR 144 F and KODPR 144 SE

Relay for indicator/controllers	69100 00000
Compensating resistor for Pt100	
2-Wire	27863 88500
3-Wire	27863 88501
Cold junction for thermocouple	27863 88502
Plastic knob	22022 86010

## Vario-Series • Accessories and Spare Parts

### Front Windows

#### Front windows for all square types

	Type ↓	Order No. ↓
<b>GLASS WINDOW COMPLETE</b> (plain glass)		
	Q 48 S	27863 22517
	Q 72 S	27863 22519
	Q 96 S	27863 22514
	Q 144 S	27863 22521
	Q 48-250	27863 22523
	Q 72-250	27863 22525
	Q 96-250	27863 22516
	Q 144-250	27863 22528
<b>GLASS WINDOW COMPLETE</b> (anti-glare glass)		
	Q 48 S	27863 22518
	Q 72 S	27863 22520
	Q 96 S	27863 22530
	Q 144 S	27863 22522
	Q 48-250	27863 22524
	Q 72-250	27863 22526
	Q 96-250	27863 22527
	Q 144-250	27863 22529