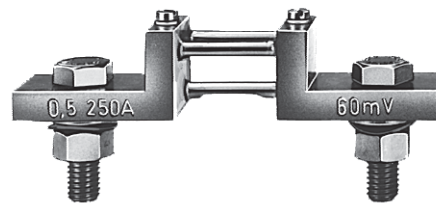


Accessories and spare parts for GMW analogue panel meters and controllers

Current Transformers	pages	2-9
Shunt Resistors		10-11
Voltage Dividers		12
Power supply for indicator/controllers		13
Blanking Plates		14
Contact Protection		15
Spare parts		15
Replacement windows		16



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	Ø 26 mm	Ø 30.5 mm	Ø 44 mm	Ø 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 ¹⁾
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

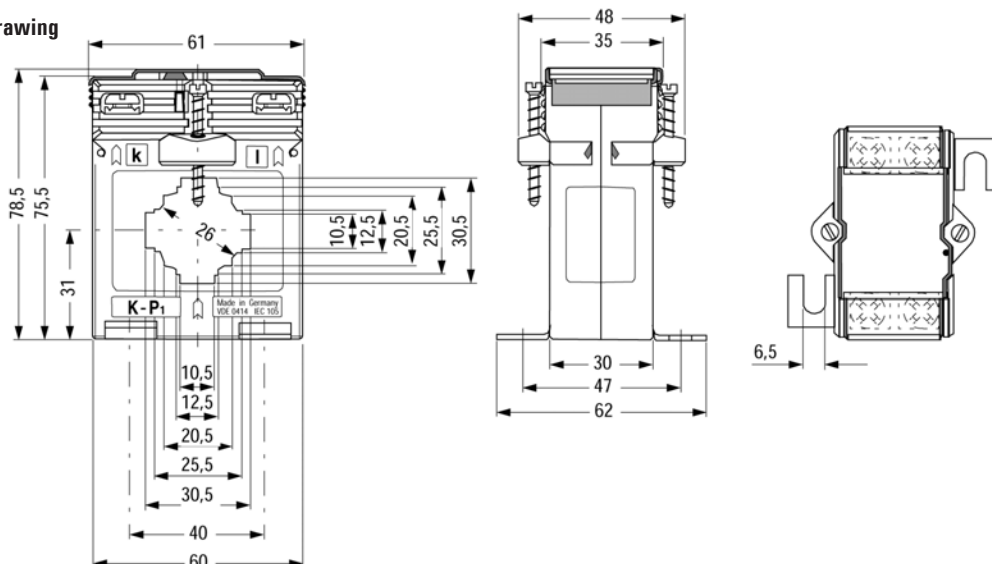
Transformer Width 60 mm

Rated Primary Current	VA	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.
A		1715V + ↓	1715V + ↓	1715V + ↓	1715V + ↓
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

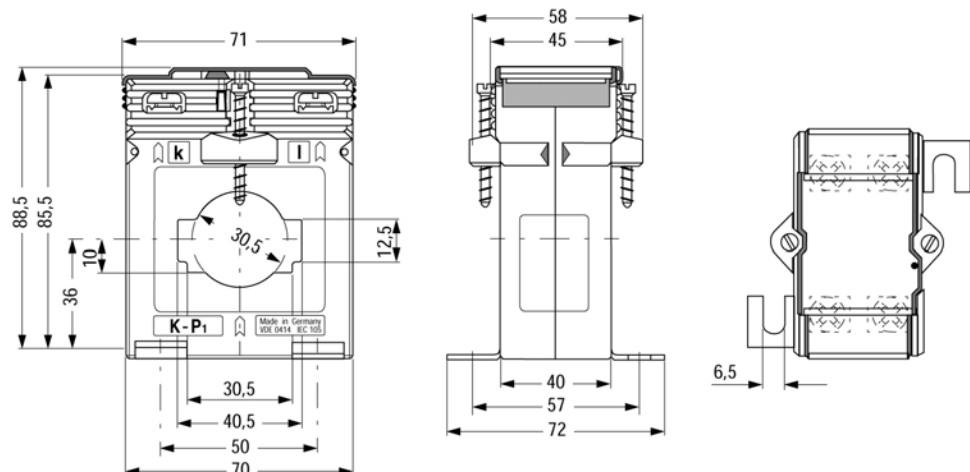
Transformer Width 70 mm

Rated Primary Current		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.
A	VA	1716V + ↓	1716V + ↓	1716V + ↓	1716V + ↓
50	1.5	0100	1100	—	—
60	1.5	0110	1110	—	—
75	2.5	0120	1120	—	—
80	2.5	0130	1130	—	—
100	1.5	—	—	2140	3140
100	3.75	0140	1140	—	—
150	2.5	—	—	2150	3150
150	5	0150	1150	—	—
200	2.5	—	—	2160	3160
200	10	0160	1160	—	—
250	5	—	—	2170	3170
250	10	0170	1170	—	—
300	5	—	—	2180	3180
300	10	0180	1180	—	—
400	10	0190	1190	2190	3190
500	10	0200	1200	2200	3200
600	10	0210	1210	2210	3210
750	10	0220	1220	2220	3220
800	10	0230	1230	2230	3230
1000	10	0240	1240	2240	3240

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 ASK 63.4

Current Transformer

Primary Conductor 60 x 30 mm
50 x 40 mm

Round Conductor \varnothing 44 mm

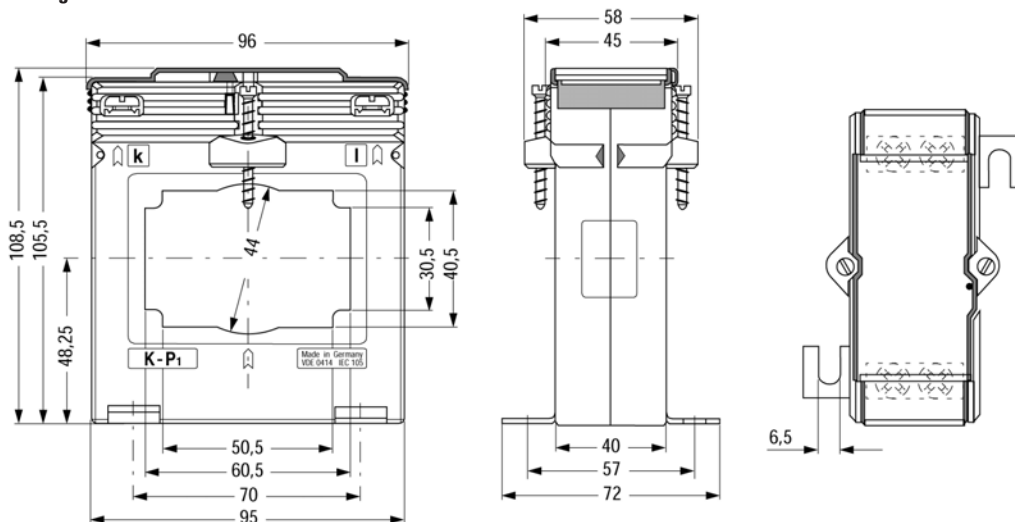
Transformer Width 95 mm

Rated Primary Current	VA	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.
A		1717V + ↓	1717V + ↓	1717V + ↓	1717V + ↓
750	10	0220	1220	2220	3220
800	10	0230	1230	2230	3230
1000	10	0240	1240	2240	3240
1200	10	0250	1250	2250	3250
1500	10	0260	1260	2260	3260
1800	10	0270	1270	2270	3270
2000	10	0280	1280	2280	3280

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

Accessories:	Order No.
Protective Cover	1722V9130

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

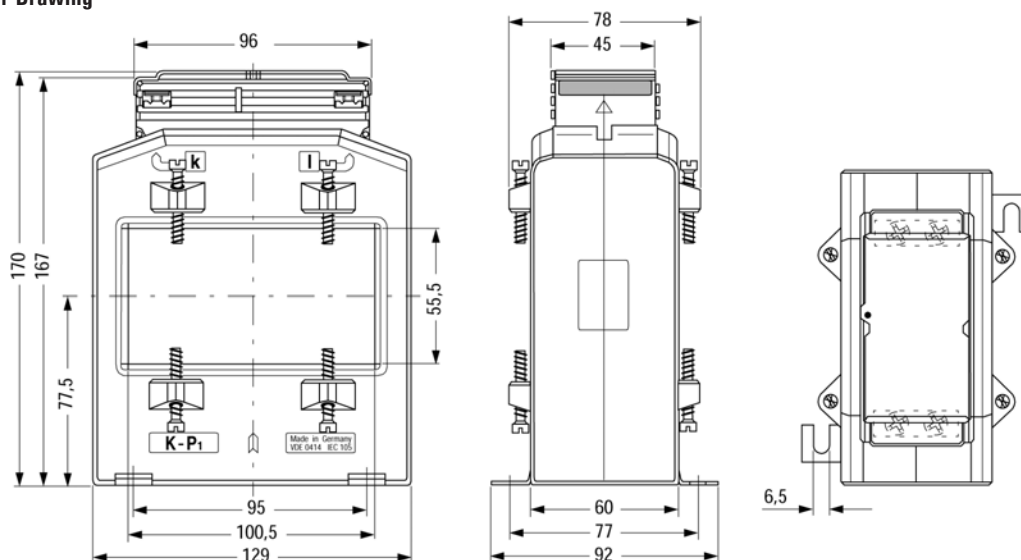
Transformer Width 129 mm

Rated Primary Current		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.
A	VA	1718V + ↓	1718V + ↓	1718V + ↓	1718V + ↓
1500	10	0260	1260	2260	3260
1800	10	0270	1270	2270	3270
2000	10	0280	1280	2280	3280
2500	10	0290	1290	2290	3290
3000	10	0300	1300	2300	3300
4000	10	0310	1310	2310	3310

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

Accessories:	Order No.
Protective Cover	1722V9130

Dimensional Drawing



Vario-Series • Accessories

Low Voltage Current Transformers, Class 1 and 0.5

Type WSK 30

Wound-Primary Current Transformer

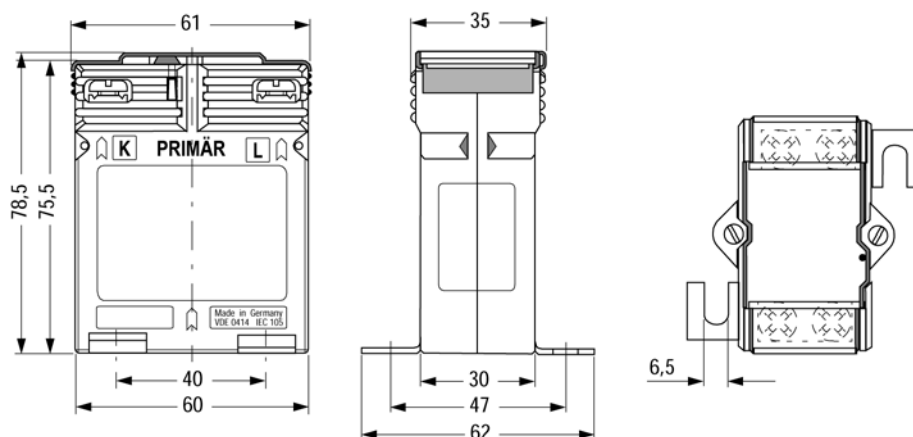
Transformer Width 60 mm

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	—	—	2010	3010
1	5	0010	1010	—	—
2.5	2.5	—	—	2020	3020
2.5	5	0020	1020	—	—
5	2.5	—	—	2030	3030
5	5	0030	1030	—	—
10	2.5	—	—	2040	3040
10	5	0040	1040	—	—
15	2.5	—	—	2050	3050
15	5	0050	1050	—	—
20	2.5	—	—	2060	3060
20	5	0060	1060	—	—

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 WSK 40

Wound-Primary Current Transformer

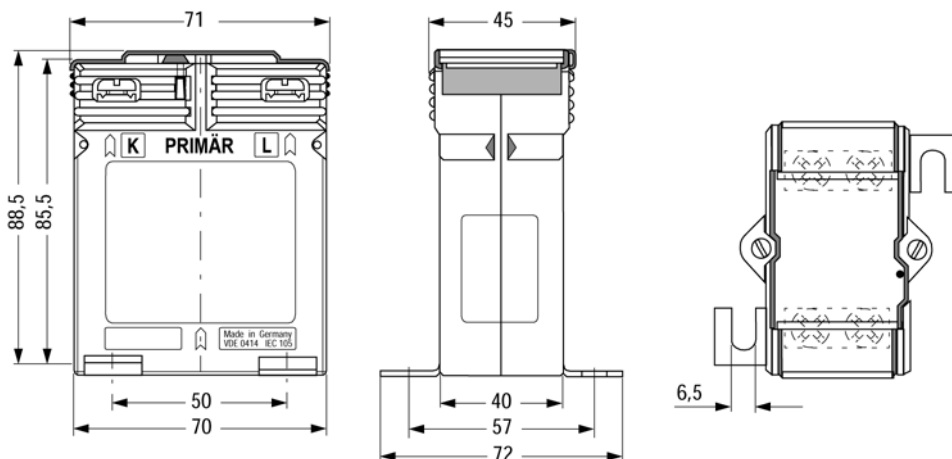
Transformer Width 70 mm

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.
A	VA	1720V + ↓	1720V + ↓	1720V + ↓	1720V + ↓
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

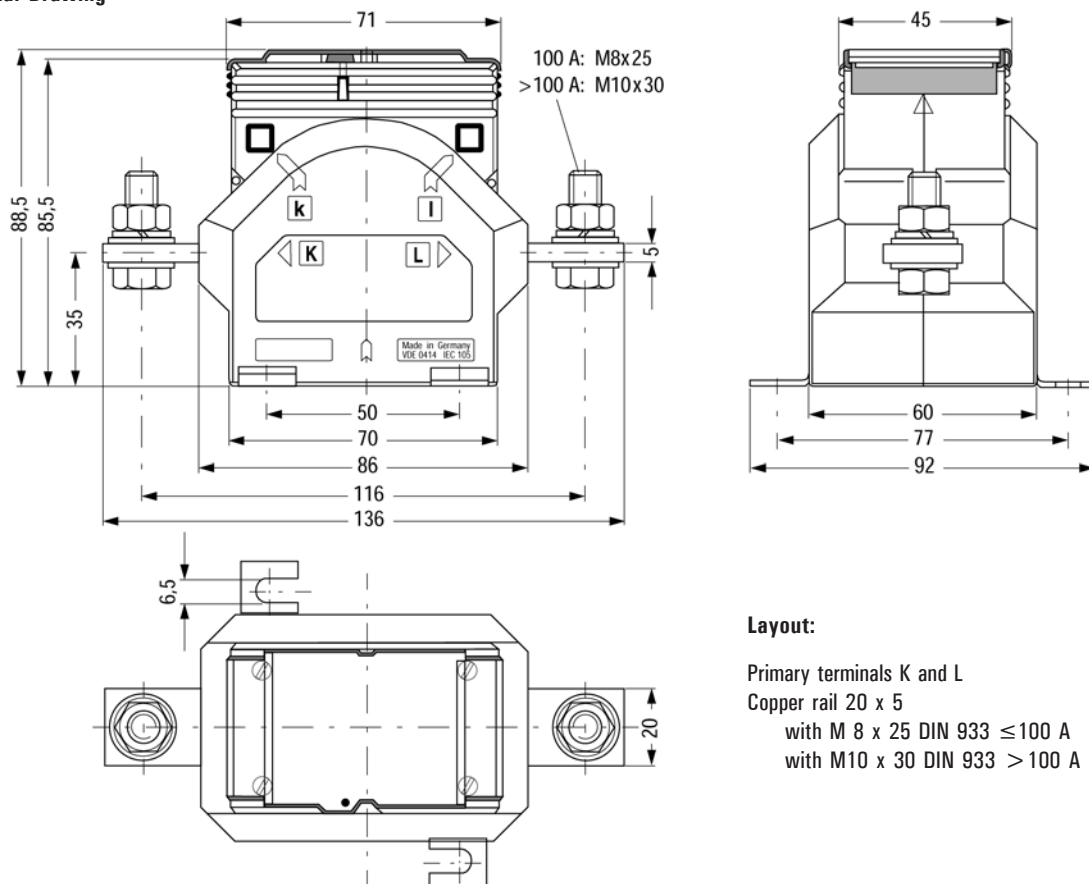
Transformer Width 70 mm

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



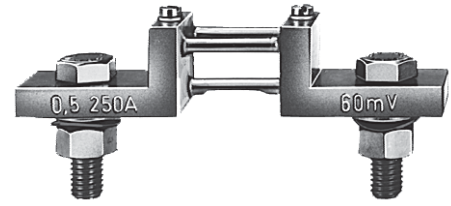
Vario-Series • Accessories

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 ¹⁾	
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	1700V3340

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	1700V3010 ◇	1 A	0.10	1700V4010 ◇
1.5 A	0.10	1700V3030 ◇	1.5 A	0.10	1700V4030 ◇
2.5 A	0.10	1700V3050 ◇	2.5 A	0.10	1700V4050 ◇
4 A	0.10	1700V3070 ◇	4 A	0.10	1700V4070 ◇
6 A	0.10	1700V3090 ◇	6 A	0.10	1700V4090 ◇
10 A	0.10	1700V3110 ◇	10 A	0.10	1700V4110 ◇
15 A	0.10	1700V3130 ◇	15 A	0.10	1700V4130 ◇
25 A	0.10	1700V3170 ◇	25 A	0.10	1700V4170 ◇
40 A	0.10	1700V3200	40 A	0.14	1700V4200
60 A	0.10	1700V3230	60 A	0.15	1700V4230
100 A	0.10	1700V3280	100 A	0.17	1700V4280
150 A	0.15	1700V3300	150 A	0.20	1700V4300
250 A	0.50	1700V3340	250 A	0.70	1700V4340
400 A	0.70	1700V3370	400 A	1.10	1700V4370
500 A	1.00	1700V3390	500 A	1.10	1700V4390
600 A	1.20	1700V3400	600 A	1.70	1700V4400
1 kA	1.45	1700V3460	1 kA	2.50	1700V4460
1.5 kA	1.95	1700V3480	1.5 kA	3.70	1700V4480
2.5 kA	2.90	1700V3520	2.5 kA	5.20	1700V4520
4 kA	4.20	1700V3550	4 kA	8.30	1700V4550
5 kA	4.30	1700V3570	5 kA	10.60	1700V4570
6 kA	10.50	1700V3580	6 kA	15.00	1700V4580
10 kA	21.00	1700V3630	10 kA	28.00	1700V4630
15 kA	32.00	1700V3650			

Nominal Current I_N	60 mV
	Order No.
40 A	1700V7200 ◇
60 A	1700V7230 ◇
100 A	1700V7280 ◇
150 A	1700V7300 ◇

◇ 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 ²⁾

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

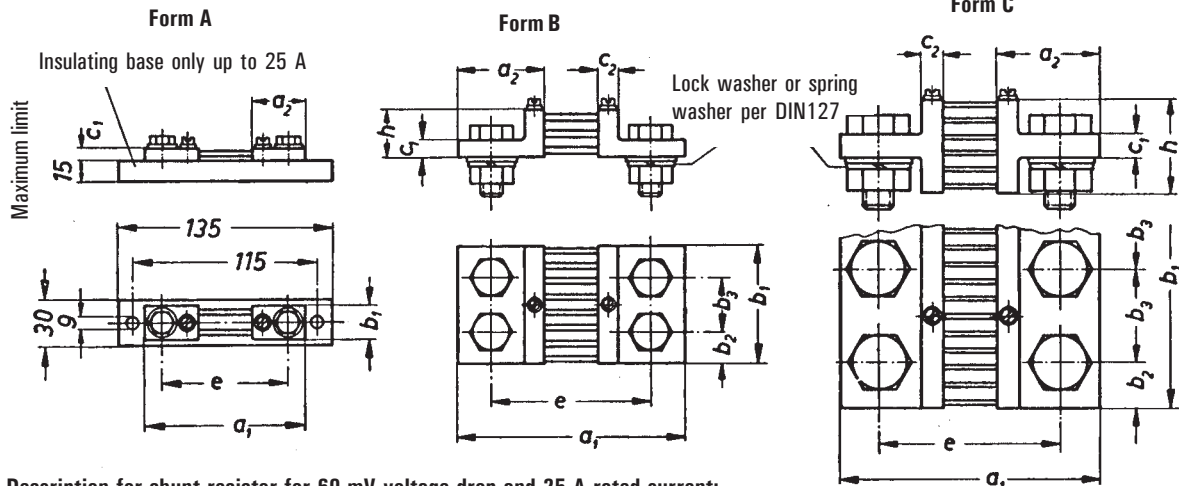
2) 0.06 Ω cable resistance per cable pair

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	10000	15000			
60		Form A				Form B				Form C										
	a ₁	90				100				145				165				165	175	185
	a ₂	28				33				55				65				65	70	75
	b ₁			20				30	40		60	90	120		120	154	206	310		
	b ₂							15	20		30	21	30		30			25		
	b ₃											48	60		60			52		
	c ₁			8							10				15	25		30		
	c ₂										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 ₁	90				225				270				290				290	300	310
	a ₂	28				33				55				65				65	70	75
	b ₁	20				25		30	40		70	90	120		154	206	310			
	b ₂							15	20		35	21	30		30			25		
	b ₃											48	60		60			52		
	c ₁			8							10				15	25		30		
	c ₂										10				10	15		20		
	e	78		205				230		240		240			250	260		260		
	h							50		60		60			130	170		170		
Number of supply terminals					2x1				2x2				2x3	2x4	2x6					
Hexagonal bolt DIN 933-5	M 5 ⁵⁾ x12		M 8 ⁵⁾ x15		M 12x40	M 16x45	M 20x50	M 16x45 ²⁾	M 20x50 ³⁾	M 20x60 ⁴⁾	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.

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

²⁾ For 150 mV: bolt M 16 x 60 ³⁾ For 150 mV: bolt M 20 x 60

⁴⁾ For 150 mV: bolt M 20 x 75

⁵⁾ 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 Ω /V (voltage divider in comb. with moving-coil meter)
Terminals	can be connected to any moving-coil voltmeter

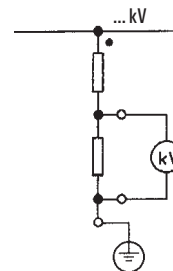
Description

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 μ A each pass through the protective resistor an the meter. 25 V are impressed on the indicator.

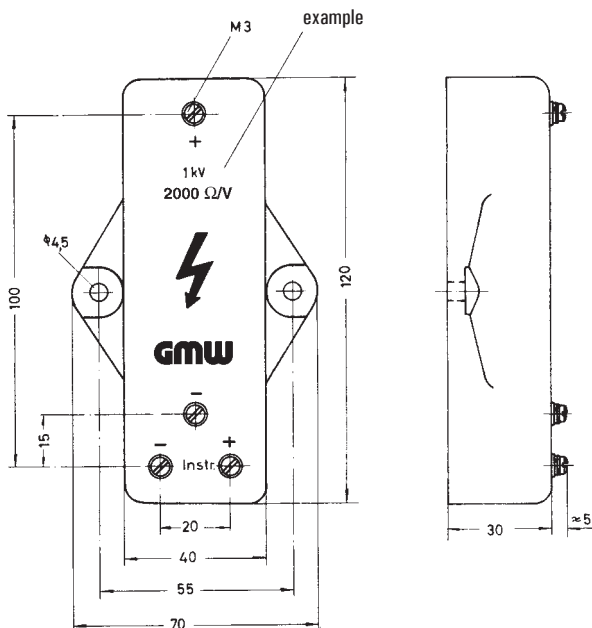


SP

Schematic Diagram



Basic Dimensions



Order Information

Voltage Divider for Direct Current 25 V / 250 μ 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	1604P, BE76, DH1

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.

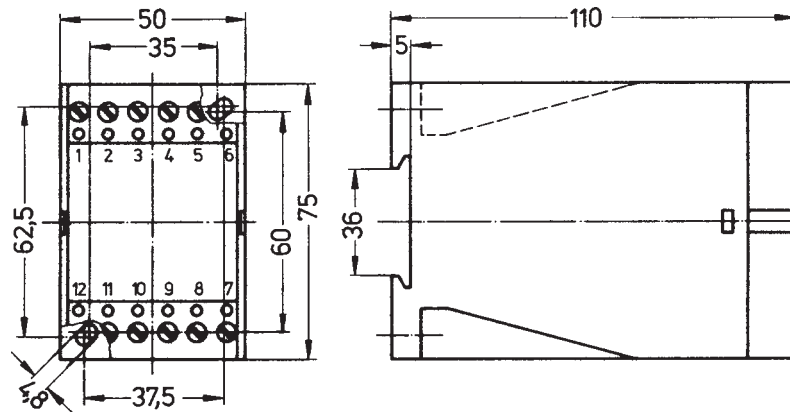


NG 24/200-1

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	
Input	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
Output		24 V DC $\pm 20\%$ Max. output current 200 mA Ripple ≤ 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**




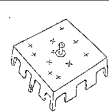


	Type ↓	Order No. ↓
BLANKING PLATES		
Narrow-frame types		
clear, plain glass	Q 48 S	27863 15945
	Q 72 S	27863 15900
	Q 96 S	27863 15905
	Q 144 S	27863 15915
	PF 72 x 36	27863 15920
	PFN 96 x 48	27863 15925
	PF 144 x 72	27863 15930
opaque, white plastic	Q 48 S	27863 15946
	Q 72 S	27863 15901
	Q 96 S	27863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

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 ¹⁾	1799V-9050	
Types with screw terminals M4 (packed in pairs)	E ²⁾	1799V-9110	
Types (V-)QS 72, (V-)QS 72-250, QS 144 and Q144-250 with screw terminals M6 (M8)	R2 ¹⁾	1799V-9150	
Types (V-)QS 96 and (V-)Q 96-250 with screw terminals M6 (M8)	R3 ¹⁾	1799V-9160	
Types PF 48 x 24 and PFF 72 x 24	R6 ¹⁾	1799V-9090	
RUBBER CAPS			
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 ²⁾	1799V-9080	
Screw Terminals M6 (packed in pairs)	R9 ²⁾	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. ↓
GLASS WINDOW COMPLETE (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
GLASS WINDOW COMPLETE (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