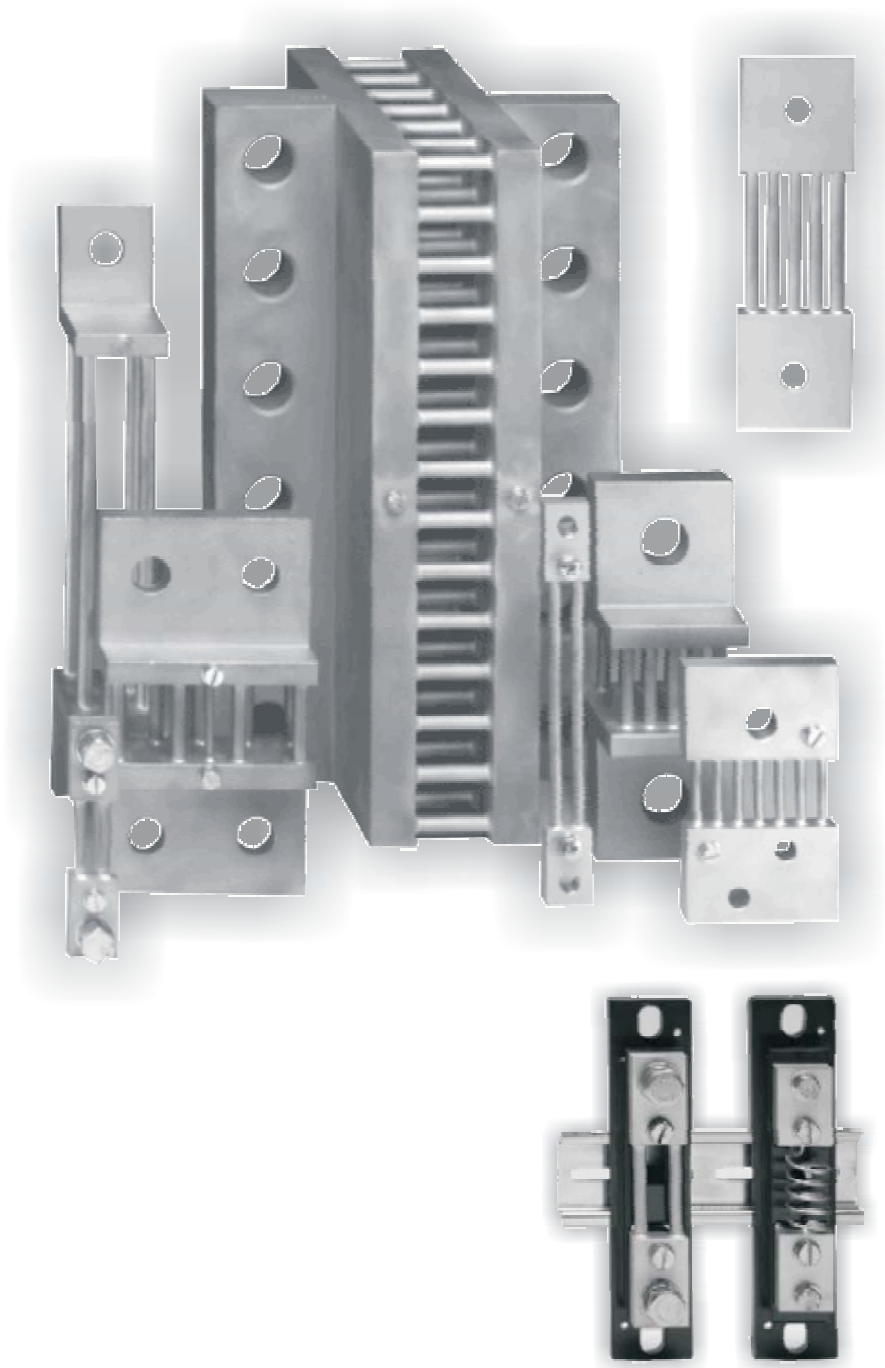


Ziegler

Redefine Innovative Metering

Shunts

DC Shunts | Class 0.5 & 1.0 | 50 mV, 60 mV, 75 mV & 150 mV



© Ziegler Instruments Order No. Shunt.DC Data sheet-ELR0-920610-35-2013-EN



www.ziegler-instruments.com

1 | 4

Application

Shunts provide an accurate DC millivolt signal to drive ammeter indicators, overload protection and control devices, especially for higher amperage. They supply a voltage drop proportional to the DC current which is measured and indicated by a moving-coil meter with the dial calibrated in amps.

Rishabh shunts are available from 1 A up to 3,000 A with an accuracy of 0.5%, 1.0%. Standard voltage drop is 50 mV, 60 mV, 75 mV, 150 mV. Intermediate current ratings, other voltage outputs, better accuracy and purpose-built shunts can be supplied.

Shunts are manufactured in two format versions depending on current rating

Operating Principle

The current passing through the shunt produces a proportional voltage drop. A moving coil instrument connected to shunt measures the voltage drop across the shunt terminals.

Shunts are calibrated in such away that they produce an accurately defined voltage drop (50 mV, 60 mV, 75 mV, 150 mV)

General Data

Form A	insulating base mounted shunts clamping to DIN mounting rail or wall mounting (up to 30 A)
Form B	without insulating base (31....150 A) L-profile end blocks
Material	
Resistance bars	Manganin
End blocks	
Form A	High conductivity brass
Form B	High conductivity brass / copper
Base material Form A	Polycarbonate, black self - extinguishing to UL rating 94 V-0
Connections	thread screws
current	please refer to "Dimensions"
voltage	M5x8
Mounting	Nut Bolt (M8 max.)
Form A	Clamping to DIN mounting rail (to DIN EN 50 022 - 35)
Enclosure code	IP 00
dimensions	please refer to "Dimension"
Weight	please refer to table below

rated current	weight appox. for rated voltage drop			
	50 mV	60 mV	75 mV	150 mV
1A	0.12 kg	0.12 kg	0.12 kg	0.12 kg
1.5 A	0.13 kg	0.13 kg	0.12 kg	0.12 kg
2 A ^{1) 2)}	0.13 kg	0.13 kg	0.12 kg	0.12 kg
2.5A	0.12 kg	0.12 kg	0.12 kg	0.12 kg
3 A ^{1) 2)}	0.12 kg	0.12 kg	0.12 kg	0.12 kg
4 A	0.13 kg	0.13 kg	0.12 kg	0.12 kg
5 A ^{1) 2)}	0.12 kg	0.12 kg	0.12 kg	0.12 kg
6 A	0.12 kg	0.12 kg	0.12 kg	0.13 kg
8 A ^{1) 2)}	0.13 kg	0.13 kg	0.12 kg	0.13 kg
10 A	0.13 kg	0.13 kg	0.12 kg	0.13 kg
12 A ^{1) 2)}	0.13 kg	0.13 kg	0.12 kg	0.13 kg
15 A	0.13 kg	0.13 kg	0.12 kg	0.13 kg
20 A ^{1) 2)}	0.13 kg	0.13 kg	0.12 kg	0.14 kg
25 A	0.13 kg	0.13 kg	0.12 kg	0.14 kg
30 A ^{1) 2)}	0.12 kg	0.12 kg	0.12 kg	0.15 kg
40 A	0.12 kg	0.12 kg	0.13 kg	0.16 kg
50 A ^{1) 2)}	0.12 kg	0.12 kg	0.13 kg	0.16 kg

Rated current	weight appox. for rated voltage drop			
	50 mV	60 mV	75 mV	150 mV
60 A	0.12 kg	0.12 kg	0.14 kg	0.17 kg
80 A ^{1) 2)}	0.12 kg	0.12 kg	0.15 kg	0.18 kg
100 A	0.12 kg	0.12 kg	0.16 kg	0.20 kg
150 A	0.13 kg	0.13 kg	0.16 kg	0.23 kg
200 A ^{1) 2)}	0.13 kg	0.13 kg	0.20 kg	0.26 kg
250 A	0.61 kg	0.61 kg	0.61 kg	0.68 kg
300 A ^{1) 2)}	0.61 kg	0.61 kg	0.61 kg	0.72 kg
400 A	0.83 kg	0.83 kg	0.83 kg	1.05 kg
500 A ^{1) 2)}	0.83 kg	0.83 kg	0.90 kg	1.15 kg
600 A	0.85 kg	0.85 kg	1.00 kg	1.16 kg
800 A ^{1) 2)}	0.90 kg	0.90 kg	1.10 kg	1.30 kg
1,000 A	1.45 kg	1.45 kg	1.90 kg	2.15 kg
1,200 A ^{1) 2)}	1.45 kg	1.45 kg	2.00 kg	2.25 kg
1,500 A	1.96 kg	1.96 kg	2.30 kg	3.10 kg
2,000 A ^{1) 3)}	2.30 kg	2.30 kg	2.70 kg	4.00 kg
2,500 A	2.90 kg	2.90 kg	3.00 kg	5.20 kg
3,000 A ^{1) 3)}	3.00 kg	3.00 kg	3.30 kg	7.00 kg

1) ratings deviating from DIN standard

2) dimensions equals to next higher current rating

3) dimensions equals to next lower current rating

overload range (according to DIN EN 60 051)

continuously 1.2 times rated current

5 s max. <2000 A 5 times rated current

>2000 ... 10,000 A 2 times rated current

Accuracy at Reference Conditions

accuracy class 0.5, 1.0

reference conditions

ambient temperature 23°C±1K

Environmental Conditions

Climatic suitability climatic class 3 acc. to VDE/VDI 3540

Operating - 10 ... +55°C

temperature range

Operating - 25 ... +65°C

temperature range

relative humidity ≤ 75% annual average, non-condensing

Applicable Standards

DIN EN 60 051 direct acting indicating electrical measuring instruments and their accessories

DIN EN 50 022-35 mounting rails

Options

rated voltage drop on request

rated current on request

accuracy class 0.2

Special purpose

built shunts on request

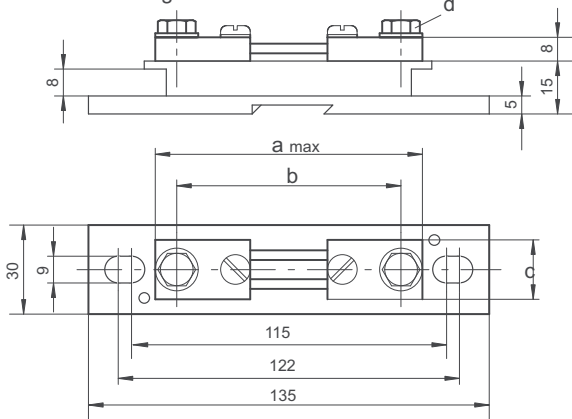
for other ratings refer to "Options"

Accessory

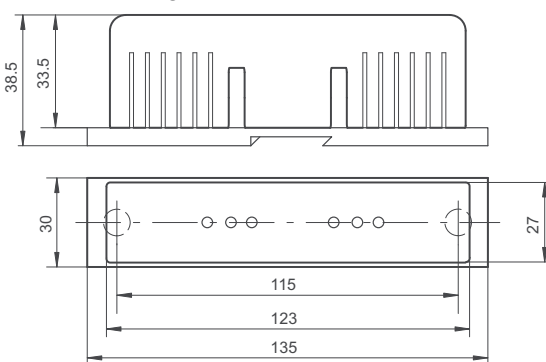
Cover for shunt with insulating base
1... 30A / 50 mV, 60 mV, 75 mV, 150 mV

Dimensions

Form A with insulating base



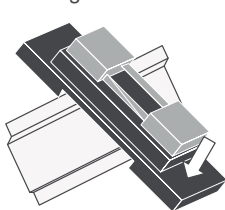
Form A with insulating base and cover



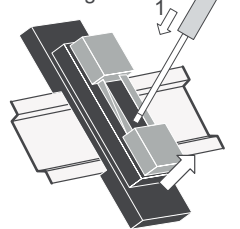
rated voltage drop 50 mV ...60 mV 75 mV...150 mV

dimensions (in mm)	1...30A	1...30A
a max	90	100
b	70	88
c	20	20
d	M5x12	M5x12

Attaching



Disattaching

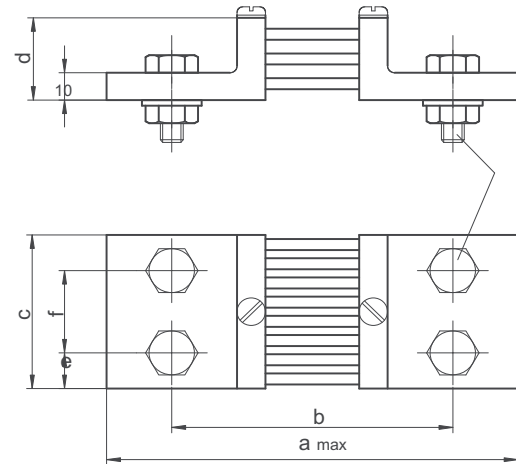


Form A without insulating base

rated voltage drop	50 mV ...60 mV	75 mV	150 mV
dimensions (in mm)	31...150A	31...150A	31...150A
a max	110	120	225
b	80	100	205
c	20	20	20
d	M8x16	M8x16	M8x16

Dimensions

Form B



Rated voltage drop 50 mV

dimensions (in mm)	200 A	400 A	1000 A	1500 A	2500 A
	250 A	600 A			
a max	155	155	175	175	175
b	105	105	115	115	115
c	30	40	60	90	120
d	30	30	30	30	30
e	15	20	30	21	30
f	--	--	--	48	60
g	M12x40	M16x45	M20x50	M16x45	M20x50
number of current connections	2x 1	2x 1	2x 1	2x 2	2x 2

Rated voltage drop 60 mV

a max	155	155	175	175	175
b	105	105	115	115	115
c	30	40	60	90	120
d	30	30	30	30	30
e	15	20	30	21	30
f	--	--	--	48	60
g	M12x40	M16x45	M20x50	M16x45	M20x50
number of current connections	2x 1	2x 1	2x 1	2x 2	2x 2

Rated voltage drop 75 mV

a max	165	165	185	185	185
b	125	125	135	135	135
c	30	40	60	90	120
d	30	30	30	30	30
e	15	20	30	21	30
f	--	--	--	48	60
g	M12x40	M16x45	M20x50	M16x45	M20x50
number of current connections	2x 1	2x 1	2x 1	2x 2	2x 2

Rated voltage drop 150 mV

a max	270	270	290	290	290
b	230	230	240	240	240
c	30	40	70	90	120
d	50	50	60	60	60
e	15	20	30	21	30
f	--	--	--	48	60
g	M12x40	M16x45	M20x50	M16x45	M20x50
number of current connections	2x 1	2x 1	2x 1	2x 2	2x 2

Ordering Information

Type	Shunt
rated voltage drop	50 mV 60 mV 75 mV 150 mV purpose built on request **)
rated voltage	please refer to table inside purpose built on request **)
accuracy	class 0.5*) and class 1.0*) class 0.2
insulating base	included (to 30 A) not included (more than 30A)
cover	none*) for shunts with insulating base
purpose built	on request**)

*) Standard

**) Please clearly add the desired specifications.

Ordering Example

Shunt, rated voltage drop 60 mV, rated current 1,000 A
accuracy class 0.5

ZIEGLER INSTRUMENTS

Schnepfenreuther Weg 6, D-90425 Nürnberg, Germany.

TEL.	(+49)(911) 38 492 45	E-MAIL	info@ziegler-instruments.com
FAX.	(+49)(911) 32 26 212	WEBSITE	www.ziegler-instruments.com



Ziegler

Redefine Innovative Metering