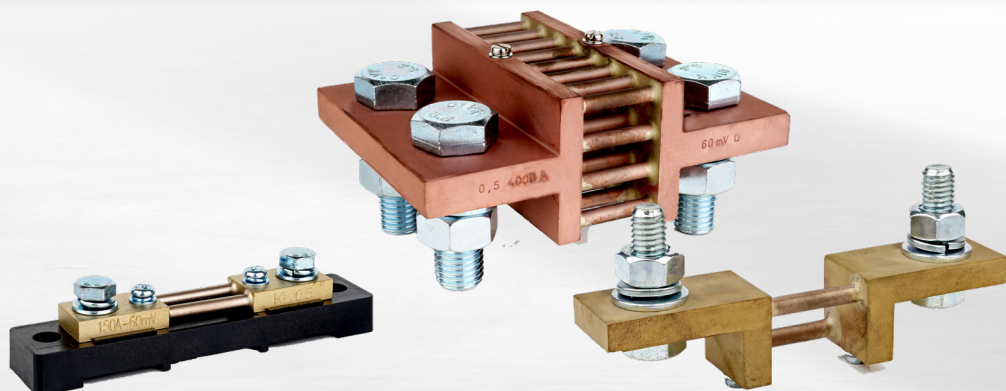


Shunts

Voltage drop 60mV, 100mV, 150mV, 300mV



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Shunts

The long-lasting shunts of MBS AG are used to expand the current measuring range of moving-coil measuring devices for the reliable display and further processing of direct currents, especially for high currents up to 15000A. The direct current flowing through the shunt generates a proportional voltage drop, which can be displayed with a moving-coil meter, connected in parallel or can be electronically processed as a example.

The shunts are manufactured according to DIN 43703 and DIN EN 60051.

The accuracy is 0.5% relative to the nominal value. On request the shunts can also be realized with a higher accuracy of 0.2%.

The rated currents are in the range of 1A up to 15000A, which are produced in three different construction types, depending on the rated current.

Up to 25A the shunts are always mounted on a isolating base, which can either be mounted on a 35mm DIN-rail or by means of screws.

As a voltage drop 60mV, 100mV, 150mV and 300mV are available. On customer request we are also able to realize other values.

Operating conditions:

- ▶ Working temperature range: $-10 \leq \vartheta \leq +55 \text{ }^\circ\text{C}$
- ▶ Storage temperature range: $-25 \leq \vartheta \leq +65 \text{ }^\circ\text{C}$
- ▶ Relative air humidity: $\leq 75 \%$ (no dewing)
- ▶ Climatic adaptability: Climatic class 3 acc. VDE/VDI 3540

Accuracy:

- ▶ Accuracy class: Class 0.5 (Class 0.2 upon request)

Material:

- ▶ Resistance bars: Manganin
- ▶ Connection units type A: Brass
- ▶ Connection units type B: Brass/Copper
- ▶ Connection units type C: Copper

Connections:

- ▶ Current phase: Refer to drawings
- ▶ Voltage phase: M5 x 8

Safety:

- ▶ Protection class: IP00

Material profile of the connection units:

- ▶ Construction type A: Plane profile with isolating base (1 ... 25A)
Plane profile without isolating base (30 ... 150A)
- ▶ Construction type B: L-profile
- ▶ Construction type C: T-profile

Production regulations:

- ▶ DIN 43703 Shunts
- ▶ DIN EN 60051 Direct active, signalling measuring units and accessories

Standard configurations:

- ▶ Nominal voltage drop: 60mV; 100mV; 150mV; 300mV
- ▶ Overload capability: 1.2-times, continuously
5-times, max. 5 sec. ($\leq 2000\text{A}$)
2-times, max. 5 sec. ($> 2000\text{A}$... 10000A)
- ▶ Nominal current: 1 ... 15000A
- ▶ Accuracy: Class 0.5
- ▶ Isolation base: 1... 25A as standard
30...200A as accessories
- ▶ Cover cap as accessory available: 1...200A (60mV); Art.-no.: 59050

Special configurations:

Due to the flexible structure of the production the realization of individual customer requests is possible.

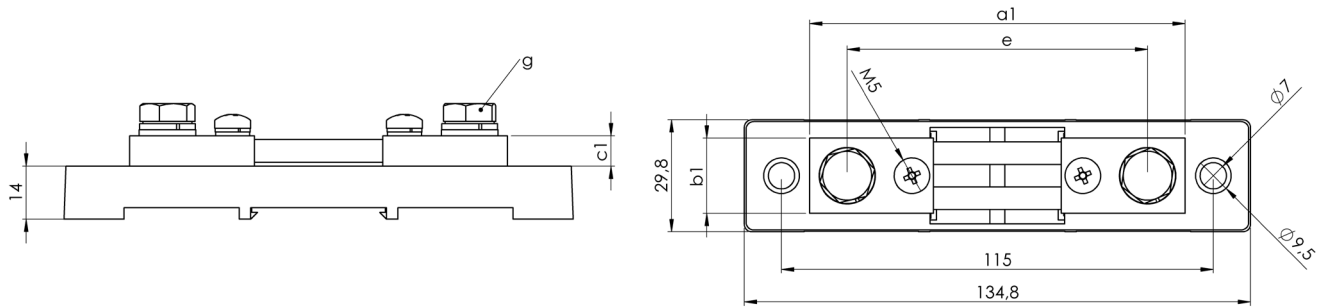
- ▶ Different voltage drop
- ▶ Different nominal current
- ▶ Accuracy class 0.2
- ▶ Construction types acc. drawing for your specific situation

Order example:

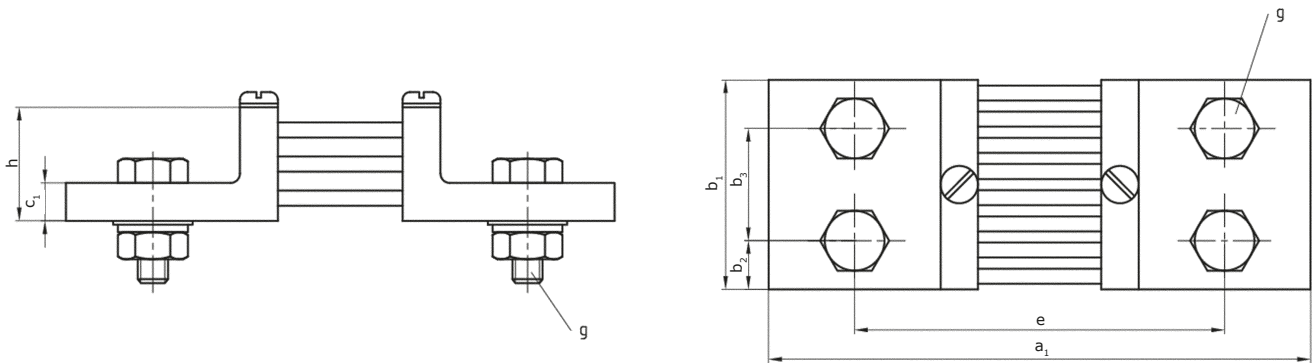
- ▶ Nominal voltage drop: 60mV
- ▶ Nominal current: 1000A
- ▶ Accuracy class: 0.5

Drawings

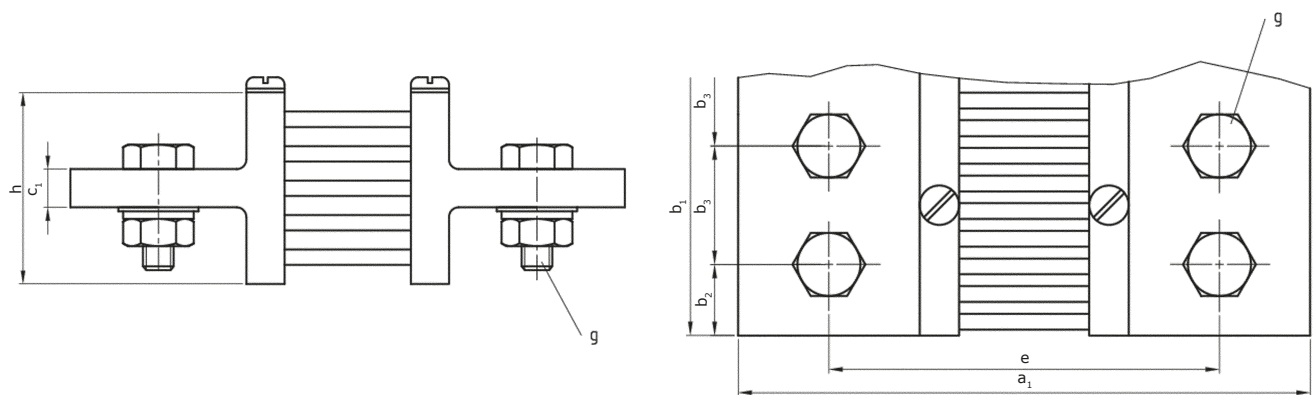
Construction type A



Construction type B



Construction type C



Dimensions

Voltage drop [mV]	Measure [mm]	for nominal current [A]														
		1 6	1.5 10	2.5 15	4 25	40 100	60 150	250	400	600	1000	1500	2500	4000	6000	10000
60		Construction type A				Construction type B						Construction type C				
	a ₁	90		100		145			165			165	175	185		
	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		
	e	78		80		105			115			115	125	135		
h	-				30						60	130	170			
100		Construction type A				Construction type B						Construction type C				
	a ₁	90		145		190			210			210	220		-	-
	b ₁	20		25		30	40	60	120	120	154	-	-			
	b ₂	-				15	20	30		30	25	-	-			
	b ₃	-				-			60	60	52	-	-			
	c ₁	8				10						15	25	-	-	
	e	78		125		150			160			160	170	-	-	
h	-				30						60	130	-	-		
150		Construction type A				Construction type B						Construction type C				
	a ₁	90		225		270			290	290	300		310	-		
	b ₁	20		25		30	40	70	90	120	154	206	-			
	b ₂	-				15	20	35	21	30	25		-			
	b ₃	-				-			48	60	52		-			
	c ₁	8				10						15	25	30	-	
	e	78		205		230			240	240	250	260	-			
h	-				50			60	60	130	170	-				
300		Construction type A				Construction type B						Construction type C				
	a ₁	90		384		429			449	449	459		-	-		
	b ₁	20		25		30	40	70	90	120	154	-	-			
	b ₂	-				15	20	35	21	30	25	-	-			
	b ₃	-				-			48	60	52	-	-			
	c ₁	8				10						15	25	-	-	
	e	78		364		389			399	399	409	-	-			
h	-				50			60	60	130	-	-				

Construction type A



SHUNT 60 - Voltage drop 60 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weighth (approx.)	Current connection (Meas. g)	Number of connections
71911S*	1	Yes	0.10 kg	M5x12	2x 1
71912S*	1.5	Yes	0.10 kg	M5x12	2x 1
71913S*	2.5	Yes	0.10 kg	M5x12	2x 1
71914S*	4	Yes	0.10 kg	M5x12	2x 1
71915S*	6	Yes	0.10 kg	M5x12	2x 1
71916S*	10	Yes	0.10 kg	M5x12	2x 1
71917S*	15	Yes	0.11 kg	M5x12	2x 1
71918S*	25	Yes	0.11 kg	M5x12	2x 1
71919	40	No	0.12 kg	M8x16	2x 1
71919S*	40	Yes	0.12 kg	M8x16	2x 1
71920	60	No	0.13 kg	M8x16	2x 1
71920S*	60	Yes	0.13 kg	M8x16	2x 1
71921	100	No	0.13 kg	M8x16	2x 1
71921S*	100	Yes	0.13 kg	M8x16	2x 1
71922	150	No	0.13 kg	M8x16	2x 1
71922S*	150	Yes	0.13 kg	M8x16	2x 1

*Cover cap available as accessory: Order No.: 59050 up to max. 25/150mV, higher values on request

SHUNT 100 - Voltage drop 100 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weighth (approx.)	Current connection (Meas. g)	Number of connections
72911S	1	Yes	0.10 kg	M5x12	2x 1
72912S	1.5	Yes	0.10 kg	M5x12	2x 1
72913S	2.5	Yes	0.10 kg	M5x12	2x 1
72914S	4	Yes	0.10 kg	M5x12	2x 1
72915S	6	Yes	0.10 kg	M5x12	2x 1
72916S	10	Yes	0.11 kg	M5x12	2x 1
72917S	15	Yes	0.11 kg	M5x12	2x 1
72918S	25	Yes	0.11 kg	M5x12	2x 1
72919	40	No	0.16 kg	M8x16	2x 1
72919S	40	Yes	0.16 kg	M8x16	2x 1
72920	60	No	0.16 kg	M8x16	2x 1
72920S	60	Yes	0.16 kg	M8x16	2x 1
72921	100	No	0.17 kg	M8x16	2x 1
72921S	100	Yes	0.17 kg	M8x16	2x 1
72922	150	No	0.18 kg	M8x16	2x 1
72922S	150	Yes	0.18 kg	M8x16	2x 1

*Cover cap available as accessory: Order No.: 59050 up to max. 25/150mV, higher values on request

SHUNT 150 - Voltage drop 150 mV - Class 0.5

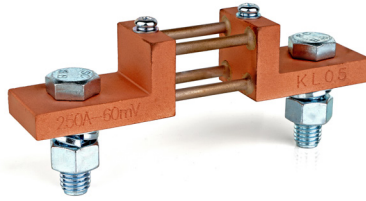
Art.-no.	Nominal current [A]	Isolating base	Weighth (approx.)	Current connection (Meas. g)	Number of connections
73911S	1	Yes	0.10 kg	M5x12	2x 1
73912S	1.5	Yes	0.10 kg	M5x12	2x 1
73913S	2.5	Yes	0.11 kg	M5x12	2x 1
73914S	4	Yes	0.11 kg	M5x12	2x 1
73915S	6	Yes	0.11 kg	M5x12	2x 1
73916S	10	Yes	0.11 kg	M5x12	2x 1
73917S	15	Yes	0.11 kg	M5x12	2x 1
73918S	25	Yes	0.12 kg	M5x12	2x 1
73919	40	No	0.17 kg	M8x16	2x 1
73919S	40	Yes	0.17 kg	M8x16	2x 1
73920	60	No	0.18 kg	M8x16	2x 1
73920S	60	Yes	0.18 kg	M8x16	2x 1
73921	100	No	0.21 kg	M8x16	2x 1
73921S	100	Yes	0.21 kg	M8x16	2x 1
73922	150	No	0.24 kg	M8x16	2x 1
73922S	150	Yes	0.24 kg	M8x16	2x 1

*Cover cap available as accessory: Order No.: 59050 up to max. 25/150mV, higher values on request

SHUNT 300 - Voltage drop 300 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weighth (approx.)	Current connection (Meas. g)	Number of connections
74911S	1	Yes	0.11 kg	M5x12	2x 1
74912S	1.5	Yes	0.11 kg	M5x12	2x 1
74913S	2.5	Yes	0.11 kg	M5x12	2x 1
74914S	4	Yes	0.11 kg	M5x12	2x 1
74915S	6	Yes	0.11 kg	M5x12	2x 1
74916S	10	Yes	0.11 kg	M5x12	2x 1
74917S	15	Yes	0.12 kg	M5x12	2x 1
74918S	25	Yes	0.13 kg	M5x12	2x 1
74919	40	No	0.19 kg	M8x16	2x 1
74919S	40	Yes	0.19 kg	M8x16	2x 1
74920	60	No	0.22 kg	M8x16	2x 1
74920S	60	Yes	0.22 kg	M8x16	2x 1
74921	100	No	0.27 kg	M8x16	2x 1
74921S	100	Yes	0.27 kg	M8x16	2x 1
74922	150	No	0.33 kg	M8x16	2x 1
74922S	150	Yes	0.33 kg	M8x16	2x 1

Construction type B



SHUNT 60 - Voltage drop 60 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
71923	250	optional	0.5 kg	M12x40	2x 1
71924	400	optional	0.8 kg	M16x45	2x 1
71925	600	optional	0.8 kg	M16x45	2x 1
71926	1000	No	1.4 kg	M20x50	2x 1
71927	1500	optional	2.0 kg	M16x45	2x 2
71997	2500	No	2.9 kg	M20x50	2x 2

SHUNT 100 - Voltage drop 100 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
72923	250	optional	0.6 kg	M12x40	2x 1
72924	400	optional	0.9 kg	M16x45	2x 1
72925	600	optional	0.9 kg	M16x45	2x 1
72926	1000	No	1.6 kg	M20x50	2x 1
72935	1500	optional	3.1 kg	M16x45	2x 2

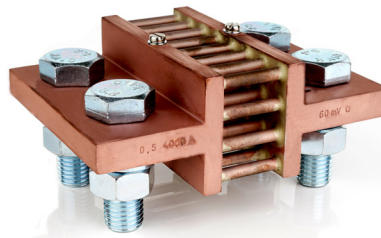
SHUNT 150 - Voltage drop 150 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
73923	250	No	0.8 kg	M12x40	2x 1
73924	400	No	1.2 kg	M16x45	2x 1
73925	600	No	1.3 kg	M16x45	2x 1
73926	1000	No	2.5 kg	M20x50	2x 1

SHUNT 300 - Voltage drop 300 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
74923	250	optional	0.9 kg	M12x40	2x 1
74924	400	optional	1.4 kg	M16x45	2x 1
74925	600	optional	1.7 kg	M16x45	2x 1
74926	1000	No	3.1 kg	M20x50	2x 1

Construction type C



SHUNT 60 - Voltage drop 60 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
71929	4000	No	4.3 kg	M20x60	2x 2
71930	6000	No	10.9 kg	M20x75	2x 3
71931	10000	No	21.1 kg	M20x80	2x 4
71932	15000	No	31.7 kg	M20x80	2x 6

SHUNT 100 - Voltage drop 100 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
72928	2500	No	4.6 kg	M20x60	2x 2
72929	4000	No	8.9 kg	M20x75	2x 2
72930	6000	No	11.9 kg	M20x75	2x 3

SHUNT 150 - Voltage drop 150 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
73927	1500	No	3.8 kg	M16x60	2x 2
73928	2500	No	5.5 kg	M20x60	2x 2
73929	4000	No	10.0 kg	M20x75	2x 2
73930	6000	No	14.2 kg	M20x75	2x 3
73931	10000	No	26.5 kg	M20x80	2x 4

SHUNT 300 - Voltage drop 300 mV - Class 0.5

Art.-no.	Nominal current [A]	Isolating base	Weigth (approx.)	Current connection (Meas. g)	Number of connections
74927	1500	No	4.7 kg	M16x60	2x 2
74928	2500	No	7.1 kg	M20x60	2x 2
74929	4000	No	13.0 kg	M20x75	2x 2
74930	6000	No	17.6 kg	M20x75	2x 3

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Management Service

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The Certification Body
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certifies that



MBS AG
Eisbachstr. 51 • 74429 Sulzbach-Laufen
Germany

including the
sites and scope of application
see enclosure

has established and applies
a Quality Management System.

An audit was performed, Order No. **70003062**.
Proof has been furnished that the requirements
according to

ISO 9001:2015

are fulfilled.

The certificate is valid from **2019-04-05** until **2022-04-04**.

Certificate Registration No.: **12 100 20346 TMS**.

Product Compliance Management
Munich, 2019-04-08



Page 1 of 2

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