

SIRAX SH100 Shunts

Description

The shunts are used to measure DC currents, especially at high current levels. The current passing through the shunt produces a proportional voltage drop, which can then be displayed with a moving-coil instrument.

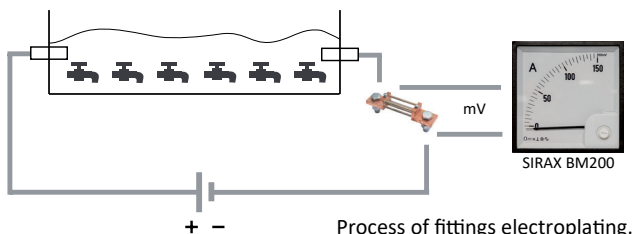
The shunts are manufactured in class 0.5 or 0.2 according to DIN 43709 and DIN 60051 with nominal currents in the range from 1A to 15000A and a voltage drop from 50mV to 150mV.

Shunts are calibrated in such a way that they produce an accurately defined voltage drop (e.g. 60mV, 150mV).

Features

- Large measuring range from 1A ... 15000A
- Robust construction
- In-line bus bar mounting
- Very low temperature coefficient
- high long term stability
- High overload withstand
- Shock and vibration proof

Application



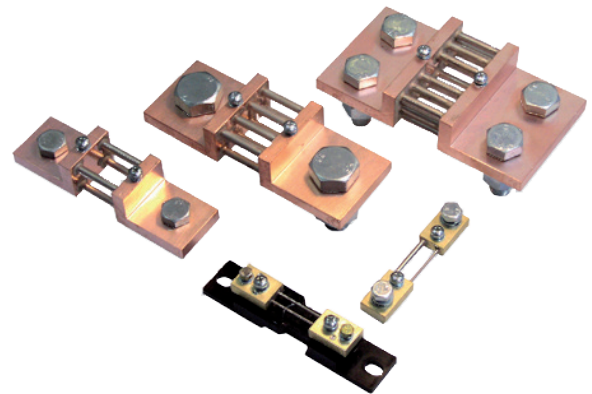
Technical specifications

Mechanical data

Version A, D	Flat profile with insulating base (up to 25A / 50, 60, 75, 100, 150mV)
	Flat profile without insulating base (30 ... 150 A)
Version B	L-Profile
Version C	T-Profile

Material

Resistance bars	Manganin
Connection pieces version A, D	high conductivity brass
Connection pieces version B	high conductivity brass/solid copper
Connection pieces version C	Solid copper
Base material version A, D	Lexan black, UL94 V-0, self-extinguishing, non-drip, halogen-free



Connections

Current
Voltage

thread screws
please refer to dimensional drawings
M5 x 8

Mounting

Version A

Screw mounting (max M8) or clamping to DIN mounting rail acc. to DIN EN 60715

Electrical data

Nominal voltage drop	50mV, 60mV, 75mV, 100mV, 150mV
Overload capability continuously	acc. to DIN EN 60 051
max. 5s ($\leq 2000A$)	1.2-times
max. 5s ($> 2000A \dots 10000A$)	5-times
Nominal current	1A ... 15000A
Accuracy class	0.2 or 0.5

Environmental conditions

Climatic suitability	Climatic class 3 acc. to VDE/VDI 3540
Ambient temperature	23°C \pm 1K (reference conditions)
Operating temperature	-10 ... +55 °C
Storage temperature	-25 ... +65 °C
Temperature coefficient	0.002% / °C
Relative humidity	\leq 75% annual average, non-condensing

Safety

EMC-Noise immunity	acc. to EN 61 000-6-2
EMC-Noise emissions	acc. to EN 61 000-6-4
Testing voltage with isolating base	5kV
Resistance of a pair of wires	35m Ω or 75m Ω , wires are not delivered with the shunt
Enclosure code	IP00

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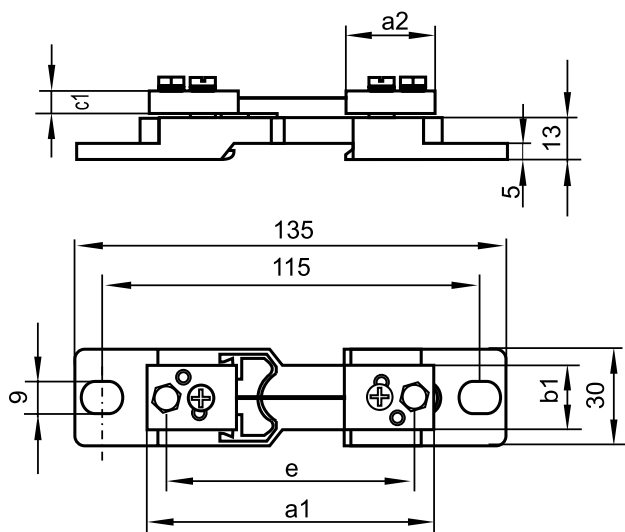
Shunts

Rules and Standards

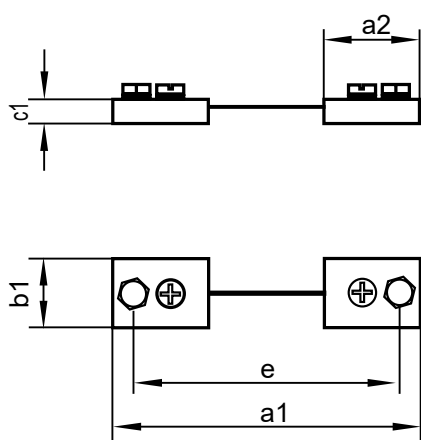
DIN 43 703	Shunts
DIN EN 60 051	Direct acting indicating analogue electrical measuring instruments and their accessories –
DIN EN 60 051-1	Part 1: Definitions and general requirements common to all parts
DIN EN 60 051-8	Part 8: Special requirements for accessories
DIN EN 60 051-9	Part 9: Recommended test methods
DIN EN 60 715	Dimensions of low voltage switching devices: standardized DIN rails for mechanical fixation of electrical in switchgears.

Dimensional drawings

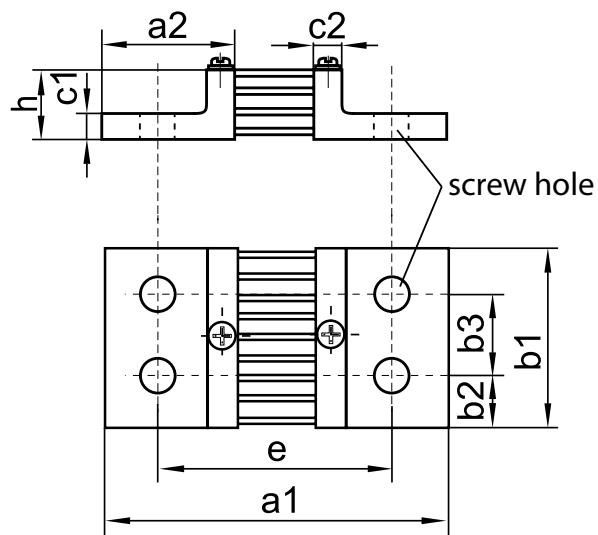
Version A (on an isolating base)



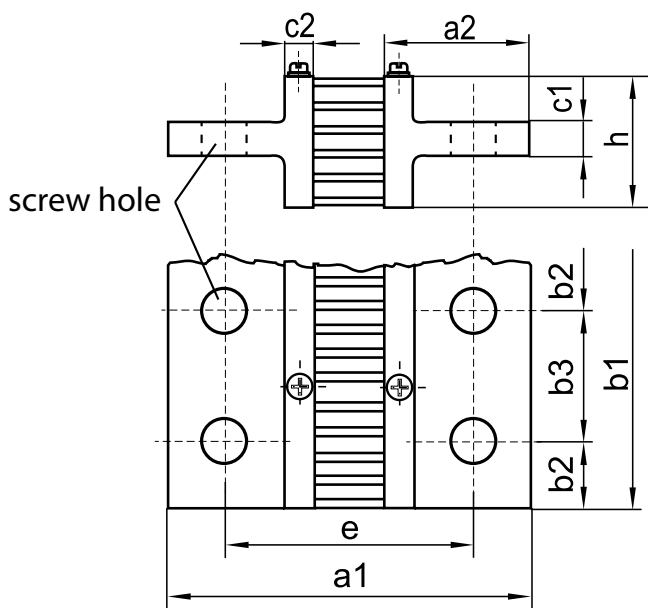
Version D



Version B



Version C



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Shunts

Dimensions

Additional mV Drop*															
50mV												Current terminals			
IN [A]	Version	a1 max	a2	b1	b2	b3	c1	c2	e	h	Weight [kg]	LZ	Bolt	P	N
1, 1.5, 2.5, 4, 6, 10, 15, 20, 25	A	90	28	20	--	--	8	--	70	--	0.13	2 x 1	M5 x 12	5.5	--
30, 40, 60, 75, 100, 150	D	110	33	20	--	--	8	--	80	--	0.13	2 x 1	M8 x 16	8.5	--
250	B	155	55	30	15	--	10	10	105	30	0.60	2 x 1	M12 x 40	13	M12
300, 400	B	155	55	40	20	--	10	10	105	30	0.85	2 x 1	M16 x 45	17	M16
600	B	155	55	40	20	--	10	10	105	30	0.85	2 x 1	M16 x 45	17	M16
1000	B	175	65	60	30	--	10	10	115	30	1.45	2 x 1	M20 x 50	21	M20
1500	B	175	65	90	21	48	10	10	115	30	2.00	2 x 2	M16 x 45	17	M16
2500	B	175	65	120	30	60	10	10	115	30	2.90	2 x 2	M20 x 50	21	M20
4000	C	175	65	120	30	60	15	15	115	60	4.30	2 x 2	M20 x 60	21	M20
6000	C	185	70	154	25	52	25	15	125	130	10.50	2 x 3	M20 x 75	21	M20
10000	C	195	75	206	25	52	30	20	135	170	21.00	2 x 4	M20 x 80	21	M20
15000	C	195	75	310	25	52	30	20	135	170	32.00	2 x 6	M20 x 80	21	M20

DIN 43703 Standard															
60mV												Current terminals			
IN [A]	Version	a1 max	a2	b1	b2	b3	c1	c2	e	h	Weight [kg]	LZ	Bolt	P	N
1, 1.5, 2.5, 4, 6, 10, 15, 20, 25	A	90	28	20	--	--	8	--	78	--	0.13	2 x 1	M5 x 12	5.5	--
30, 40, 60, 75, 100, 150	D	100	33	20	--	--	8	--	80	--	0.13	2 x 1	M8 x 16	8.5	--
250	B	145	55	30	15	--	10	10	105	30	0.60	2 x 1	M12 x 40	13	M12
300, 400	B	145	55	40	20	--	10	10	105	30	0.85	2 x 1	M16 x 45	17	M16
600	B	145	55	40	20	--	10	10	105	30	0.85	2 x 1	M16 x 45	17	M16
1000	B	165	65	60	30	--	10	10	115	30	1.45	2 x 1	M16 x 45	21	M16
1500	B	165	65	90	21	48	10	10	115	30	2.00	2 x 2	M16 x 45	17	M16
2500	B	165	65	120	30	60	10	10	115	30	2.90	2 x 2	M20 x 50	21	M20
4000	C	165	65	120	30	60	15	10	115	60	4.30	2 x 2	M20 x 60	21	M20
6000	C	175	70	154	25	52	25	15	125	130	10.50	2 x 3	M20 x 75	21	M20
10000	C	185	75	206	25	52	30	20	135	170	21.00	2 x 4	M20 x 80	21	M20
15000	C	185	75	310	25	52	30	20	135	170	32.00	2 x 6	M20 x 80	21	M20

Additional mV Drop*															
75mV												Current terminals			
IN [A]	Version	a1 max	a2	b1	b2	b3	c1	c2	e	h	Weight [kg]	LZ	Bolt	P	N
1 ... 30	A	100	28	20	--	--	8	--	88	--	0.14	2 x 1	M5 x 12	5.5	--
31 ... 150	D	120	33	20	--	--	8	--	100	--	0.17	2 x 1	M8 x 16	8.5	--
151 ... 300	B	165	55	30	15	--	10	10	125	30	0.63	2 x 1	M12 x 40	13	M12
301 ... 750	B	165	55	40	20	--	10	10	125	30	0.92	2 x 1	M16 x 45	17	M16
751 ... 1000	B	185	65	60	30	--	10	10	135	30	1.00	2 x 1	M16 x 45	21	M16
1001 ... 1500	B	185	65	90	21	48	10	10	135	30	1.75	2 x 1	M16 x 45	17	M16
1501 ... 3000	B	185	65	120	30	60	10	10	135	30	2.30	2 x 2	M16 x 45	21	M20
3001 ... 5000	C	185	65	120	30	60	15	15	135	60	3.10	2 x 2	M20 x 50	21	M20
5001 ... 7500	C	195	70	154	25	52	25	15	145	130	5.20	2 x 2	M20 x 60	21	M20
7501 ... 10000	C	205	75	206	25	52	30	20	155	170	11.20	2 x 3	M20 x 75	21	M20
10001 ... 15000	C	205	75	310	25	52	30	20	155	170	22.00	2 x 4	M20 x 80	21	M20

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Additional mV Drop*															
100mV												Current terminals			
IN [A]	Version	a1 max	a2	b1	b2	b3	c1	c2	e	h	Weight [kg]	LZ	Bolt	P	N
1, 1.5, 2.5, 4, 6, 10, 15, 20, 25	A	90	28	20	--	--	8	--	78	--	0.14	2 x 1	M5 x 12	5.5	--
30, 40, 60, 75, 100, 150	A, D	145	33	25	--	--	8	--	125	--	0.20	2 x 1	M8 x 16	8.5	--
250	B	190	55	30	15	--	10	10	150	30	0.65	2 x 1	M12 x 40	13	M12
300, 400	B	190	55	40	20	--	10	10	150	30	1.00	2 x 1	M16 x 45	17	M16
600	B	190	55	40	20	--	10	10	150	30	1.11	2 x 1	M16 x 45	17	M16
1000	B	210	65	60	30	--	10	10	160	30	2.00	2 x 1	M16 x 45	21	M16
1500	B	210	65	120	30	60	10	10	160	30	2.50	2 x 2	M16 x 45	17	M16
2500	C	210	65	120	30	60	15	10	160	60	3.20	2 x 2	M20 x 50	21	M20
4000	C	220	70	120	30	60	25	15	170	130	5.80	2 x 2	M20 x 60	21	M20
6000	C	220	70	154	25	52	25	15	170	130	12.00	2 x 3	M20 x 75	21	M20
10000	C	230	75	206	25	52	30	20	180	170	23.00	2 x 4	M20 x 80	21	M20
15000	C	230	75	310	25	52	30	20	180	170	34.00	2 x 6	M20 x 80	21	M20

DIN 43703 Standard															
150mV												Current terminals			
IN [A]	Version	a1 max	a2	b1	b2	b3	c1	c2	e	h	Weight [kg]	LZ	Bolt	P	N
1, 1.5, 2.5, 4, 6, 10, 15, 20, 25	A	90	28	20	--	--	8	--	78	--	0.14	2 x 1	M5 x 12	5.5	--
30, 40, 60, 75, 100, 150	A, D	225	33	25	--	--	8	--	205	--	0.23	2 x 1	M8 x 16	8.5	--
250	B	270	55	30	15	--	10	10	230	50	0.68	2 x 1	M12 x 40	13	M12
300, 400	B	270	55	40	20	--	10	10	230	50	1.05	2 x 1	M16 x 45	17	M16
600	B	270	55	40	20	--	10	10	230	50	1.16	2 x 1	M16 x 45	17	M16
1000	B	290	65	70	35	--	10	10	240	50	2.15	2 x 1	M16 x 45	21	M16
1500	C	290	65	90	21	48	15	10	240	60	3.10	2 x 2	M16 x 45	17	M16
2500	C	290	65	120	30	60	15	10	240	60	5.20	2 x 2	M20 x 50	21	M20
4000	C	300	70	120	30	60	25	15	250	130	8.30	2 x 2	M20 x 60	21	M20
6000	C	300	70	154	25	52	25	15	250	130	15.00	2 x 3	M20 x 75	21	M20
10000	C	310	75	206	25	52	30	20	260	170	28.00	2 x 4	M20 x 80	21	M20
15000	C	310	75	310	25	52	30	20	260	170	35.00	2 x 6	M20 x 80	21	M20

IN - Rated current **LZ** - Number of terminals **Bolt** - hexagon bolt **P** - washer **N** - Nut

Voltage terminals - two M5 x 8 cylinder-head bolts with a current cavity +5.5; washers for 151A - 15kA
 - two M4 x 8 cylinder-head bolts with a current cavity +4.7; washers for 1A - 150A

* Deviating from Standard

Order details

Description	Blockingcode	No-go with blockingcode	Article No. / Feature
SIRAX SH100, Shunt			SH100-
Features, Selection			
01 Design			
A	A		1
B	B		2
C	C		3
D	D		4

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Shunts

02 Accuracy	Class 0.5	E		1
	Class 0.2	F		2
03 Voltage drop	50 mV			1
	60 mV			2
	75 mV			3
	100 mV		F	4
	150 mV		F	5
04 Measuring range	1 A (for Class 0.5)	G	B, C, D, F	01
	1 A (for Class 0.2)	G	B, C, D, E	02
	1.5 A (for Class 0.5)	G	B, C, D, F	03
	1.5 A (for Class 0.2)	G	B, C, D, E	04
	2.5 A (for Class 0.5)	G	B, C, D, F	05
	2.5 A (for Class 0.2)	G	B, C, D, E	06
	4 A (for Class 0.5)	G	B, C, D, F	07
	4 A (for Class 0.2)	G	B, C, D, E	08
	6 A (for Class 0.5)	G	B, C, D, F	09
	6 A (for Class 0.2)	G	B, C, D, E	10
	10 A (for Class 0.5)	G	B, C, D, F	11
	10 A (for Class 0.2)	G	B, C, D, E	12
	15 A (for Class 0.5)	G	B, C, D, F	13
	15 A (for Class 0.2)	G	B, C, D, E	14
	20 A (für Klasse 0.5)	G	B, C, D, F	56
	20 A (für Klasse 0.2)	G	B, C, D, E	57
	25 A (for Class 0.5)	G	B, C, D, F	15
	25 A (for Class 0.2)	G	B, C, D, E	16
	30 A (für Klasse 0.5)	H	B, C, F	58
	30 A (für Klasse 0.2)	H	B, C, E	59
	40 A (for Class 0.5)	H	B, C, F	17
	40 A (for Class 0.2)	H	B, C, E	18
	60 A (for Class 0.5)	H	B, C, F	19
	60 A (for Class 0.2)	H	B, C, E	20
	75 A (for Class 0.5)	H	B, C, F	21
	75 A (for Class 0.2)	H	B, C, E	22
	100 A (for Class 0.5)	H	B, C, F	23
	100 A (for Class 0.2)	H	B, C, E	24
	150 A (for Class 0.5)	H	B, C, F	27
	150 A (for Class 0.2)	H	B, C, E	28
	250 A (for Class 0.5)	H	A, C, D, F	31
250 A (für Klasse 0.2)	H	A, C, D, E	32	
300 A (für Klasse 0.5)	H	A, C, D, F	60	
300 A (für Klasse 0.2)	H	A, C, D, E	61	

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400 A (for Class 0.5)	H	A, C, D, F	33
400 A (for Class 0.2)	H	A, C, D, E	34
600 A (for Class 0.5)	H	A, C, D, F	35
600 A (for Class 0.2)	H	A, C, D, E	36
1000 A (for Class 0.5)	H	A, C, D, F	39
1000 A (for Class 0.2)	H	A, C, D, E	40
1500 A (for Class 0.5)	H	A, C, D, F	43
1500 A (for Class 0.2)	H	A, C, D, E	44
2500 A (for Class 0.5)	H	A, B, D, F	47
2500 A (for Class 0.2)	H	A, B, D, E	48
4000 A (for Class 0.5)	H	A, B, D, F	50
6000 A (for Class 0.5)	H	A, B, D, F	52
10000 A (for Class 0.5)	H	A, B, D, F	54
15000 A (for Class 0.5)	H	A, B, D, F	55
Special version on request			62
05 Insulating base			
None for version type A over 25A and for version type B, C, D	I	G	1
With for version type A up to 25A		B, C, D, H	2
06 Cover			
None (Standard)			1
With (for shunts with insulating base)		B, C, D, I	2



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