ams®

Measuring Technology...

analogue and digital

Our Experience
Is Your Success

SHUNTS

Development
Production
Sales
Tradition

Your success is important to us!

...that's what we stand for!

analogue and digital measuring technology

current transformers

energy management

shunts

transducers

gas warning systems

bus bar insulators and supports

laboratory & teaching aids

services

Shunts

The long-life shunts of the AMS GmbH are used to expand the current measuring range of moving coil ammeters for the reliable displaying and further processing of direct currents, especially at high rates of up to 15,000A.

The direct current flowing through the shunt generates a proportional voltage drop which, for example, can be displayed by means of a moving coil meter connected in parallel or be further processed electronically.

The shunts manufactured by us comply with DIN 43703 and DIN EN 60051.

The accuracy is 0.5% relative to the nominal value. In addition, shunts with an increased accuracy of 0.2% or 0.1% can be realised on request.

The rated currents are in the range of 1A to 15,000A. Shunts are manufactured in three different designs, depending on the nominal current.

Up to 25A, the shunts are always mounted on an insulating base which can be mounted on a 35mm DIN rail or by means of screw fixing. Above 25A, an insulating base is optionally available for type A, as well as for some current ranges in type B.

Operating conditions:

- working temperature: -10 ≤ ϑ ≤ +55 °C
- storage temperature: -25 ≤ ϑ ≤ +65 °C
- relative humidity: ≤ 75 % (no condensation)
- climatic conditions: climatic class 3 according to VDE/VDI 3540

Accuracy:

- accuracy class: class 0.5 (optional class 0.2 or 0.1)

Material:

- resistor: Manganin
- connector, type A: brass
- connector, type B: brass/copper
- connector, type C: copper

Connections:

- current path: see dimension drawings
- voltage path: M5 x 8

Safety:

- protection class: IP00

Connector shape:

- type A: flat profile, with insulating base (1 ... 25A)
flat profile, optionally with insulating base (30 ... 400A)
- type B: L-section
- type C: T-section

Applied standards:

- DIN 43703 shunt dimensions
- DIN EN 60051 direct acting indicating analogue electrical measuring instruments and their accessories

Standard designs

- voltage drop: 60mV; 100mV; 150mV; 300mV
- overload withstand: 1.2 rated current, permanently
5-fold, max. 5 sec. (≤ 2,000A)
2-fold, max. 5 Sek. (> 2,000A ... 10,000A)
- rated current: 1 ... 15000A
- accuracy: class 0,5
- insulating base: 1... 25A as standard
30...400A optionally
- cover cap available as accessory: 1...400A (60mV)

Special designs

A flexible manufacturing allows the realisation of individually customised shunts.

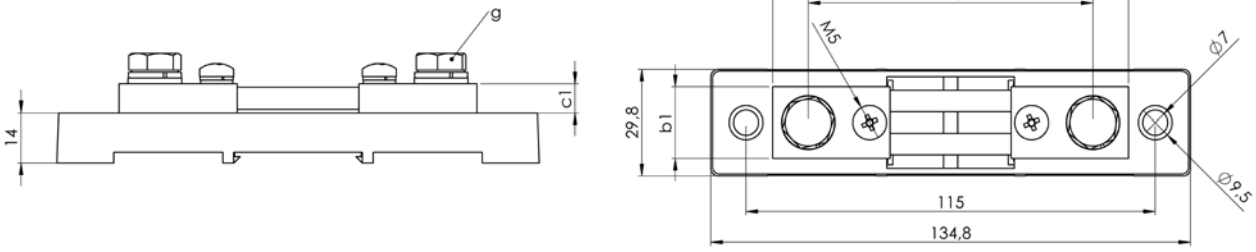
- different voltage drop
- different rated current
- accuracy class 0.2, 0,1 on request
- customised designs according to dimensioned drawing for your installation situation

Ordering example

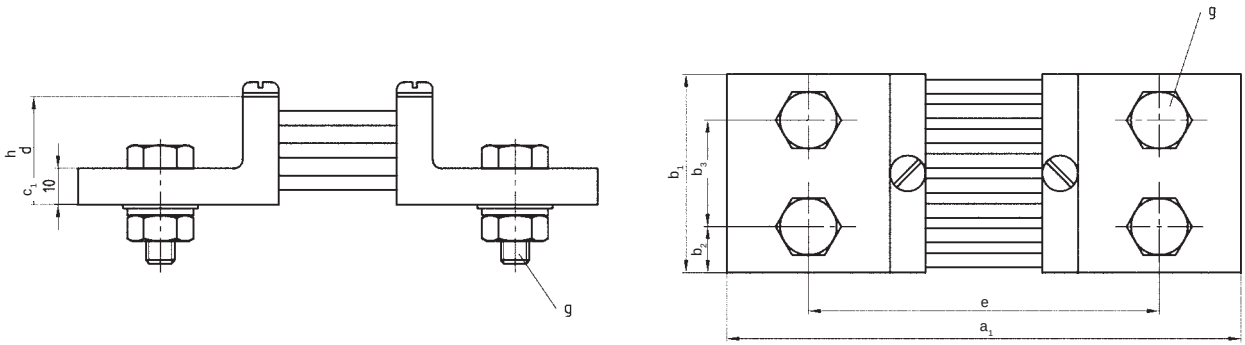
- voltage drop: 60mV
- rated current: 1000A
- accuracy class: 0.5

Dimension Drawings

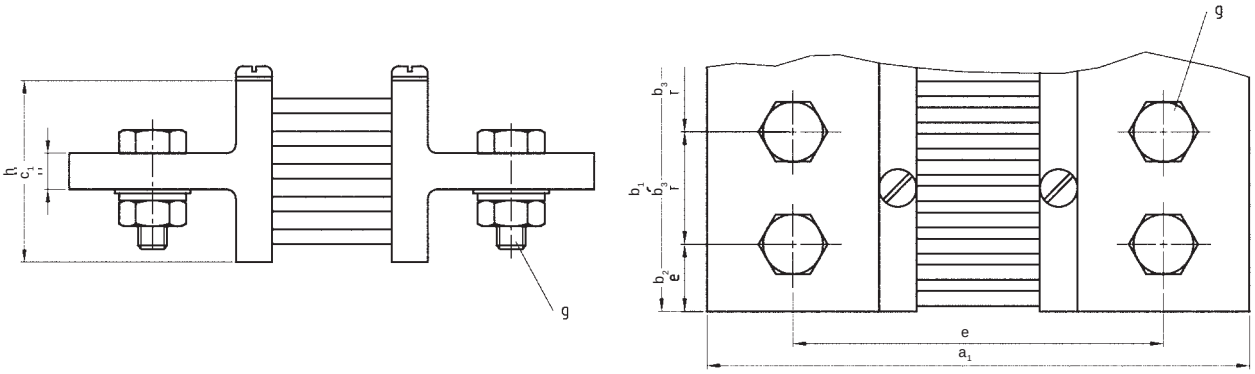
Type A



Type B



Type C



Dimensions

voltage drop [mV]	dim. [mm]	for rated current [A]												
		1 - 25	30 - 250	300-400	200-350	400-800	900-1000	1000-1250	1500-2000	2500-3000	3000-5000	6000-8000	8000-10000	15000
60		type A			type B						type C			
	a_1	90	100		145		165				165	175	185	
	b_1	20		30	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	10						15	25	30	
	e	78	80		105		115				115	125	135	
	h	-			30						60	130	170	
100		type A			type B				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		type A			type B				type C					
	a_1	90	225		270		290		290	300	310			
	b_1	20	25		30	40	70		90	120	154	206	310	
	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		type A			type B				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				

Subject to change

Type A

Voltage drop 60 mV - class 0.5

rated current [A]	insulating base*	weight (approx.)	current connection (dimension g)	number of connections
1	yes	0.10 kg	M5x12	2x 1
1.5	yes	0.10 kg	M5x12	2x 1
2.5	yes	0.10 kg	M5x12	2x 1
4	yes	0.10 kg	M5x12	2x 1
6	yes	0.10 kg	M5x12	2x 1
10	yes	0.10 kg	M5x12	2x 1
15	yes	0.11 kg	M5x12	2x 1
25	yes	0.11 kg	M5x12	2x 1
40	optional	0.12 kg	M8x16	2x 1
50	optional	0.12 kg	M8x16	2x 1
60	optional	0.13 kg	M8x16	2x 1
80	optional	0.13 kg	M8x16	2x 1
100	optional	0.13 kg	M8x16	2x 1
150	optional	0.13 kg	M8x16	2x 1
200	optional	0.13 kg	M8x16	2x 1
250	optional	0.13 kg	M8x16	2x 1
300	optional	0.21 kg	M10x20	2x 1
400	optional	0.21 kg	M10x20	2x 1

*cover cap available as accessory for voltage drop 60mV

Voltage drop 100 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
1	yes	0.10 kg	M5x12	2x 1
1.5	yes	0.10 kg	M5x12	2x 1
2.5	yes	0.10 kg	M5x12	2x 1
4	yes	0.10 kg	M5x12	2x 1
6	yes	0.10 kg	M5x12	2x 1
10	yes	0.11 kg	M5x12	2x 1
15	yes	0.11 kg	M5x12	2x 1
25	yes	0.11 kg	M5x12	2x 1
40	optional	0.16 kg	M8x16	2x 1
50	optional	0.16 kg	M8x16	2x 1
60	optional	0.16 kg	M8x16	2x 1
80	optional	0.16 kg	M8x16	2x 1
100	optional	0.17 kg	M8x16	2x 1
150	optional	0.18 kg	M8x16	2x 1
200	optional	0.18 kg	M8x16	2x 1
250	optional	0.18 kg	M8x16	2x 1

Voltage drop 150 mV - class 0.5

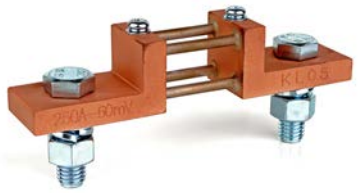
rated current [A]	insulating base*	weight (approx.)	current connection (dimension g)	number of connections
1	yes	0.10 kg	M5x12	2x 1
1.5	yes	0.10 kg	M5x12	2x 1
2.5	yes	0.11 kg	M5x12	2x 1
4	yes	0.11 kg	M5x12	2x 1
6	yes	0.11 kg	M5x12	2x 1
10	yes	0.11 kg	M5x12	2x 1
15	yes	0.11 kg	M5x12	2x 1
25	yes	0.12 kg	M5x12	2x 1
40	optional	0.17 kg	M8x16	2x 1
50	optional	0.17 kg	M8x16	2x 1
60	optional	0.18 kg	M8x16	2x 1
80	optional	0.19 kg	M8x16	2x 1
100	optional	0.21 kg	M8x16	2x 1
150	optional	0.24 kg	M8x16	2x 1
200	optional	0.24 kg	M8x16	2x 1
250	optional	0.26 kg	M8x16	2x 1

*cover cap available as accessory for up to 25A/150mV

Voltage drop 300 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
1	yes	0.11 kg	M5x12	2x 1
1.5	yes	0.11 kg	M5x12	2x 1
2.5	yes	0.11 kg	M5x12	2x 1
4	yes	0.11 kg	M5x12	2x 1
6	yes	0.11 kg	M5x12	2x 1
10	yes	0.11 kg	M5x12	2x 1
15	yes	0.12 kg	M5x12	2x 1
25	yes	0.13 kg	M5x12	2x 1
40	optional	0.19 kg	M8x16	2x 1
50	optional	0.19 kg	M8x16	2x 1
60	optional	0.22 kg	M8x16	2x 1
80	optional	0.24 kg	M8x16	2x 1
100	optional	0.27 kg	M8x16	2x 1
150	optional	0.33 kg	M8x16	2x 1
200	optional	0.33 kg	M8x16	2x 1
250	optional	0.33 kg	M8x16	2x 1

Type B



Voltage drop 60 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
250	optional	0.5 kg	M12x40	2x 1
400	optional	0.8 kg	M16x45	2x 1
600	optional	0.8 kg	M16x45	2x 1
1000	no	1.4 kg	M20x50	2x 1
1500	optional	2.0 kg	M16x45	2x 2
2500	no	2.9 kg	M20x50	2x 2

Voltage drop 100 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
250	optional	0.6 kg	M12x40	2x 1
400	optional	0.9 kg	M16x45	2x 1
600	optional	0.9 kg	M16x45	2x 1
1000	no	1.6 kg	M20x50	2x 1
1500	optional	3.1 kg	M16x45	2x 2

Voltage drop 150 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
250	optional	0.8 kg	M12x40	2x 1
400	optional	1.2 kg	M16x45	2x 1
600	optional	1.3 kg	M16x45	2x 1
1000	no	2.5 kg	M20x50	2x 1

Voltage drop 300 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
250	optional	0.9 kg	M12x40	2x 1
400	optional	1.4 kg	M16x45	2x 1
600	optional	1.7 kg	M16x45	2x 1
1000	no	3.1 kg	M20x50	2x 1

Type B

Voltage drop 60 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
4000	no	4.3 kg	M20x60	2x 2
6000	no	10.9 kg	M20x75	2x 3
10000	no	21.1 kg	M20x80	2x 4
15000	no	31.7 kg	M20x80	2x 6

Voltage drop 100 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
2500	no	4.6 kg	M20x60	2x 2
4000	no	8.9 kg	M20x75	2x 2
6000	no	11.9 kg	M20x75	2x 3

Voltage drop 150 mV - class 0.5

rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
1500	no	3.8 kg	M16x60	2x 2
2500	no	5.5 kg	M20x60	2x 2
4000	no	10.0 kg	M20x75	2x 2
6000	no	14.2 kg	M20x75	2x 3
10000	no	26.5 kg	M20x80	2x 4

Voltage drop 300 mV - class 0.5

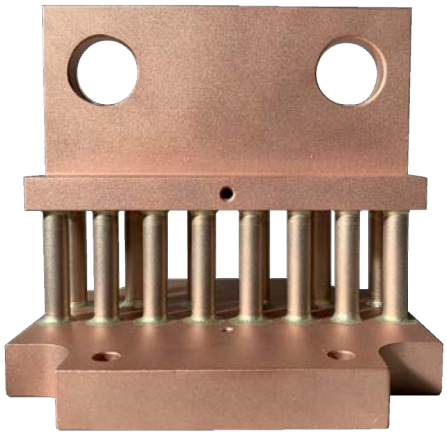
rated current [A]	insulating base	weight (approx.)	current connection (dimension g)	number of connections
1500	no	4.7 kg	M16x60	2x 2
2500	no	7.1 kg	M20x60	2x 2
4000	no	13.0 kg	M20x75	2x 2
6000	no	17.6 kg	M20x75	2x 3

Special type shunt

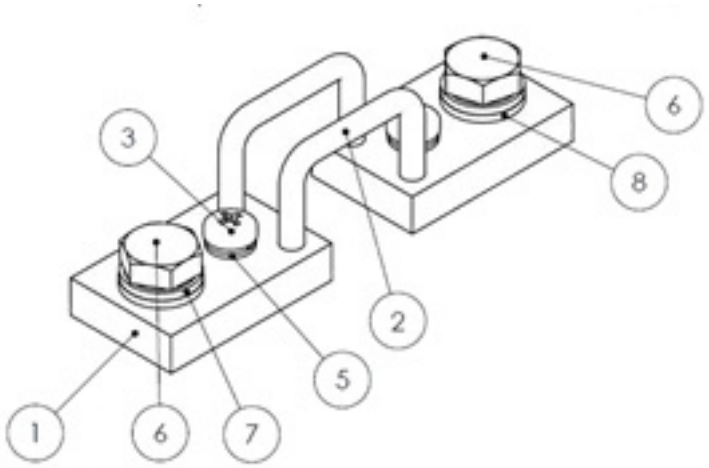
Apart from the production of standard shunts according to DIN 43703 and DIN EN 60051 we are also able to manufacture shunts in accordance with predefined customer specification. This applies to special electrical values at nominal current as well as for special values at voltage drop.
Due to our established machine shops, we are as well able to produce special types regarding the dimension and construction design of a shunt in accordance with individual customer specification. Ideally, this will be carried out according to a customer-provided template. We also willingly perform the sizing and design of a special type shunt in accordance with your specifications regarding electrical performance ratings and constructional needs. In our design department, we draw up a 3-D scale drawing on CAD.

Development and production from a single source.

In the framework of new development projects, we willingly elaborate the custom special type shunt in accordance with your specifications, together with you. Based on our longtime expertise in the field of shunt production, we are therefore the ideal partner for you. In our in-house production shop, we go along with you from the design via the production of the first prototype through to serial production. Everything from a single source in the premises of AMS!



Producing a special shunt according to provided drawings:



Special type shunts

Due to the flexible production setup, an implementation of individual customer requirements is possible.

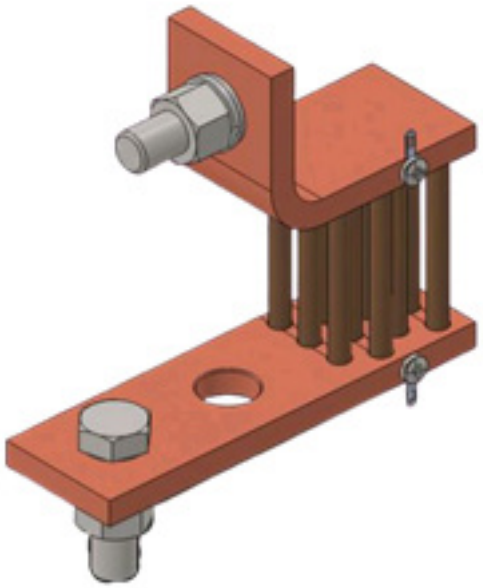
► divergent voltage drops
► divergent nominal current
► accuracy classes 0.2 and 0.1
► design types according to dimensional drawing for your mounting conditions

▹ shunts can be produced as any special type

▹ special shunts can be produced in accuracy class 0.5 as well as 0.2 (0.1 on request).

▹ construction according to your specifications

▹ monitoring of a new development



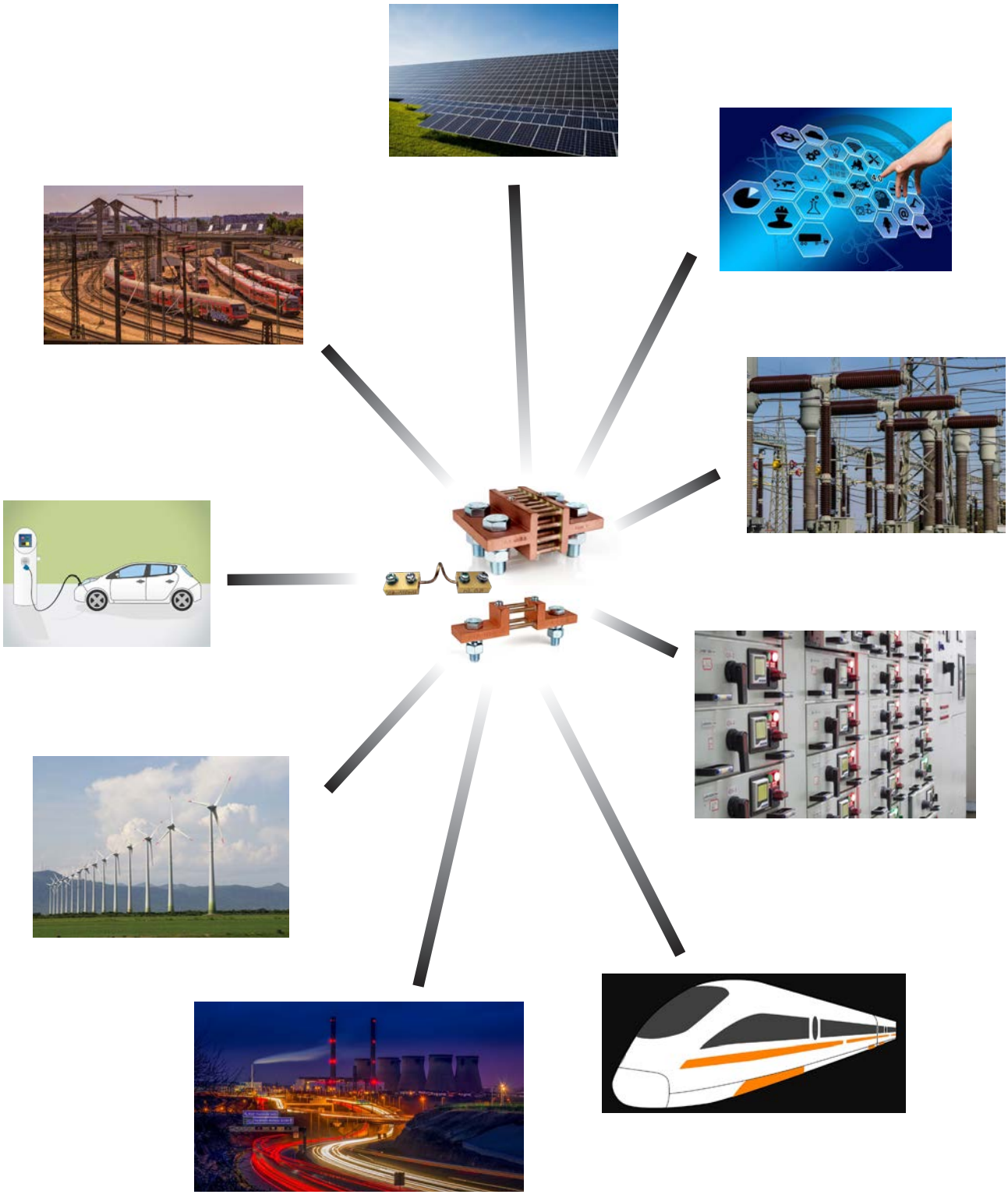
The durable shunts of AMS GmbH conduce to the extension of the measuring range of moving-coil meters, to the reliable indication and processing of direct currents, especially at high values.
The direct current flowing through the shunt generates a proportional voltage drop, which can for example be displayed or electronically processed by means of a moving-coil measuring instrument connected in parallel.

„Our Experience Is Your Success!“

The AMS Messtechnik GmbH is an approved company of great tradition. We develop, manufacture and distribute high quality measuring instruments and electronic components for industries as well as gas detectors for private homes and camping.

Development
Production
Sales
Tradition

We make high currents measurable.



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