

SH-H, SH-Q, SH-R Shunts

Impulse Current Measuring Shunt Sets

■ These shunts are used for the measurement of impulse currents in high-voltage test labs. The measured wave shape of the current can be displayed on a Haefely digital impulse analysing system e.g. DiAS733, HiAS743 or DMI 551.

Design

The shunts are consisting of a metal cylinder with coupling flanges and coaxial measuring connector.

Three different construction types are available depending on the current value to be measured.

Set of Sleeve Shunts SH H

Interchangeable low-inductive resistor-sleeves can be built into the metal cylinder. A set consists of one cage and three sleeves of 2, 5 and 10 Ω .

The standard repetition rate allows measuring impulse currents up to 250 A (voltage drop 500 V), and at reduced repetition rate up to 500 A are possible (voltage drop 1000 V).

Set of Cage Shunts SH Q

Each resistance value is a separate shunt. A set of cage shunts consists of three shunts of 1, 0.47 and 0.1 Ω .




The standard repetition rate allows measuring impulse currents up to 5000 A (voltage drop 500 V), and at reduced repetition rate up to 16000 A are possible (voltage drop 1600 V).

Set of Tubular Shunt SH R

Each resistance value is a separate shunt. The standard repetition rate allows measuring impulse currents up to 100 kA (voltage drop 500 V), and at reduced repetition rate up to 200 kA are possible (voltage drop 1000 V).



Tubular shunt SH R (top), Cage shunt (left) and Sleeve shunt SH H (right)

	Sleeve Shunts SH H			Cage Shunts SH Q			Tubular Shunt SH R		
									
Type	SH H 2	SH H 5	SH H 10	SH Q 0.1	SH Q 0.47	SH Q 1	SH R 0.005	SH R 0.01	SH R 0.02
Rated voltage drop U_n	500 V	500 V	500 V	500 V	500 V	500 V	500 V	500 V	500 V
Max. voltage drop U_{max}	1000 V	1000 V	1000 V	1600 V	1600 V	1600 V	1000 V	1000 V	1000 V
Rated peak current I_n	250 A	100 A	50 A	5000 A	1060 A	500 A	100 kA	50 kA	25 kA
Max. peak current I_{max}	500 A	200 A	100 A	16 kA	3400 A	1600 A	200 kA	100 kA	50 kA
Resistance R	2 Ω	5 Ω	10 Ω	0.1 Ω	0.47 Ω	1 Ω	5 mΩ	10 mΩ	20 mΩ
Resistance Accuracy	±5%	±5%	±5%	±5%	±5%	±5%	±10%	±10%	±10%
Partial response time T_0	10 ns	10 ns	10 ns	< 15 ns	< 15 ns	< 30 ns	< 170 ns	< 170 ns	< 50 ns
Repetition rate at U_n / I_n	1 s	1 s	1 s	2.5 s	1.5 s	1 s	35 s	30 s	55 s
Repetition rate at U_{max} / I_{max}	4 s	4 s	4 s	25 s	16 s	11 s	140 s	120 s	220 s
Weight / shunt	1.5 kg			1.3 kg			3kg		
Dimensions	H 115mm, W 70 mm, L 255 mm			H 155 mm, Ø 64 or Ø 100 mm			L 300 mm, Ø 35 mm		

Accuracy on the resistance measurement < ± 1 %
 Accuracy at 8/20 µs impulse currents < ± 1 %

Scope of Supply

Scope of supply SH H

- 1 Housing for the sleeves
- 3 Sleeves (2, 5, 10 Ω)
- 1 Coaxial measuring cable LEMO 20 m, 75 Ω
- 1 Termination resistor (LEMO) 75 Ω
- 2 Test reports (routine test: resistance measurement)

Scope of supply SH Q

- 3 Shunts (0.1, 0.47, 1 Ω)
- 1 Coaxial measuring cable LEMO 20 m, 75 Ω
- 1 Termination resistor (LEMO) 75 Ω
- 2 Test reports (routine test: resistance measurement)

Scope of supply SH R

- 1 Shunt X mΩ for X kA
- 1 Shunt X mΩ for X kA
- 1 Shunt X mΩ for X kA
- 1 Coaxial measuring cable LEMO 20 m, 75 Ω
- 1 Termination resistor (LEMO) 75 Ω
- 2 Test reports (routine test: resistance measurement)

Accessories & Options

KOMP BOX Compensation circuit to shunts SH Q type



The compensation circuit is used to optimise the transient behaviour of the SH Q shunt and to avoid distortions at the beginning of the measured impulse current wave shape. This is recommended for fast current impulses with a rise time of 1µs or less. They are equipped with LEMO4 connectors, one on each side. Dimensions: 130 x 80 x 60 mm, weight 2kg.

European Contact
Haefely Test AG
 Lehenmattstrasse 353
 CH-4052 Basel
 Switzerland
 ☎ + 41 61 373 4111
 📠 + 41 61 373 4912
 ✉ sales@haefely.com

Locate your local sales representative at
www.high-voltage-hubbell.com



USA Contact
Hipotronics Inc.
 1650 Route 22
 PO Box 414
 Brewster, NY 10509 USA
 ☎ + 1 845 279 8091
 📠 + 1 845 279 2467
 ✉ sales@hipotronics.com

