

# Damped Capacitive Impulse Voltage Divider Type CS



700 kV, 500 pF divider

## Application

The damped-capacitive impulse voltage dividers series CS can be used to measure full lightning impulse voltages, tail chopped impulse voltages, switching impulses and AC voltages. They meet all requirements of IEC 60060-2 (1994), in particular those with respect to measuring accuracy and step response. At the same time they can be used as a basic load for impulse voltage generators.

## Design

Depending on the voltage rating, the high voltage part of the dividers consists of 1, 2 or 3 oil-filled capacitors which are housed in porcelain cylinders.

The damping resistance is placed as an external resistor on top of the uppermost capacitor.

Above 400 kV (included) rated lightning impulse voltage the dividers are equipped with a toroidal high voltage electrode to guarantee corona-free operation.

The secondary unit consists of a capacitor and a damping resistor of low inductance both arranged in a coaxial design. The unit is fixed at the bottom of the divider and can easily be disassembled. The voltage divider is erected on a four-arm base equipped with castors.

## Technical Data

The type designation consists of the characters CS and two figures, e.g. CS 400-1000 the first figure represents the max. lightning impulse voltage in kV, the latter the capacitance in pF.

Type	Rated impulse voltage L.I. 1.2 / 50 $\mu$ s  kV	Rated impulse voltage S.I. 250 / 2500 $\mu$ s  kV	Rated AC voltage, 50/60 Hz, cont. duty * kV RMS	Capacitance  pF	Damping res. ext.  $\Omega$	Clearance to walls and ceiling  m
CS 100-1000	100	100	75	1000	130	1.5
CS 200-1000	200	200	75	1000	130	1.5
CS 300-1000	300	300	75	1000	130	1.5
CS 400-1000	400	320	100	1000	130	1.5
CS 500-500	500	400	150	500	270	2.3
CS 600-500	600	500	150	500	270	2.3
CS 700-500	700	560	175	500	270	2.4
CS 800-670	800	650	250	670	230	3.5
CS 900-670	900	700	250	670	230	3.5
CS 1000-670	1000	750	250	670	230	3.5

\* with adequate additional secondary part type SEK W.

**Dimensions & weight (approx.)**

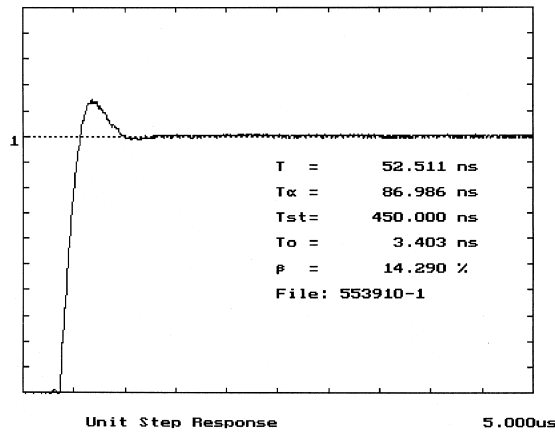
Type	Height m	Base frame m	Net weight kg	Gross weight sea kg	Shipping volume m <sup>3</sup>
CS 100-1000	1.5	0.8	60	110	0.3
CS 200-1000	1.5	0.8	60	110	0.3
CS 300-1000	1.5	0.8	60	110	0.3
CS 400-1000	1.5	0.8	60	110	0.3
CS 500-500	2.3	1.2	105	180	1.0
CS 600-500	2.3	1.2	105	180	1.0
CS 700-500	2.3	1.2	105	180	1.0
CS 800-670	3.5	1.2	135	200	1.5
CS 900-670	3.5	1.2	135	200	1.5
CS 1000-670	3.5	1.2	135	200	1.5

**Divider Ratio**

The divider ratio is designed to achieve an output voltage of approx. 1400 V at rated lightning impulse voltage. This value was chosen as the standard input voltage for impulse measuring systems from Haefely Test in order to reduce the influence of electromagnetic interferences. Upon request the dividers can be supplied with other ratios or with an attenuator to match the input voltage of other measuring devices.

**Step Response**

The unit step response of the dividers is adjusted to meet the requirements of IEC 60060-2 (1994):



*Typical step response of divider type CS 300 kV, 1000 pF*



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Subject to technical modifications without notice.

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