

RZF Series

Resistive Impulse Divider



Resistive voltage dividers have very good response parameters. Therefore they are used for measurements for full and front chopped lightning impulses or impulses voltages with steep wave fronts, also in the special condition it can be used for measuring DC.

The transformation ratio and transfer behavior of resistive divider fulfils the IEC 60060-2 and GB/T16927.2-1997 requirements, in particular those with respect to measuring accuracy and dynamic behavior. The divider components are designed in such a way that the transfer errors are negligible for the lightning impulse shapes.

Resistive voltage dividers are generally used when an additional capacitance in the test circuit is not permissible due to the slowdown effect on the rise time. Therefore it can't be used without any capacitive load in the test circuit

Design

The high voltage resistors made of CrNi or Carmax wire are anti inductively wound. For dividers with a rated lightning impulse voltage above 200 kV the high voltage resistors are housed in cylinders made from glass fibre enforced epoxy resin. For these dividers the pure resistive divider comprises also an external damping resistor series.

Above 100 kV rated lightning impulse voltage the dividers are equipped with toroidal HV electrodes to guarantee corona-free operation.

The secondary unit is fitted with LEMO connector. It consists of resistors of low inductance arranged in a coaxial design, the inductance of the secondary unit is lower than 50nH, input voltage is over 1000V, also the power of the secondary unit is over 500W, it can permit the more than enough energy than common use .The unit is fixed at the bottom of the divider and can easily be disassembled.

The voltage divider is designed for indoor or outdoor use. Dividers above a rated lightning voltage of 200 kV are erected on a four-arm base equipped with castors.

The divider ratio is designed to achieve an output voltage of approx. 1000 V at rated lightning impulse voltage. 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.

Technical Data

Type	Rated L.I. voltage 1.2/50 μ s kV	HV resistance approx. k Ω	Damping res. ext. approx. Ω	Exp. response time TN typical value ns	Part. response time T α typical value ns
RZF-50	50	2.5	50	10	12
RZF-100	100	2.5	50	10	12
RZF-150	150	2.5	100	10	12
RZF-300	300	5	200	20	25
RZF-500	500	7.5	200	30	35
RZF-800	800	7.5	200	35	40
RZF-900	900	10	200	35	40
RZF-1200	1200	10	200	55	60
RZF-1500	1500	12	200	60	70
RZF-2000	2000	15	200	75	80

(The other model can be making according to customer's requirement.)

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