

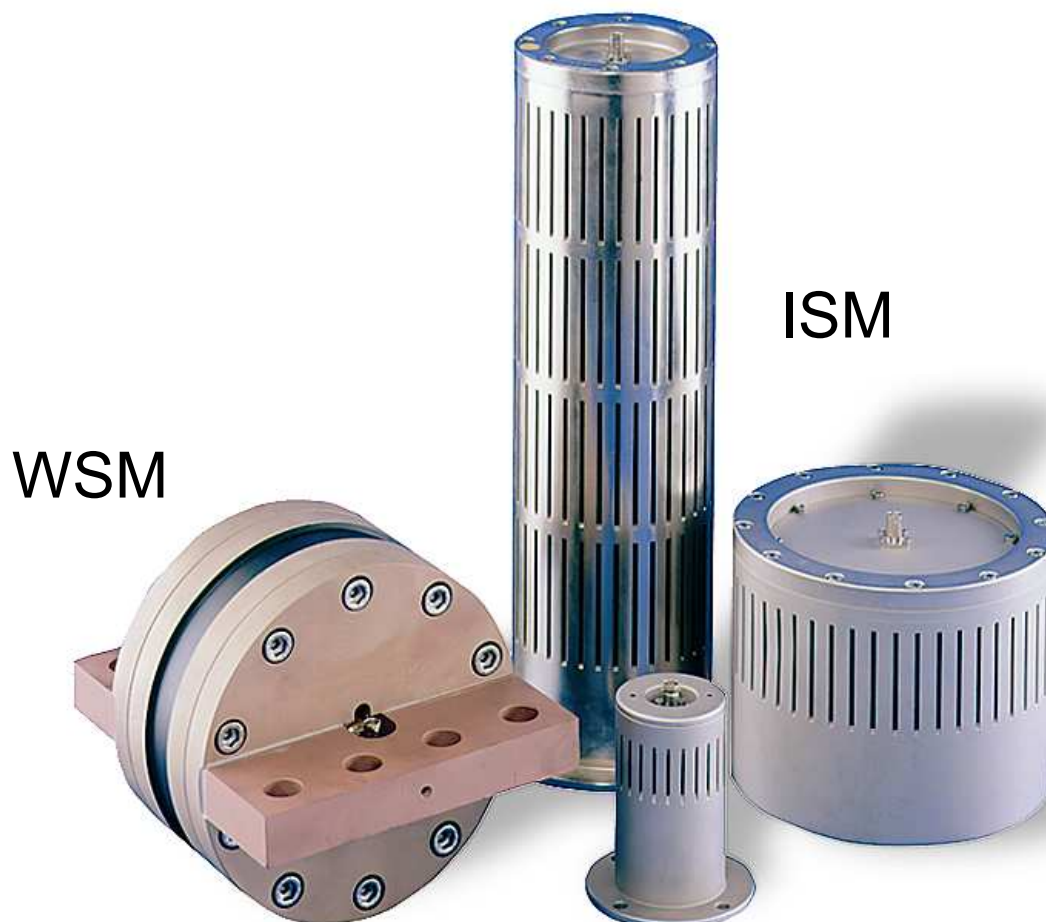
CURRENT-VIEWING RESISTORS

Type WSM

WSM-type AC/DC current-viewing resistors are designed for precise measurement of pulsed ac- and dc currents, for instance in industrial drives, pulsed welders and plasma physics apparatuses. Moreover they are employed in short-circuit test facilities, measurement of start currents of fuel engines etc.

Compared with other methods, WSM-type current-viewing resistors possess high bandwidth, from dc to the specified upper frequency limit. They avoid auxiliary electronics and do not require auxiliary power. Their high electromagnetic compatibility (EMC) and robust mechanical design permit careless utilisation in adverse environments.

Active parts possess rotational symmetry which, combined with a magnetic guard-ring design, permits deployment of the total skin-effect limited bandwidth. The performance features result from high-precision turned and milled parts, antimagnetic nuts and bolts, vacuum brazing, laser welding etc.



TYPE	Current rating		Nominal resistance	Power	Impulse-load-integral	Bandwidth 1)	Weight
	rms	peak					
WSM15000	15 kA	150 kA	4 $\mu\Omega$	900 W	$12 \cdot 10^9 A^2s$	30 kHz	62 kg
WSM10000	10 kA	100 kA	6 $\mu\Omega$	600 W	$5.0 \cdot 10^9 A^2s$	30 kHz	25 kg
WSM 6000	6 kA	100 kA	10 $\mu\Omega$	360 W	$1.6 \cdot 10^9 A^2s$	55 kHz	13 kg
WSM 4000	4 kA	60 kA	15 $\mu\Omega$	240 W	$5.8 \cdot 10^8 A^2s$	60 kHz	9 kg
WSM 2500	2.5 kA	60 kA	24 $\mu\Omega$	150 W	$3.2 \cdot 10^8 A^2s$	120 kHz	6 kg
WSM 1500	1.5 kA	60 kA	40 $\mu\Omega$	90 W	$1.0 \cdot 10^8 A^2s$	200 kHz	3.3 kg
WSM 1000	1.0 kA	60 kA	60 $\mu\Omega$	60 W	$4.4 \cdot 10^7 A^2s$	200 kHz	1.7 kg
WSM 600	600 A	40 kA	100 $\mu\Omega$	36 W	$1.5 \cdot 10^7 A^2s$	500 kHz	1.5 kg
WSM 400	400 A	40 kA	150 $\mu\Omega$	24 W	$6.7 \cdot 10^6 A^2s$	1.5 MHz	1.5 kg
WSM 250	250 A	20 kA	240 $\mu\Omega$	15 W	$2.7 \cdot 10^6 A^2s$	1.5 MHz	1.5 kg
WSM 150	150 A	10 kA	0.4 m Ω	9.0 W	$3.6 \cdot 10^6 A^2s$	1.5 MHz	1.2 kg
WSM 100	100 A	10 kA	0.6 m Ω	6.0 W	$1.6 \cdot 10^6 A^2s$	800 kHz	1.2 kg
WSM 60	60 A	10 kA	1.0 m Ω	3.6 W	$5.8 \cdot 10^5 A^2s$	800 kHz	1.2 kg
WSM 40	40 A	5 kA	1.5 m Ω	2.4 W	$2.5 \cdot 10^5 A^2s$	2.0 MHz	1.2 kg
WSM 25	25 A	5 kA	2.4 m Ω	1.5 W	$2.5 \cdot 10^5 A^2s$	2.0 MHz	1.2 kg
WSM 15	15 A	5 kA	4.0 m Ω	0.9 W	$1.6 \cdot 10^5 A^2s$	3.0 MHz	1.2 kg

Nominal resistance at 20°C, Resistance tolerance from 0 - 70 °C < 0.5%,

$T_k = \pm 50$ ppm/K. Impulse load integral $\int i^2 dt$ is based on temperature rise of 100 K.

Voltage signal at rated current is 60 mV.

Voltage pickup: BNC connector

1) Theoretical value