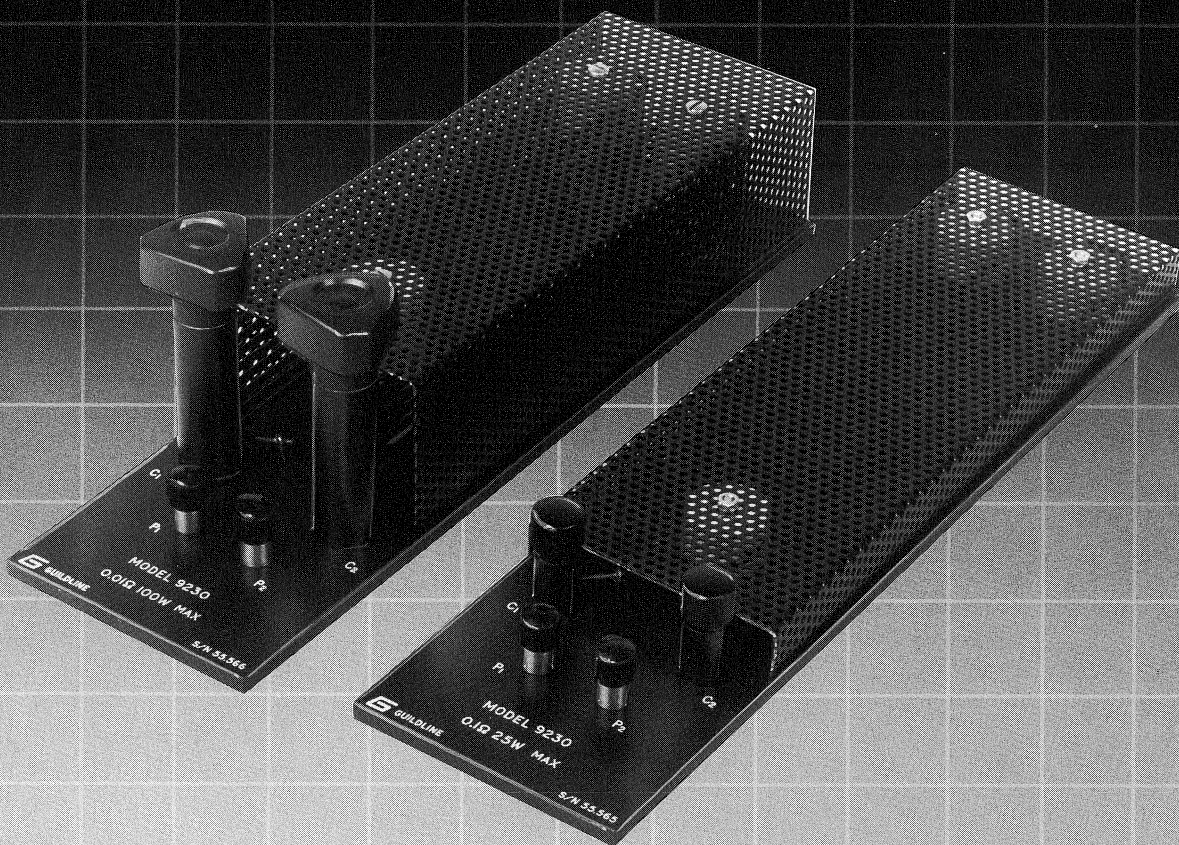


DC Current Shunt

9230

Classic Line



Features

- Low self heating
- Low temperature coefficient
- Controlled current distribution through the element
- Low thermal EMF's
- Wide dynamic range
- <10ppm long term stability
- Air or oil cooled

The 9230 series of precision d.c. current shunts are true 4 terminal devices intended for the precise measurement of d.c. current. They are constructed from specially selected elements supported on an insulating base for mechanical stability and covered with a perforated metal cover to allow proper cooling while providing physical protection for the elements.

In the design of the 9230 special consideration has been given to the effects of power dissipation which introduce self heating errors, beyond the required specification even when at full power and operating in air. The type of material selected for the elements has a very low temperature coefficient and the size and number of elements chosen give the optimum surface area to dissipate the maximum specified power in air for a particular value. The performance of the 9230 shunts can be dramatically improved

by operating them immersed in oil such as in a Guildline 9734 constant temperature oil bath.

The terminations of the shunts have been selected to give low thermal emf's and in the case of the higher current values, 300 amperes and above, to ensure that the current applied is distributed in a constant manner, independent of how the connecting leads are arranged.

The care and attention to the design criteria have produced a series of shunts with an extreme usable dynamic range virtually from zero to full rated current. The 9230 shunts are heat treated for excellent long term stability. Operated without stressing beyond 30% of rated current and maintained in a constant temperature oil bath the 9230's stability enables it to be used as a standard reference resistor.

9230 as a current shunt.

Model #	Current Rating	Resistance Value	Accuracy @ full power (15°C to 40°C)	Power Rating	Time Constant
9230/15	15A	0.1Ω	± 0.04%	25W	<5 min
9230/100	100A	0.01Ω	± 0.04%	100W	<5 min
9230/300	300A	0.001Ω	± 0.04%	100W	<5 min

9230 as a standard resistor

Model #	Value	Accuracy @ 1W	Stability 1 year	Temperature Coefficient /°C	Power Coefficient in air/watt	Power Coefficient in oil/watt
9230/15	0.1Ω	±0.01%	0.001%	0.0005%	0.002%	0.0002%
9230/100	0.01Ω	±0.01%	0.001%	0.0005%	0.0004%	0.00004%
9230/300	0.001Ω	±0.01%	0.001%	0.0005%	0.0004%	0.00004%

General Specifications:

		9230/15	9230/100	9230/300
Dimensions :	Width	9cm	9cm	11cm
	Height	5cm	10cm	4cm
	Depth	33cm	30cm	40cm
	Weight	1kg	1.5kg	2.0kg

Environment : Temperature 15°C to 40°C working
-30°C to 70°C storage
Humidity 0 to 90% RH @ 40°C

How to Order

9230/15: DC Current Shunt — 15 amps
9230/100: DC Current Shunt — 100 amps
9230/300: DC Current Shunt — 300 amps

Accessories:

TM9230-A-01 Technical Manual (included)

**For Services and/or Calibration
Contact:**



Guildline Calibration Services
A Prime Standards Laboratory



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