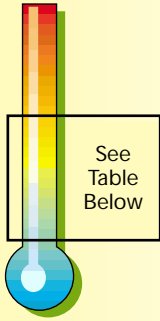


# 836 Resistor

## Miniature Fixed Resistor



Isotech produces a miniature resistor with ultra-low temperature coefficient and ultra-high stability.

This is achieved because the resistors are oil filled and hermetically sealed.

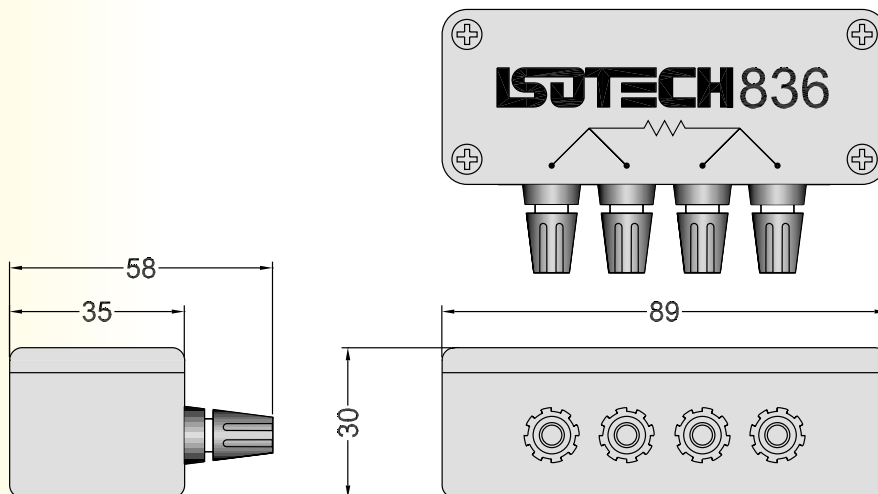
The function of hermetic sealing is to eliminate the ingress of moisture and oxygen both of which play a role in both short and long term degradation of unsealed resistors. A further enhancement in both short and long term stability is achieved by oil filling. The oil also acts as a thermal conductor allowing the device to accept short periods of overload without degradation.

With accuracies of  $\pm 0.005\%$ , resistance range from 5 ohms to 3.3 megaohms and long term drift of less than 5ppm, these devices are virtually secondary standards that can be carried in sets for daily or periodic calibration of factory systems.

### RESISTANCE VALUES

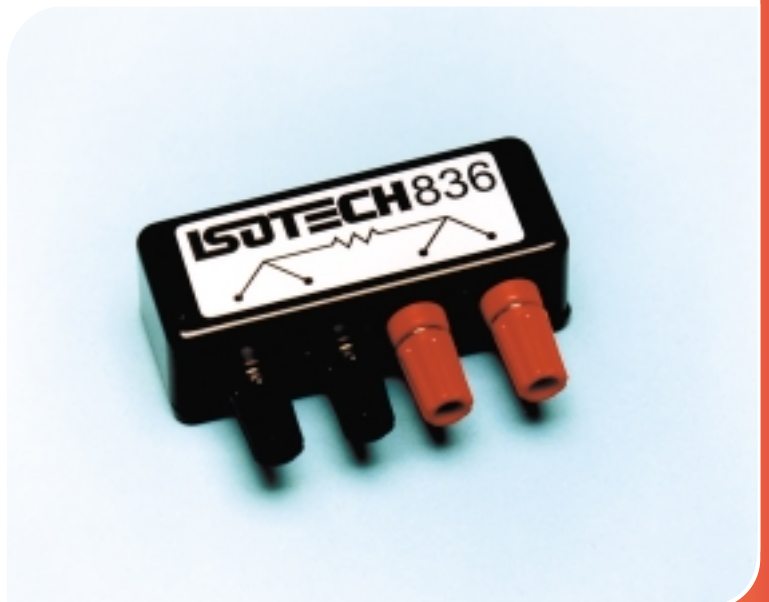
We can supply the value you choose  $\pm 0.1\%$  between a minimum of 5 ohms and a maximum of 3.3 megaohms. However we bulk buy and keep in stock the following standard values:

**10 $\Omega$ , 25 $\Omega$ , 100 $\Omega$ , 1000 $\Omega$ , 10,000 $\Omega$**



### Key Features

- The most precise and stable resistors available for Industrial laboratories.
- Impervious to harmful environments - oil filled.
- Nominal temperature coefficients of resistance -  $+0.6\text{ppm}/^\circ\text{C}$  ( $0^\circ\text{C}$  to  $+25^\circ\text{C}$ );  $-0.6\text{ppm}/^\circ\text{C}$  ( $+25^\circ\text{C}$  to  $+60^\circ\text{C}$ ).
- Power Rating - 0.5 watt at  $+25^\circ\text{C}$ .
- Resistance tolerance - (initial resistance accuracy):  $\pm 0.005\%$ .



# 836 Resistor

## Miniature Fixed Resistor

### UKAS CALIBRATION

For the highest quality traceability we recommend that the 836 be UKAS Certified.  
We can offer the following 2 Sigma Uncertainties:

Measured Quantity Instrument or Gauge Range	Frequency	Best measurement Capability expressed as an Expanded Uncertainty (k=2)	Remarks
<b>DC RESISTANCE</b> 0.1 $\Omega$ to 10 $\Omega$ 10 $\Omega$ to 250 $\Omega$ 250 $\Omega$ to 1000 $\Omega$ 1 K $\Omega$ to 1 M $\Omega$ 1 M $\Omega$ to 10 M $\Omega$		$\pm 0.3\text{ppm} + 0.1\mu\Omega$ $\pm 0.3\text{ppm} + 2.5\mu\Omega$ $\pm 0.4\text{ppm} + 10\mu\Omega$ $\pm 20\text{ppm}$ $\pm 55\text{ppm}$	Resistors suitable for oil immersion can be measured over the range 10°C to 30°C
<b>AC RESISTANCE</b> 2.5 $\Omega$ to 400 $\Omega$ 400 $\Omega$ to 1000 $\Omega$	75 Hz 75 Hz	$\pm 15\text{ppm}$ $\pm 100\text{ppm}$	The uncertainties can only be realised for resistors of suitable AC characteristics

**Model No.** 836 Miniature Fixed Resistor

**Power Rating** 0.5 watt

**Nominal Temperature Coefficient of Resistance** +0.6ppm/°C (0°C to +25°C)  
-0.6ppm/°C (+25°C to +60°C)

**Resistance Tolerance** (Initial Resistance Accuracy)  
 $\pm 0.005\%$

**Resistance Range** 5 ohms to 3.3 megaohms

**Current Noise** <0.010 $\mu\text{V}$  (RMS) / Volt of applied voltage

**Thermal EMF** 0.1 $\mu\text{V}/^\circ\text{C}$  maximum  
0.05 $\mu\text{V}/^\circ\text{C}$  typical

**Connections** Screw Terminal Posts

**Stability** Typically 1ppm per year at 1mA

**Overall dimensions** Height 30mm  
Width 89mm  
Depth 58mm (including terminals)

**Weight** 90g

**How to Order** 836 Miniature Fixed Resistor  
Please state Ohms Value Required  
Please state if UKAS Certification is required

#### Please Note:

We offer other Resistor Ranges including the models 456, the SRA and the SRB ranges.

For more information please contact Isotech, or visit our website [www.isotech.co.uk](http://www.isotech.co.uk)