



Bourns Resistor Product Line Announces Model CSI Series Metal Strip Shunt Resistors

Riverside, California – **December 1, 2023** – Bourns is pleased to announce four new high power, ultra-low ohmic current sense resistor model series. Bourns designed these latest current measurement devices to help power electronics developers save energy while maximizing sensing performance in their designs. The Model [CSI2H-2512](#), [CSI2H-3920](#), [CSI2H-5930](#) and [CSI4J-4026](#) feature a low Temperature Coefficient of Resistance (TCR) for operating accuracy over wide temperature ranges and excellent long-term stability. Their very low resistance levels, low thermal electromotive force (EMF) and high power handling capabilities make them ideal solutions for a variety of industrial and consumer applications and power electronics including Battery Management Systems (BMS), Switched-Mode Power Supplies (SMPS) and motor drives.

The Bourns[®] Model CSI Series are manufactured using Electron Beam Welded (EBW) resistive material and copper alloy. These products are available in both two and four-terminal options. The two-terminal models are offered in three different footprint sizes: 5930, 3920 and 2512. The four-terminal 4026 size devices allow for very precise four-wire Kelvin (K) resistance measurement. Their metal alloy current sensing element allows for low thermal EMF and low TCRs of ± 50 PPM/ $^{\circ}\text{C}$ in the 20 $^{\circ}\text{C}$ to 60 $^{\circ}\text{C}$ temperature range. Both series options supply resistance values as low as 0.2 milliohms, and customers can select from a range of low resistance options and power ratings of up to 15 watts.

Current sense resistors are growing in popularity due to their high measurement accuracy and relatively low cost compared to other technologies. Bourns designed this new family of high-power current sense resistors to provide accurate measurements for higher power applications where designers need to monitor a voltage drop across the sense resistor and convert that to a current reading.

This new product series complements Bourns' other circuit conditioning components, such as its [power inductors](#) and [rectifier diodes](#). For further details on these exciting new models, please contact [Bourns Customer Service/Inside Sales](#).

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Features

- EB Welded metal strip
- Up to 15 W permanent power
- Excellent long-term stability
- Low resistance
- Low TCR
- Low thermal EMF
- RoHS compliant*
- Halogen free**
- Bulk or tray packaging

Applications

- DC/DC converters
- Industrial Battery Management Systems
- Battery chargers
- Current sensing in bus bars
- Welding equipment
- Hot-swap circuits
- Voltage division
- Power modules
- Frequency converters
- Industrial

* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

** Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.