



Bourns Expands Its Current Sense Resistor Series for High-Current Automotive and Industrial Designs

New resistance values and tolerance options, including ± 3 % tolerance, provide additional flexibility for precision current measurement in space-constrained power systems

RIVERSIDE, Calif., September 22, 2026 - Bourns today announced the [CSS4C-1216 Series Current Sense Resistors](#), adding new resistance values and tolerance options, including a ± 3 % tolerance offering. The automotive grade series is designed for high-current applications that require accurate current measurement, low inductance, and stable performance under demanding operating conditions. The product extension provides designers with additional flexibility when optimizing current sensing circuits in battery management systems, power modules, and industrial electronics.

As power conversion and energy management systems continue to increase current density, designers must balance measurement accuracy, thermal performance, power dissipation, and qualification requirements within limited board space. Current sense resistors used in these applications must maintain stable electrical characteristics while operating under elevated temperatures and continuous load conditions. The CSS4C-1216 Series addresses these design considerations through an EB welded metal strip construction, low inductance of less than 2 nH, and a four-terminal Kelvin configuration that improves current measurement accuracy. The series is also AEC-Q200 compliant, supporting use in automotive applications where validated reliability data is required.

“Current measurement circuits in automotive and industrial power systems often require flexibility in resistance value and tolerance selection without changing footprint or qualification status,” said Walter Garcia, Product Line Manager, Fixed Resistors, Bourns. “The expanded CSS4C-1216 Series gives designers additional options while maintaining the low inductance, Kelvin terminal configuration, and AEC-Q200 compliance that are important in high-current sensing applications.”

Design Features

- EB welded metal strip construction — supports excellent long-term stability in current sensing applications.
- High power up to 5 W at 100 °C — supports demanding current sensing applications.
- Low inductance design — inductance of less than 2 nH helps reduce measurement error in high-current circuits.
- Excellent long-term stability — supports reliable performance over time.
- Four terminals for high accuracy — improves current measurement accuracy.
- RoHS compliant* and halogen free** — supports environmental compliance requirements.
- AEC-Q200 compliant — meets applicable AEC-Q200 component qualification requirements.

Electrical Specifications

Parameter	Specification
Resistance Range	0.2 mΩ – 3.0 mΩ
Power Rating at 100 °C	2 W – 5 W
Tolerance Options	±1 %, ±3 %, ±5 %
TCR (20 °C to 60 °C)	±50 ppm/°C to ±150 ppm/°C
Inductance	< 2 nH
Operating Temperature	–65 °C to +170 °C

Target Applications

- Current sensing
- Battery management systems
- Power modules
- Frequency converters
- Industrial electronics

Availability

The [Bourns® CSS4C-1216 Series Current Sense Resistors](#) are available now through Bourns' authorized distribution network. Full specifications and ordering information are available at [bourns.com/products/resistors/current-sense-resistors](https://www.bourns.com/products/resistors/current-sense-resistors) or contact [Bourns Customer Service/Inside Sales](#).

About Bourns

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