

# BCM-2-350R Series

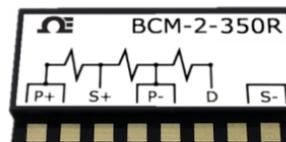
## Bridge Completion Module

### Description

Strain gage instrumentation is readily available with built-in bridge completion resistors and “dummy” gages to accept quarter- and half-bridge strain gage input circuits. However, if the instrumentation at hand is not provided with these components, or if the measurement application does not permit their use, external bridge completion must be provided, and the BCM-2-350R Series Bridge Completion Module can be an excellent choice in these applications.

The BCM-2-350R Series Bridge Completion Module employs metal-foil resistance elements, bonded to a dense ceramic substrate. The resistance elements are specially processed to “match” the thermal expansion coefficient of the ceramic, resulting in a very low resistance temperature coefficient equivalent to  $\pm 0.27 \mu\epsilon/^\circ\text{C}$  [ $\pm 0.15 \mu\epsilon/^\circ\text{F}$ ] for the half-bridge circuits, and  $\pm 0.63 \mu\epsilon/^\circ\text{C}$  [ $\pm 0.35 \mu\epsilon/^\circ\text{F}$ ] for the dummy gages, over a temperature range from  $-18^\circ\text{C}$  to  $+95^\circ\text{C}$  [ $0^\circ\text{F}$  to  $+200^\circ\text{F}$ ]. Maximum operating temperature range is  $-45^\circ\text{C}$  to  $+120^\circ\text{C}$  [ $-50^\circ\text{F}$  to  $+250^\circ\text{F}$ ].

Each module is covered with a special environmental protection system to ensure long-term stability. A rugged aluminum overlay, embossed with a wiring diagram for easy terminal identification, affords additional protection, and in many applications no supplementary environmental protection is required. Each module is provided with foam tape for easy attachment to the test-part surface or at the instrumentation site, and tinned, heavy copper terminals facilitate attachment of up to 0.64 mm diameter [22-gage] leadwires.



Completing the bridge circuit at the strain gage site provides for a symmetrical, balanced leadwire system between the strain gage circuit and the instrumentation. This can reduce effects of noise pickup in the leadwire system in some environments. Where switch contacts, slip rings, or other mechanical connections are employed between the strain gages and measuring instrumentation, or when leadwires will be periodically disconnected from the measuring instrument, accuracy can be improved by completing the bridge at the measurement site. Bridge completion modules can be designed to meet special circuit requirements.

### Specifications and Ordering Guide

Module Type	Features	Bridge Excitation (Volts)	
		Recommended	Maximum
BCM-2-350R	Provides a precision 350 $\Omega$ half bridge as well as 120 $\Omega$ and 350 $\Omega$ dummy gages. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 120 $\Omega$ or 350 $\Omega$ three-wire quarter-bridge circuits. Size (including foam tape): 25 mm x 25 mm x 5 mm [1 in x 1 in x 0.2 in] Weight: 6 g	0.5 V to 15 V 0.5 V to 25 V	20 V (D120) 35 V (D350)

DS-BCM-2-350R

