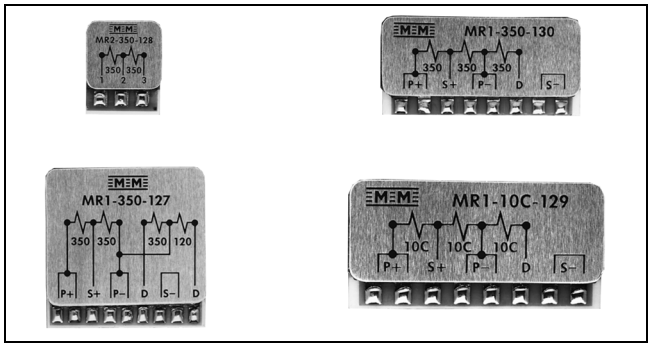
Information and Selection Chart



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 MR-Series Bridge Completion Modules can be an excellent choice in these applications.

MR-Series Bridge Completion Modules employ 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 ±0.15$\mu\varepsilon$/°F [±0.27$\mu\varepsilon$/°C] for the half-bridge circuits, and ±0.35$\mu\varepsilon$/°F [±0.63$\mu\varepsilon$/°C] for the dummy gages, over a temperature range from 0° to +200°F [–18° to +95°C]. Maximum operating temperature range is –50° to +250°F [–45° to +120°C].

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 22-gage [0.64mm dia.] 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. Contact our Applications Engineering Department for a detailed discussion of your special needs.

CHARACTERISTICS

Module Type & Features	Bridge Excitation (Volts)	
	Recommended	Maximum
MR1-350-127: Provides a precision 350Ω half bridge as well as 120Ω and 350Ω dummy gages. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 120Ω or 350Ω three-wire quarter-bridge circuits. Size (including foam tape): 1 x 1 x 0.2in [25 x 25 x 5mm]. Weight: 6g.	0.5 – 15V 0.5 – 25V	20V (D120) 35V (D350)
MR1-10C-129: Provides a precision 1000Ω half bridge and a 1000Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 1000Ω quarter-bridge circuits. High resistance extends battery life in battery-powered instrumentation, reduces strain gage self-heating, and permits higher bridge excitation voltage to improve signal-to-noise ratio. Size (including foam tape): 1.2 x 0.6 x 0.2in [30 x 15 x 5mm]. Weight: 4g.	0.5 – 30V	40V
MR1-350-130: Provides a precision 350Ω half bridge and a 350Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 350Ω three-wire quarter-bridge circuits. Size (including foam tape): 1.2 x 0.6 x 0.2in [30 x 15 x 5mm]. Weight: 4 .	0.5 – 18V	25V
MR2-350-128: Provides a precision 350Ω half bridge in a compact size for use with half-bridge strain gage circuits. Small size makes it ideal for attachment at the strain gage site on the test part in many applications. Size (including foam tape): 0.5 x 0.7 x 0.2in [13 x 18 x 5mm]. Weight: 2g.	0.4 – 18V	25V

Half-bridge circuits in each module type are balanced to within ±0.005%. Resistance tolerance on each dummy gage is ±0.02%.

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