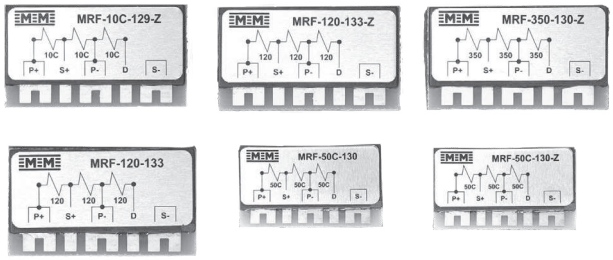
Information and Selection Chart

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.

MRF-Series Bridge Completion Modules employ Bulk Metal Foil Resistors. The resistors are specially processed to "match" the thermal expansion coefficient of the ceramic, resulting in a very low resistance temperature coefficient equivalent to ±0.15με/°F (±0.27με/°C) for the half-bridge circuits, and ±0.35με/°F (±0.63με/°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. Each module is provided with foam tape for easy attachment to the test-part surface or at the instrumentation site, and gold plated copper terminals facilitate attachment of up to 22-gauge (0.64 mm 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 AND FEATURES	BRIDGE EXCITATION (VOLTS)	
	RECOMMENDED	MAXIMUM
MRF-350-127: Provides a precision 350 Ω half bridge as well as 120 Ω and 350 Ω dummy gages. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 120 Ω or 350 Ω three-wire quarter-bridge circuits. Size (including foam tape): 1.3 x 1.2 x 0.3 in (32.5 x 29.5 x 7.8 mm). Weight: 6g.	0.5–15 V 0.5–25 V	20 V (D120) 35 V (D350)
MRF-350-127-Z: RoHS compliant MRF-350-127	0.5–15 V 0.5–25 V	20 V (D120) 35 V (D350)
MRF-10C-129: Provides a precision 1000 Ω half bridge and a 1000 Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 1000 Ω 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): 1.3 x 0.7 x 0.2 in (32 x 18.2 x 5.7 mm). Weight: 6g.	0.5–30 V	40 V
MRF-10C-129-Z: RoHS compliant MRF-350-127	0.5–30 V	40 V
MRF-350-130: Provides a precision 350 Ω half bridge and a 350 Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 350 Ω three-wire quarter-bridge circuits. Size (including foam tape): 1.3 x 0.7 x 0.2 in (32 x 18 x 5.7 mm). Weight: 6g.	0.5–18 V	25 V
MRF-350-130-Z: RoHS compliant MRF-350-130	0.5–18 V	25 V
MRF-350-128: Provides a precision 350 Ω 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): 0.9 x 0.9 x 0.2 in (21.7 x 23.8 x 5.7 mm). Weight: 6g.	0.4–18 V	25 V

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

Information and Selection Chart

CHARACTERISTICS		
MODULE TYPE AND FEATURES	**BRIDGE EXCITATION (VOLTS)**	
	RECOMMENDED	**MAXIMUM**
MRF-350-128-Z: RoHS compliant MRF-350-128	0.4–18 V	25 V
MRF-120-133: Provides a precision 120 Ω half bridge and a 120 Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 120 Ω three-wire quarter-bridge circuits. Size (including foam tape): 1.3 x 0.7 x 0.2 in (32 x 18.2 x 5.7 mm). Weight: 6g.	0.5–15 V	20 V
MRF-120-133-Z: RoHS compliant MRF-120-133:	0.5–15 V	20 V
MRF-50C-130-Z: Provides a precision 5000 Ω half bridge and a 5000 Ω dummy gage. Recommended for use with half-bridge strain gage circuits of any resistance value, or with 5000 Ω 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): 1.3 x 0.7 x 0.2 in (32 x 18 x 5.7 mm). Weight: 6g.	0.5–30 V	40 V
MRF-50C-130-Z: RoHS compliant MRF-50C-130:	0.5–30 V	40 V

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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