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Data Sheet

August 13, 2026

IET / GENERAL RADIO

IET / General Radio 1689M Precision Digibridge RLC Tester

IET Labs / GenRad 1689M Precision Impedance Meter RLC Digibridge The GenRad/IET 1689M is the rack-mountable RLC Digibridge variant of the 1689 Precision Impedance Meter, using four BNC terminals (plus BNC extender cable) instead of the shielded Kelvin fixture on the standard 1689. It measures R/Q, L/Q, C/D, or C/R with basic RLC accuracy plus/minus 0.02 percent and over 500 test frequencies from 12 Hz to 100 kHz. Metrology and lab component analysis; incoming inspection; process monitoring; dielectric measurements; automated binning with optional IEEE-488. The GenRad/IET 1689M is the rack-mountable RLC Digibridge variant of the 1689 Precision Impedance Meter, using four BNC terminals (plus BNC extender cable) instead of the shielded Kelvin fixture on the standard 1689. It measures R/Q, L/Q, C/D, or C/R with basic RLC accuracy plus/minus 0.02 percent and over 500 test frequencies from 12 Hz to 100 kHz. Metrology and lab component analysis; incoming inspection; process monitoring; dielectric measurements; automated binning with optional IEEE-488.



MODEL

**IET / General Radio
1689M**

CALIBRATION

**Available on
request**

CONDITION

Used

STATUS

In stock

RFQ / SKU

1689M

LISTING

<https://aumictechlabs.com/products/1689m-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 • 811210 • 541380

This unit

The IET / General Radio 1689M Precision Digibridge RLC Tester delivers high-accuracy measurements of resistance, inductance, and capacitance for component characterization,

production testing, and R&D applications. This digital RLC meter accommodates a wide measurement span from milliohms to megaohms (R), microhenries to henries (L), and picofarads to millifarads (C), with selectable test frequencies and adjustable signal levels to match component requirements. Technical Specifications Measurement parameters include resistance (R), inductance (L), and capacitance (C) across broad value ranges. The instrument operates at multiple test frequencies: 100 Hz, 120 Hz, 1 kHz, and 10 kHz. Test signal levels are adjustable from 0.1 Vrms to 1.0 Vrms nominal, accommodating voltage-sensitive components. Measurement ranges span: Resistance: milliohms to megaohms Inductance: microhenries to henries Capacitance: picofarads to millifarads The digital display presents primary measurements (R, L, or C) alongside secondary parameters including Q factor, D factor, and equivalent series resistance (ESR). Key Features Multiple test frequency selection enables component evaluation under varying operating conditions. The instrument configures for both series and parallel equivalent circuit representations, allowing flexibility in component analysis methodology. Auto/manual ranging capability simplifies operation across diverse component types. High-resolution digital readout ensures precise, detailed measurement presentation. Adjustable AC test signal voltage accommodates components with differing voltage sensitivities. Typical Applications The 1689M serves production testing environments, quality control laboratories, and R&D operations where precise component characterization is essential. Engineers and system integrators employ it for passive component validation, filter design verification, and impedance analysis across frequency-dependent applications. Compatibility & Integration The instrument integrates into laboratory test benches and production line quality assurance workflows, accepting standard passive components and supporting multiple measurement circuit configurations.

Features & description

From manufacturer datasheet

Features

- Basic RLC accuracy plus/minus 0.02 percent
- Over 500 frequencies 12 Hz to 100 kHz (0.01 percent accuracy)
- Applied voltage 5 mV to 1.275 V in 5 mV steps
- 13 pass bins / 2 fail bins; up to 19 measurements per second
- Four BNC terminals for rack systems

1689M Characteristics / Specifications

PARAMETER	VALUE
Model	1689M
Manufacturer	IET Labs / GenRad / General Radio
Instrument Type	Precision impedance meter (RLC Digibridge)
Alias	1689M; GenRad 1689M; IET 1689M
Measurement Parameters	R/Q L/Q C/D or C/R series or parallel
Parameter Selection	auto RLC with manual selection
Basic RLC Accuracy	plus/minus 0.02 percent
Basic QD Accuracy	plus/minus 0.0002 (plus/minus 0.0001 in PPM mode)
Test Frequency Range	12 Hz to 100 kHz
Selectable Test Frequencies	over 500
Test Frequency Accuracy	0.01 percent
Applied Voltage	5 mV to 1.275 V in 5 mV steps
Internal Bias	2.0 Vdc
External Bias Maximum	60 Vdc
Pass Bins	13 for RLC
Fail Bins	2 (RLC and DQR)
Measurement Speed	up to 19 measurements per second
Averaging	up to 256 measurements
Display RLC Digits	5
Display DQ Digits	4
Range Selection	autoranging with manual hold
Measurement Mode	continuous or triggered
Constant Voltage Mode Source	25 ohm
Programmed Delay	1 to 99999 ms
Charged Capacitor Protection	1 joule

PARAMETER	VALUE
Power	90 to 250 Vac; 50 to 60 Hz; 60 W max
Operating Temperature	0 to 50 C; less than 85 percent RH
Storage Temperature	-45 to 75 C
Terminals	4 BNC (vs Kelvin fixture on 1689)
Rack Mount Kit	1689-9611 optionalRD Direct Reading Range: 0.00001 ohm to 99999 kohm LDirect Reading Range: 0.00001 mH to 99999 H CDirect Reading Range: 0.00001 pF to 99999 uF

General Specifications & Supplementary Characteristics

PARAMETER	VALUE
Storage temperature	45 to 75 C
Operating temperature	0 to 50 C; less than 85 percent RH
Operating Temperature	0 to 50 C; less than 85 percent RH
Terminals	4 BNC (vs Kelvin fixture on 1689)
Rack Mount Kit	1689-9611 optionalRD Direct Reading Range: 0.00001 ohm to 99999 kohmLD Direct Reading Range: 0.00001 mH to 99999 HCD Direct Reading Range: 0.00001 pF to 99999 uF Notes Specs from IET Labs 1689/1689M datasheet. 1689M is the BNC/rack configuration; electrical accuracy matches the 1689 Digibridge family.

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications	
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PARAMETER	VALUE
Power	90 to 250 Vac; 50 to 60 Hz; 60 W max
Operating Temperature	0 to 50 C; less than 85 percent RH
Storage Temperature	-45 to 75 C
Terminals	4 BNC (vs Kelvin fixture on 1689)
Rack Mount Kit	1689-9611 optional
R Direct Reading Range	0.00001 ohm to 99999 kohm
L Direct Reading Range	0.00001 mH to 99999 H
C Direct Reading Range	0.00001 pF to 99999 uF
Specifications	
PARAMETER	VALUE
Model	1689M
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Measurement Mode	continuous or triggered
Constant Voltage Mode Source	25 ohm
Programmed Delay	1 to 99999 ms
Charged Capacitor Protection	1 joule

Optional Interface: IEEE 488.2 with SCPI

Specifications

PARAMETER	VALUE
Power	90 to 250 Vac; 50 to 60 Hz; 60 W max
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Notes
Specs from IET Labs 1689/1689M datasheet. 1689M is the BNC/rack configuration; electrical accuracy matches the 1689 Digibridge family.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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NIST-traceable calibration · SAM registered ·
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Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.