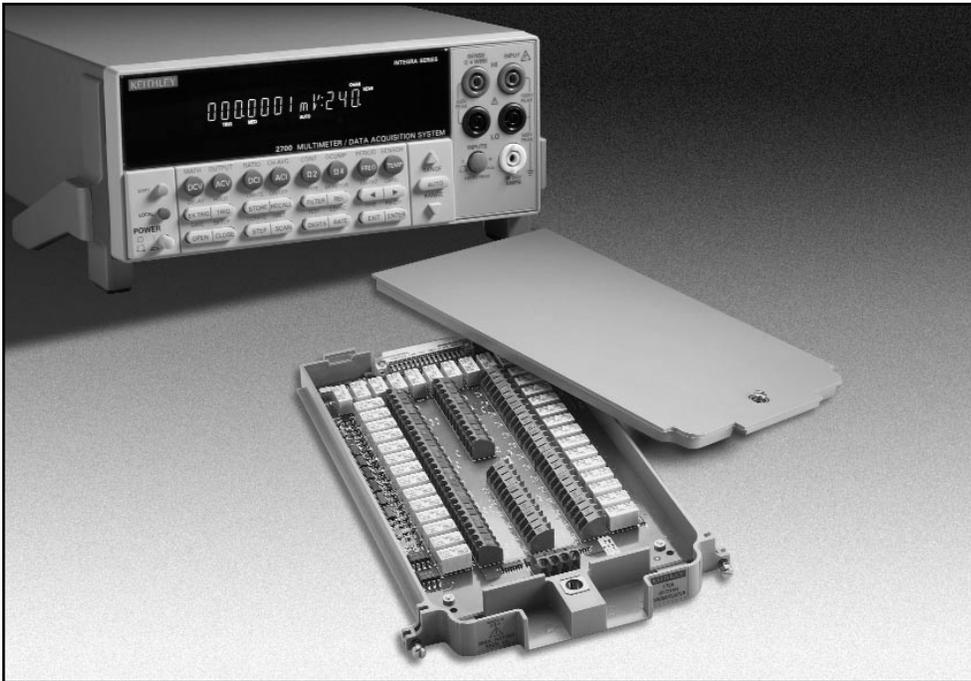
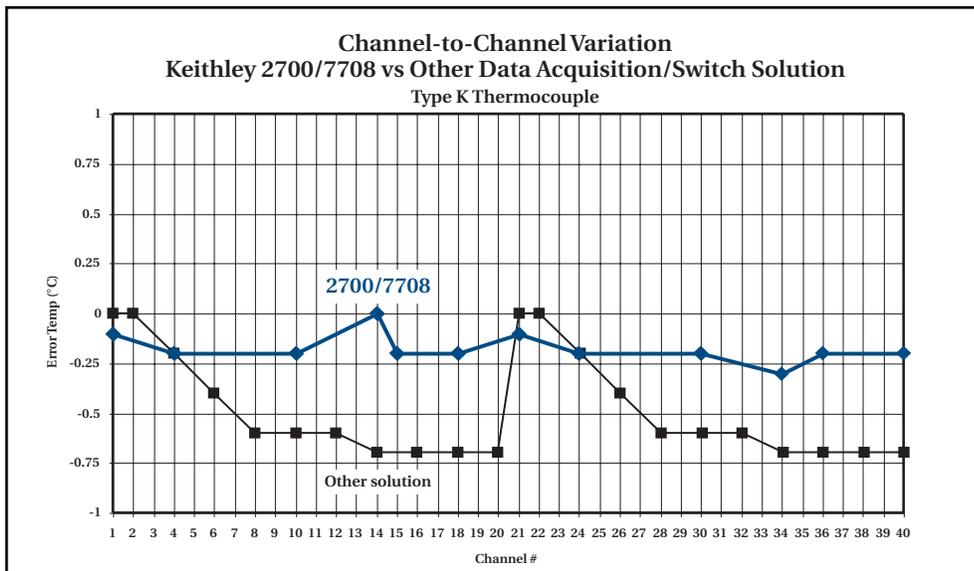


7708 40-Channel Differential Multiplexer Module with CJC



The Model 7708 40-Channel Differential Multiplexer Module is the latest addition to Keithley's Integra Series of flexible measurement/control solutions. Designed to plug into the Model 2700 Multimeter/Data Acquisition System mainframe, this module provides up to 40 channels of differential multiplexing with automatic thermocouple cold junction compensation (CJC). It's well-suited for temperature and mixed signal measurement applications that require monitoring multiple points, including environmental stress screening.

Together, the Model 2700 mainframe and the Model 7708 module support up to 11 electrical and physical measurement functions, with built-in signal conditioning. One of the most useful capabilities is high accuracy, high repeatability temperature measurements made with Types J, K, N, T, E, R, S, and B thermocouples. The 2700/7708 combination provides $\pm 1^\circ\text{C}$ thermocouple temperature accuracy with less than 0.5°C variation from channel to channel. In addition to thermocouple inputs, the Model 7708 accepts analog signals up to 300V with 300V isolation from chassis ground. Oversize screw terminal connectors simplify cable installation.



FEATURES

- Up to 40 channels of differential measurements
- 2- or 4-wire measurements
- Oversize screw terminal connection blocks simplify making connections
- 300V, 1A capacity
- 300V isolation from chassis ground
- Built-in CJC sensors linearize thermocouple outputs automatically

BENEFITS

- Use with the Model 2700 mainframe to create an 80-channel system in a half rack
- High accuracy ($\pm 1^\circ\text{C}$) thermocouple measurements
- High channel-to-channel measurement repeatability
- Ideal for environmental stress screening applications
- Easy cable installation (simpler wiring)

Applications:

- Environmental Stress Screen testing
 - Burn-in
 - QA/QC
 - HALT/HASS
- Thermal profiling
- Production test/ATE
- Process monitoring
- Research & development

ORDERING INFORMATION

7708 40-Channel Differential Multiplexer Module with CJC

This product is available with an **Extended Warranty**.

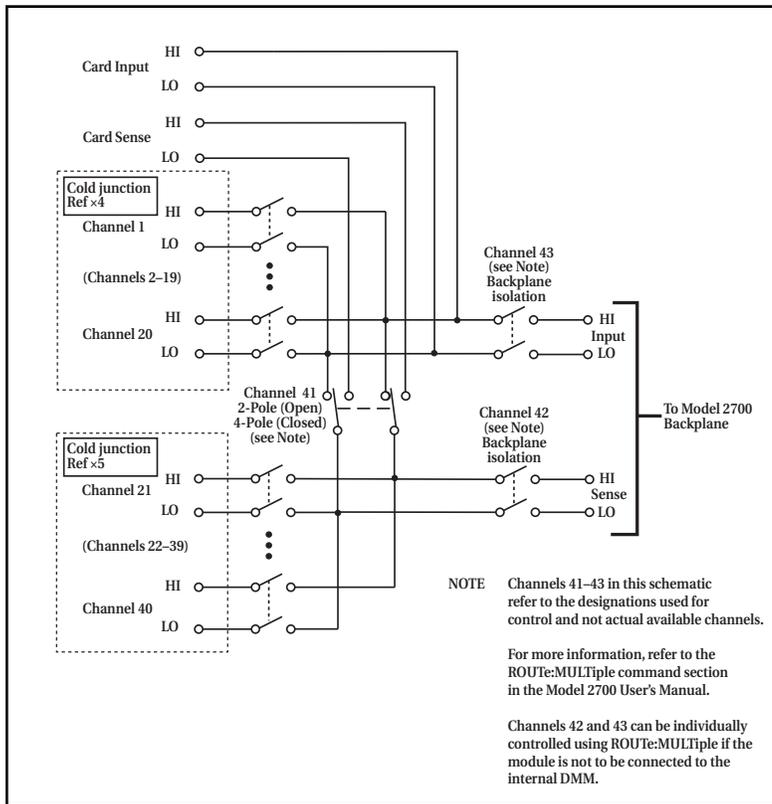
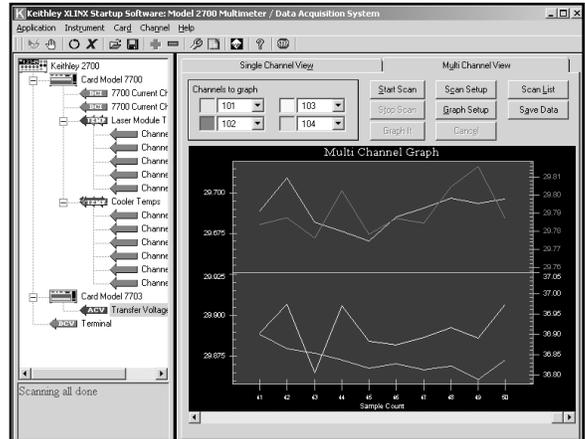
Compare the Model 2700/7708 combination's high channel-to-channel temperature measurement repeatability with another popular data acquisition/switch product. All data was acquired using an ice point reference cell and Type K thermocouples. Keithley's Model 2700/7708 uses just one 40-channel module for this test, while the other solution uses two 20-channel cards.

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For applications that require additional multiplexing capacity, two Model 7708 modules can be plugged into the Model 2700 mainframe to create up to 80 differential channels for AC, DC, or temperature measurements. Combining the Model 7708 with other Integra Series modules in the Model 2700 mainframe offers the flexibility needed to create solutions for a broad range of test, measurement, data acquisition, and control applications.

For more information, visit our web site: www.keithley.com

Like all the Integra Series plug-in modules, the Model 7708 is compatible with Xlinx™, an ActiveX-based start-up package that's provided with the Model 2700. The Xlinx software allows users to make PC-based measurements without any programming—simply point and click to configure the system and make the measurements, then send data to disk or Excel. The latest version of this package, which includes an off-line datalogging capability, can be downloaded for free from Keithley's website. Xlinx runs on any Pentium-class PC that supports Windows 95 or later, including Windows NT.



GENERAL

40 CHANNELS: 40 channels of 2-pole relay input. All channels configurable to 4-pole.

RELAY TYPE: Latching electromechanical.

ACTUATION TIME: <3ms.

Specified for Model 2700, firmware revision BO2 or later.

CAPABILITIES

CHANNELS 1–40: Multiplex one of 40 2-pole or one of 20 4-pole signals into DMM. Configuration supports dual 1×20 independent multiplexers.

INPUTS

MAXIMUM SIGNAL LEVEL:

Channels (1–40): 300V DC or rms, 1A switched, 60W, 125VA maximum.

SAFETY CATEGORY: CAT I.

CONTACT LIFE (typ): >10⁵ operations at max signal level.

>10⁸ operations cold switching.

CONTACT RESISTANCE: <2Ω at end of contact life.

CONTACT POTENTIAL: <±500nV typical per contact, 1μV max.

<±500nV typical per contact pair, 1μV max.

OFFSET CURRENT: <100pA.

CONNECTOR TYPE: Screw terminal, #20 AWG wire size.

ISOLATION BETWEEN ANY TWO TERMINALS: >10⁹Ω, <200pF.

ISOLATION BETWEEN ANY TERMINAL AND EARTH: >10⁹Ω, <400pF.

CROSS TALK (1MHz, 50Ω Load): <-40dB.

INSERTION LOSS (50Ω Source, 50Ω Load): <0.35dB below 1MHz.

<3dB below 2MHz.

COMMON MODE VOLTAGE: 300V between any terminal and chassis.

T/C COLD JUNCTION: 1.0°C (18°–28°C Mainframe Temp)

1.5°C (0°–18°C & 28°–50°C Mainframe Temp).

ENVIRONMENTAL:

OPERATING ENVIRONMENT: Specified for 0°C to 50°C.

Specified to 80% R.H. at 35°C.

STORAGE ENVIRONMENT: -25°C to 65°C.

WEIGHT: 0.45kg (1 lb).

Specifications are subject to change without notice.

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