

7710 20-channel Solid-state Differential Multiplexer

with Automatic CJC

Datasheet

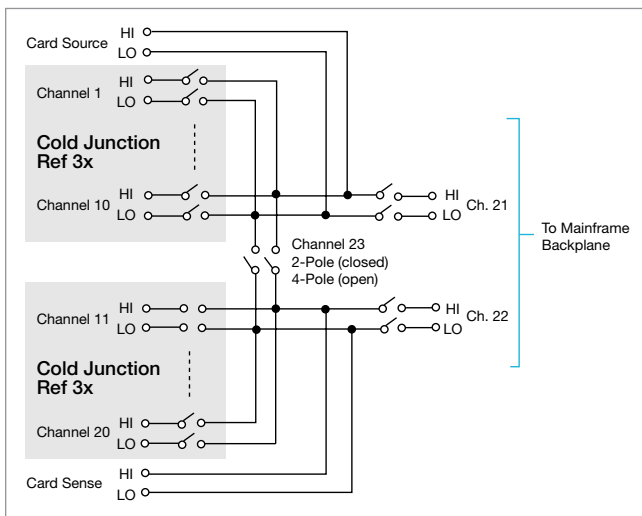


KEITHLEY
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The 7710 plug-in module offers 20 channels of 2-pole or 10 channels of 4-pole relay input that can be configured as two independent banks of multiplexers. The relays are solid state, providing long life and low maintenance. Solid-state relays usually have 100 times longer life than mechanical relays. It is ideal for long-term data logging applications as well as for demanding high-speed applications.

Key Features

- 20 channels for general purpose measurements with scanning speeds up to 800 channels/s
- High speed production or ATE testing up to 500 channels/s
- Long lifetime solid state relays
- Removable screw terminals



Specifications

Capabilities

Maximum Signal Level	Any channel to any channel (1–20) 60 VDC or 42 V rms, 100 mA switched, 6 W, 4.2 VA maximum.
Common Mode Voltage	300 VDC or 300 Vrms (425 V peak) maximum between any terminal and chassis.
Contact Life	>10 ¹⁰ operations at cold switching or max signal level (guaranteed by design).
Relay Drive Current	6 mA per channel continuous, 25 mA during initial pulse.
Contact Resistance	<10 Ω per channel or <5 Ω per conductor. Refer to the 7710 User's Guide for measurement considerations when used on the instrument 1 Ω or 10 Ω ranges.
Contact Potential	<3 μV per pair.
Offset Current	<3 nA @ 23°C (per channel); additional 0.13 nA/°C >23°C.
Connector Type	3.5 mm removable screw terminals, #20 AWG wire size.
Isolation Between Any Two Terminals:	>10 ¹⁰ Ω @ 23°C, > 8×10 ⁹ Ω @ 50°C, <100 pF.
Isolation Between Any Terminal and Earth:	>10 ¹⁰ Ω, <100 pF.
Crosstalk (CH-CH, 500 kHz, 50 Ω Load):	<–40 dB.
Insertion Loss (50 Ω Source, 50 Ω Load)	<1 dB below 500 kHz.

Scanning Speeds (see mainframe specifications for details)

Multiple Channels, Into Memory	7710 Scanning DCV: >800. 7710 Scanning DCV alternating 2WΩ: >400.
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General

Channels	20 channels of 2-pole relay input. All channels configurable to 4-pole.
Relay Type	Solid state opto-coupled FET.
Actuation Time	<0.5 ms (100 mA load).
Environmental and Safety	<p>Operating Environment: Specified for 0° to 50°C. Specified to 80% R.H. at 35°C.</p> <p>Storage Environment: –25° to 65°C.</p> <p>EMC: Conforms to European Union EMC Directive.</p> <p>Safety: Conforms to European Union Low Voltage Directive</p> <p>RoHS: Conforms to European Union RoHS Directive</p>
Weight	0.45 kg (1 lb).

Supplied Accessories

CC-92-1	Set of 20 Cable Ties
TL-23	Screwdriver

Available Services

7710-3Y-EW	1-year factory warranty extended to 3 years from date of shipment
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Ordering Information

7710	20-channel Solid-state Differential Multiplexer Module
Warranty	1 year

Contact Information:

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