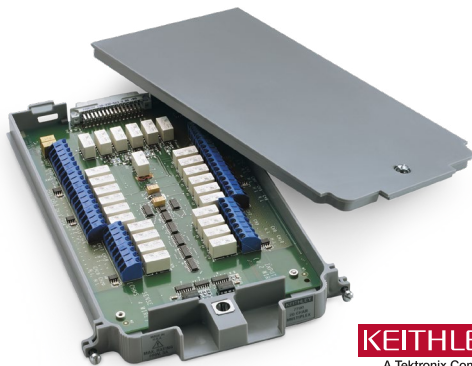# 7700 20-channel, Differential Multiplexer Module
with Automatic CJC, Screw Terminals, and up to 50MHz Bandwidth
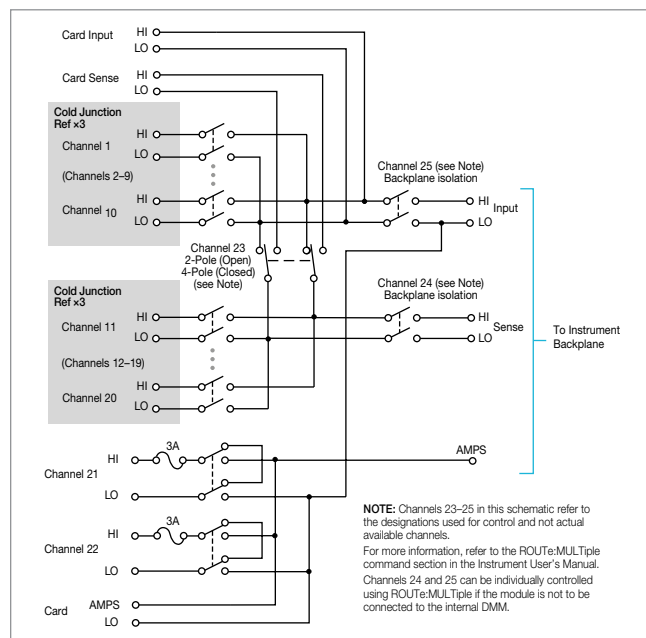
Datasheet

KEITHLEY
A Tektronix Company

The 7700 plug-in module offers 20 channels of 2-pole or 10 channels of 4-pole multiplexer switching that can be configured as two independent banks of multiplexers. There are two additional protected channels for current measurements. Automatic CJC is provided so that no other accessories are required to make thermocouple temperature measurements. In addition, the 7700 contains latching electromechanical relays that enable signal bandwidths of up to 50 MHz. The 7700 is ideal for RTD, thermistor, and thermocouple temperature applications.

Key Features

- 20 channels for general purpose measurements, plus two channels to measure current
- Oversize screw terminal connection blocks are standard for easier connections
- 50 MHz bandwidth
- 300 V, 1 A capacity for voltage channels; 60 W, 125 VA
- 3 A capacity for current channels
- Low insertion loss of up to 50 MHz
- Relay closures stored in onboard memory

NOTE: Channels 23–25 in this schematic refer to the designations used for control and not actual available channels.

For more information, refer to the ROUTe:MULTiple command section in the Instrument User's Manual.

Channels 24 and 25 can be individually controlled using ROUTe:MULTiple if the module is not to be connected to the internal DMM.

Specifications

Capabilities

Channels 1–20	Multiplex one of twenty 2-pole or one of ten 4-pole signals into DMM.
Channels 21–22	Multiplex one of two 2-pole current signals into DMM.

Inputs

Maximum Signal Level

Channels (1–20)	300 V DC or 300 V rms (425 V peak) for AC waveforms, 1 A switched, 60 W, 125 VA maximum.
Channels (21–22)	60 V DC or 30 V rms, 3 A switched, 60 W, 125 VA maximum.
Contact Life (typ.)	>10^5 operations at max. signal level. >10^8 operations no load[1].

1. Open thermocouple detector on during thermocouple measurements. Minimum signal level 10 mV, 10 µA.

Contact Resistance	<1 Ω at end of contact life.
Contact Potential	<±500 nV typical per contact, 1 µV max. <±500 nV typical per contact pair, 1 µV max.
Offset Current	<100 pA.
Connector Type	Screw terminal, #20 AWG wire size.

Isolation Between Any Two Terminals: >10^{10} Ω, <100 pF.

Isolation Between Any Terminal and Earth: >10^9 Ω, <200 pF.

Insertion Loss (50 Ω Source, 50 Ω Load)

	w/Internal DMM	w/o Internal DMM
<0.1 dB	1 MHz	1 MHz
<3 dB	2 MHz	50 MHz

Crosstalk (50 Ω Load):

	w/Internal DMM	w/o Internal DMM
10 MHz	<–40 dB	<–40 dB
25 MHz	—	<–25 dB

Common Mode Voltage
300 V or 300 V rms (425 V peak) for AC waveforms between any terminal and chassis.

General

20 Channels	20 channels of 2-pole relay input. All channels configurable to 4-pole.
2 Channels	2 channels of current only input.
Relay Type	Latching electromechanical.
Actuation Time	<3 ms.

Environmental and Safety

Operating Environment: Specified for 0° to 50°C. Specified to 80% R.H. at 35°C.

Storage Environment: –25° to 65°C.

EMC: Conforms to European Union EMC Directive.

Safety: Conforms to European Union Low Voltage Directive

RoHS: Conforms to European Union RoHS Directive

Weight	0.45 kg (1 lb).

Supplied Accessories

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

Available Services

7700-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

Ordering Information

7700	20-channel, Differential Multiplexer Module with Automatic CJC and Screw Terminals
Warranty	1 year

Tektronix®

KEITHLEY
A Tektronix Company

Find more valuable resources at TEK.COM

ES France - Département Tests & Mesures - 127 rue de Buzenval BP 26 - 92380 Garches
Tél. 01 47 95 99 45 - Fax. 01 47 01 16 22 - e-mail: tem@es-france.com - Site Web: www.es-france.com