7710

20-channel Solid-state
Differential Multiplexer with Automatic CJC

- **20 channels for general purpose measurements**
- **Scanning speeds of up to 500 channels/second**
- **High speed production or ATE testing up to 500 channels/s**
- **Long lifetime solid state relay**
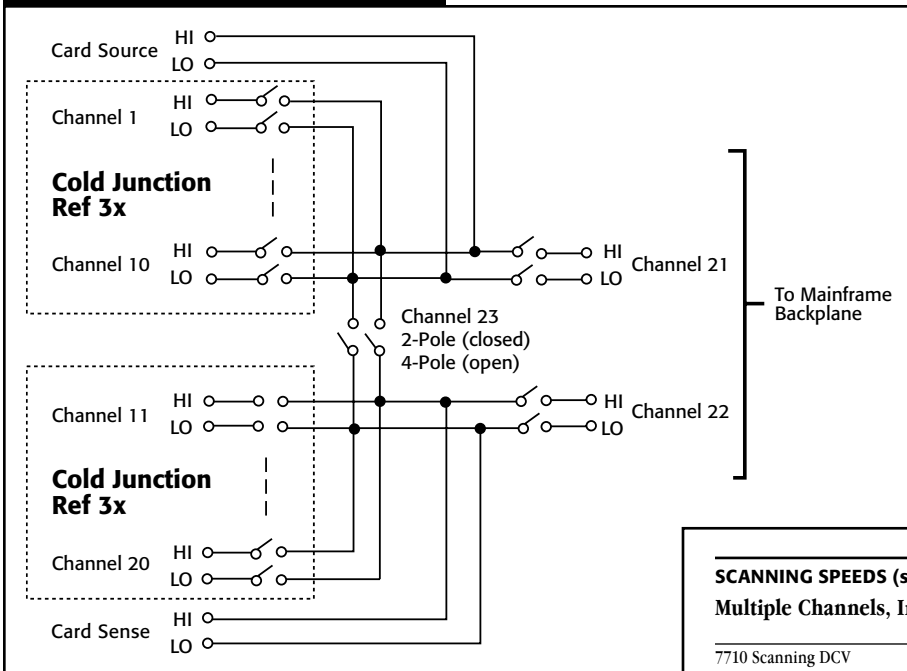- **Removable screw terminals for simple, quick connections**

Ordering Information

7710   20-channel Solid-state Differential Multiplexer Module

The Model 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.

CAPABILITIES

CHANNELS 1–20: Multiplex one of 20 2-pole or one of 10 4-pole signals into DMM.

INPUTS

MAXIMUM SIGNAL LEVEL: Any channel to any channel (1–20): 60VDC or 42V rms, 100mA switched, 6W, 4.2VA maximum.

COMMON MODE VOLTAGE: 300VDC or 300Vrms (425V peak) maximum between any terminal and chassis.

RELAY LIFE (TYP): >10^5 operational hours max. signal level or 10^{10} operations (guaranteed by design).

RELAY DRIVE CURRENT: 6mA per channel continuous, 25mA during initial pulse.

CHANNEL RESISTANCE (per conductor): <5Ω.

CONTACT POTENTIAL: <1μV per pair.

OFFSET CURRENT: <3nA @ 23°C (per channel); additional 0.13nA/°C >23°C.

CONNECTOR TYPE: 3.5mm removable screw terminals, #20 AWG wire size.

ISOLATION BETWEEN ANY TWO TERMINALS: >$10^9\Omega$, <100pF.

ISOLATION BETWEEN ANY TERMINAL AND EARTH: >$10^9\Omega$, <100pF.

CROSSTALK (CH-CH, 300kHz, 50Ω Load): <–40dB.

INSERTION LOSS (50Ω Source, 50Ω Load): <0.5dB below 100kHz, <3dB below 2MHz.

TEMPERATURE ACCURACY USING INTERNAL CJC: 1°C for K type (see mainframe specifications for details).

GENERAL

CHANNELS: 20 channels of 2-pole relay input. All channels configurable to 4-pole.

RELAY TYPE: Solid State Opto-Coupled FET.

ACTUATION TIME: <0.5ms (100mA load).

FIRMWARE: Specified for Model 2700 Rev. B05, Model 2750 Rev. A04, and Model 2701 Rev. A01.

ENVIROMENTAL

OPERATING ENVIRONMENT: Specified for 0°C to 50°C. Specified for 80% R.H. at 35°C.

STORAGE ENVIROMENT: –25° to 65°C.

WEIGHT: 0.45kg (1 lb).

ACCESSORIES AVAILABLE

7401   Type K Thermocouple Wire, 30.5m (100 ft).

SERVICES AVAILABLE

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

SCANNING SPEEDS (see mainframe specifications for details)

Multiple Channels, Into Memory

		Channels/s	
	2700	2701	2750
7710 Scanning DCV	180/s	500/s	230/s
7710 Scanning DCV with Limits or Time Stamp On	170/s	500/s	230/s
7710 Scanning DCV alternating 2WΩ	45/s	130/s	60/s

Multiple Channels, Into and Out of Memory to GPIB or Ethernet

		Channels/s	
	2700	2701	2750
7710 Scanning DCV	145/s	440/s	210/s
7710 Scanning DCV with Limits or Time Stamp On	145/s	440/s	210/s
7710 Scanning DCV alternating 2WΩ	40/s	130/s	55/s

A Greater Measure of Confidence

KEITHLEY
A Tektronix Company