

# 7710

## 20-Channel Solid-State Differential Multiplexer with Automatic CJC

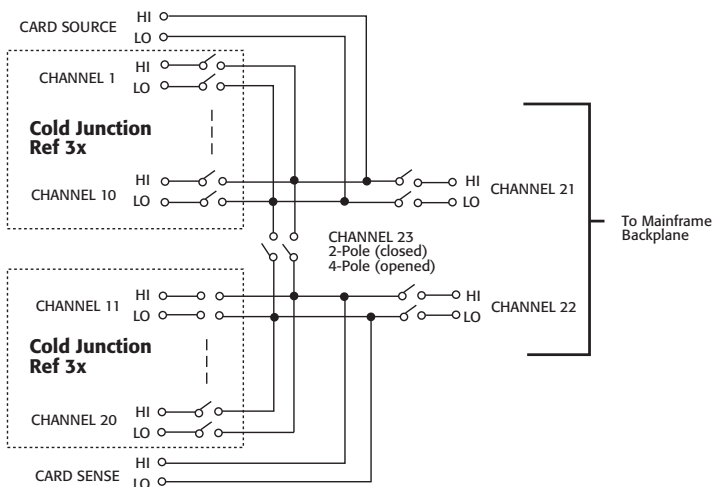
- 20 channels for general purpose measurements
- Scanning speeds of up to 500 channels/second
- High speed production or ATE testing up to 500 channels/s
- Long lifetime solid state relay
- Removable screw terminals for simple, quick connections

### 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<sup>5</sup> operational hours max. signal level or 10<sup>10</sup> 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<sup>9</sup>Ω, <100pF.

**ISOLATION BETWEEN ANY TERMINAL AND EARTH:** >10<sup>9</sup>Ω, <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.

### ENVIRONMENTAL

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

Specified for 80% R.H. at 35°C.

**STORAGE ENVIRONMENT:** –25° to 65°C.

**WEIGHT:** 0.45kg (1 lb).

### ACCESSORIES AVAILABLE

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

### 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

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