

# 7707 32-channel Digital I/O Module

## with 10-channel Differential Multiplexer

### Datasheet



**KEITHLEY**  
A Tektronix Company

The 7707 plug-in module offers 10 channels of 2-pole or 5 channels of 4-pole multiplexer switching that can be configured as two independent banks of multiplexers. The 7707 also provides 32 digital input/output channels (four 8-bit ports) for I/O control. Connect the 7707 to industry standard solid-state relays to switch up to 980 VA.

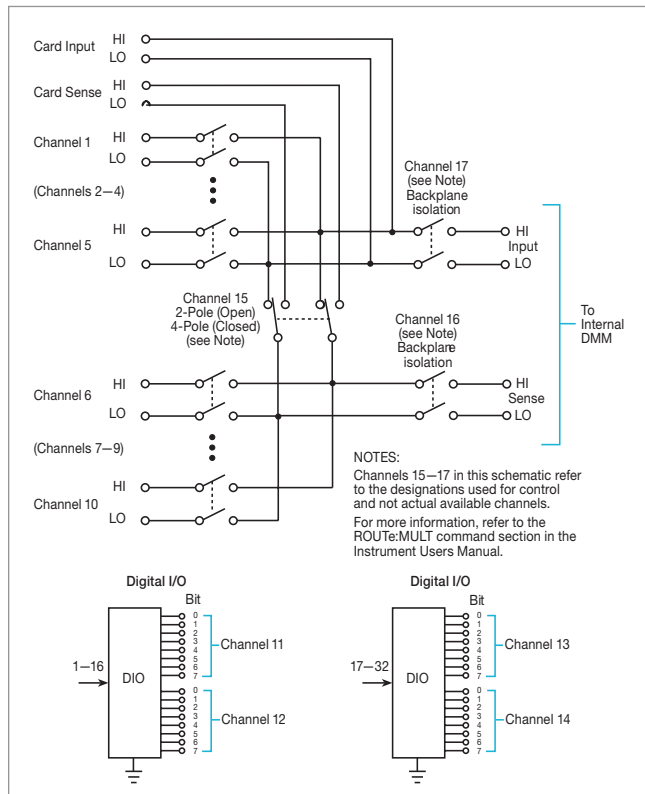
### Key Features

- 300 V, 1 A capacity; 60 W, 125 VA maximum (analog)
- 33 V, 100 mA capacity (digital)
- Digital outputs are short circuit protected
- Relay closures stored in onboard memory

### Ordering Information

7707 32-channel Digital I/O Module with 10-channel Differential Multiplexer

Warranty 1 year



### Specifications

#### Capabilities

<b>Channels 1–10</b>	Multiplex one of 10 2-pole or one of 5 4-pole signals into DMM.
<b>Channels 11–14</b>	32 Digital Inputs/Outputs referenced to chassis ground.
<b>Thermal Protection</b>	Channels 11–14 are thermally protected to 1 A up to 25 V.

#### Inputs (Channels 1–10)

**Maximum Signal Level: Any Channel to Any Channel (1–10):** 300 VDC or 300 Vrms (425 V peak) for AC waveforms, 1 A switched, 60 W, 125 VA maximum.

**Contact Life (typ.)** >10<sup>5</sup> operations at max. signal level  
>10<sup>8</sup> operations no load<sup>1</sup>.

1. Minimum signal level 10 mV, 10 μA.

**Contact Resistance** <1 Ω any path and additional 1 Ω at end of contact life.

**Contact Potential** <6 μV typical per contact pair and additional 5 μV with Channels 11–14 at rate V<sub>out(L)</sub>.

**Offset Current** <100 pA.

**Connector Type:** 50-pin male D-shell, Channels 11–14. 25-pin female D-shell, Channels 1–10. Supplied with female and male IDC ribbon cable connectors.

#### Isolation Between Any Two Terminals

>10<sup>9</sup> Ω, <100 pF with isolation channels 16 and 17 open.

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

**Cross Talk (1 MHz, 50 Ω Load):** <-35 dB.

**Insertion Loss (50 Ω Source, 50 Ω Load)**

<0.1 dB below 1 MHz. <3 dB below 2 MHz.

**Common Mode Voltage:** 300 VDC or 300 Vrms (425 V peak) for AC waveforms between any terminal and chassis.

#### Digital Input/Output (Channels 11–14)

V<sub>in(L)</sub>: <0.8 V (TTL). V<sub>in(H)</sub>: >2 V (TTL).

V<sub>out(L)</sub>: <1.0 V @ I<sub>out</sub> = 100 mA. V<sub>out(H)</sub>: >2.4 V @ I<sub>out</sub> = 1 mA.

V<sub>out(H)MAX.</sub>: <40 V with external open drain pull-up.

**Read/Write Speed** 50/s.

### General

**10 Channels** 10 channels of 2-pole relay input. All channels configurable to 4-pole.

**Relay Type** Latching electromechanical.

**Actuation Time** <3 ms.

#### Capacity

2700: (1) 7707 and (1) 77XX, except 7706.

2701: Any combination of 77XX modules.

2750: (4) 7707 and (1) 77XX, except 7706. A 7706 module may be substituted for a 7707 module.

#### 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

<0.5 kg (1.16 lb).

### Supplied Accessories

7707-306A 50-pin D-Sub Female IDC Connector Kit

7709-307A 25-pin D-Sub Male IDC Connector Kits

### Available Accessories

7790 50-pin Male, 50-pin Female, 25-pin Male D-shell IDC Connectors

7705-MTC-2 50 Pin Male to Female D-sub Cable, 2 m (6.6 ft).

7707-MTC-2 25 Pin Male to Female D-sub Cable, 2 m (6.6 ft).

### Available Services

7707-3Y-EW 1-year factory warranty extended to 3 years from date of shipment.

**Contact Information:**

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