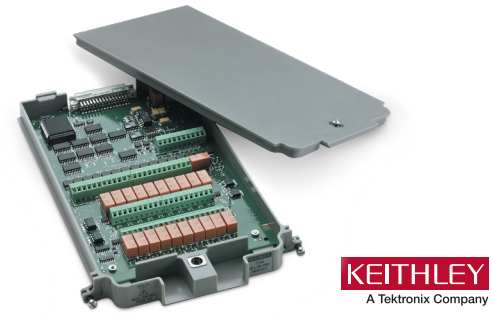
7706 All-in-One I/O Module 20-channel Differential Multiplexer w/Automatic CJC, 16 Digital Outputs, 2 Analog Outputs, a Counter/Totalizer, and Screw Terminals

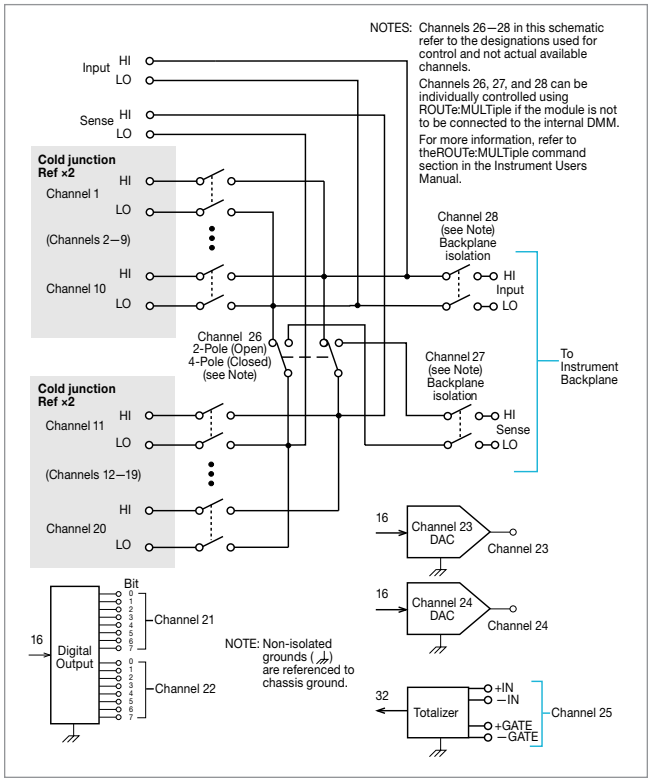
Datasheet



The 7706 plug-in module offers 20 channels of 2-pole or 10 channels of 4-pole multiplexer switching with automatic CJC, as well as two analog output channels, 16 digital outputs, and one event counter/totalizer. The event counter/ totalizer can be used to monitor and control system components, such as fixtures, limit switches, pass/fail indicators, external voltage sources, loads, door closures, revolutions, etc., while performing mixed signal measurements. The 7706 is ideal for RTD, thermistor, and thermocouple temperature applications.

Key Features

- 20 channels of analog input (w/automatic CJC) for general-purpose measurements
- 16 channels of digital output
- 2 analog outputs (±12 V, 5 mA)
- 300 V, 1 A capacity; 60 W, 125 VA maximum
- Configurable as two independent banks of multiplexers
- Relay closures stored in onboard memoryy



Specifications

Capabilities

Channels 1–20	Multiplex one of 20 2-pole or one of 10 4-pole signals into DMM.
Channels 21–22	16 Digital Outputs.
Channels 23–24	Analog Voltage Output (2).
Channels 25	Totalize Input.

Channels 21–25 are referenced to chassis ground.

Inputs (Channels 1–20)

Maximum Signal Level (Channels 1–20)	300 V DC or rms, 1 A switched, 60 W, 125 V**A maximum.**
Safety Category	CAT 1
Contact Life (typ.)	$>10^5$ operations at max. signal level; $>10^8$ operations no load[1].

1. Minimum signal level 10 mV, 10 µA.

Contact Resistance	<1 Ω at end of contact life.
Contact Potential	<±2 µV typical per contact, 3 µV max.
Offset Current	<100 pA.
Connector Type	Screw terminal, #22 AWG wire size.

Isolation Between Any Two Terminals: $>10^9$ Ω, <100 pF.

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

Cross Talk (10MHz, 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 V between any terminal and chassis.

Digital Output (Channels 21 and 22)

V_{out}(L)	<0.8 V @ I_{out} = 400 mA.
V_{out}(H)	>2.4 V @ I_{out} = 1 mA.
V_{out}(H)Max.	<42 V with external open drain pull-up.
Write Speed	50/s.

Analog Voltage Output (Channels 23 and 24)

DAC 1, 2	±12 V @ 1 mA max, non-isolated, ±10 V @5 mA max.
Resolution	1 mV.
I_{out}	5 mA max.
Settling Time	1 ms to 0.01% of output.
Accuracy ±(% of output + mV)	1 year ±5°C: 0.15% + 19 mV; 90 day ±5°C: 0.1% + 19 mV; 24 hour ±1°C: 0.04% + 19 mV.

Temperature Coefficient: ±(0.015% + 1 mV)/°C.

Write Speed	50/s.

Totalize Input (Channel 25)

Maximum Count	232–1.
Totalize Input	100 kHz (max), rising or falling edge, programmable.
Signal Level	1 Vp-p (min), 42 Vpk (max).
Threshold	0 V or TTL, jumper selectable.
Gate Input	TTL-Hi, TTL-Lo, or none.
Count Reset	Manual or Read+Reset.
Read Speed	50/s.

General

20 Channels	20 channels of 2-pole relay input. All channels configurable to 4-pole.
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	0.5 kg (1.1 lbs).

Supplied Accessories

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

Available Services

7706-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

Ordering Information

7706	All-in-One I/O Module
Warranty	1 year

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