

## 7706

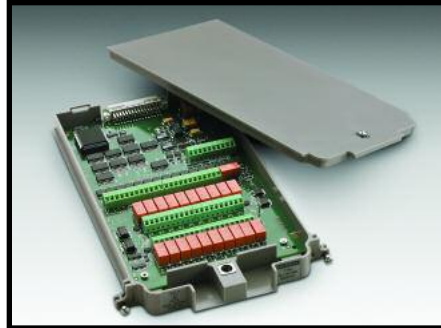
## All-in-One I/O Module

20-Channel Differential Multiplexer w/Automatic CJC, 16 Digital Outputs, 2 Analog Outputs, a Counter/Totalizer, and Screw Terminals

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

## Ordering Information

7706 All-in-One I/O Module



The Model 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, loads, door closures, revolutions, etc., while performing mixed signal measurements. The Model 7706 is ideal for RTD, thermistor, and thermo-couple temperature applications.

## CAPABILITIES

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

CHANNELS 21–25 are referenced to chassis ground.

CHANNELS 21–22: 16 Digital Outputs.

CHANNELS 23–24: Analog Voltage Output (2).

CHANNELS 25: Totalize Input.

## INPUTS

MAXIMUM SIGNAL LEVEL (Channels 1–20): 300V DC or rms, 1A switched, 60W, 125VA maximum.

CONTACT LIFE (typ.):  $>10^5$  operations at max. signal level;  $>10^8$  operations cold switching.

CONTACT RESISTANCE:  $<1\Omega$  at end of contact life.

CONTACT POTENTIAL:  $<\pm 2\mu V$  typical per contact,  $3\mu V$  max.

OFFSET CURRENT:  $<100pA$ .

CONNECTOR TYPE: Screw terminal, #20 AWG wire size.

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

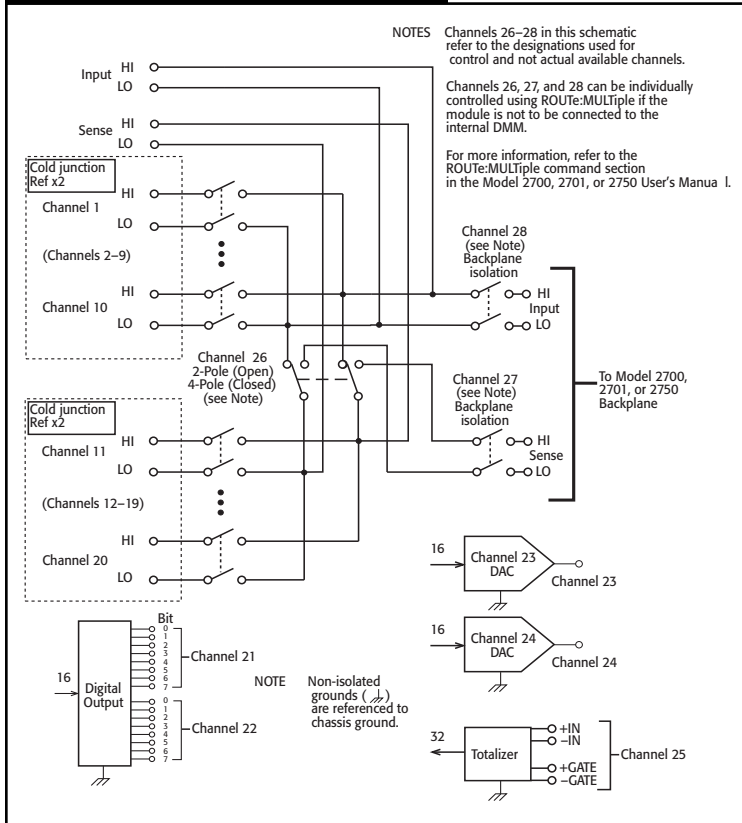
ISOLATION BETWEEN ANY TERMINAL AND EARTH:  $>10^9\Omega$ ,  $<200pF$ .

CROSS TALK (10MHz, 50 $\Omega$  Load):  $<-35dB$ .

INSERTION LOSS (50 $\Omega$  Source, 50 $\Omega$  Load):  $<0.1dB$  below 1MHz.  $<3dB$  below 2Mhz.

COMMON MODE VOLTAGE: 300V between any terminal and chassis.

TEMPERATURE ACCURACY USING INTERNAL CJC:  $1.0^\circ C$  (see mainframe specification for details).



## TOTALIZE INPUT

MAXIMUM COUNT:  $2^{32}-1$ .

TOTALIZE INPUT: 100kHz (max), rising or falling edge, programmable.

SIGNAL LEVEL: 1Vp-p (min), 42Vpk (max).

THRESHOLD: 0V or TTL, jumper selectable.

GATE INPUT: TTL-Hi, TTL-Lo, or none.

COUNT RESET: manual or Read+Reset.

READ SPEED: 50/s.

## ANALOG VOLTAGE OUTPUT

DAC 1, 2:  $\pm 12V$  in 1mV increments, non-isolated.

RESOLUTION: 1mV.

$I_{OUT}$ : 5mA max.

SETTLING TIME: 1ms to 0.01% of output.

ACCURACY  $\pm$ (% of output + mV):

1 year  $\pm 5^\circ C$ : 0.15% + 19mV;

90 day  $\pm 5^\circ C$ : 0.1% + 19mV;

24 hour  $\pm 1^\circ C$ : 0.04% + 19mV.

TEMPERATURE COEFFICIENT:

$\pm(0.015\% + 1mV)^\circ C$ .

## DIGITAL OUTPUT

$V_{OUT(L)}$ :  $<0.8V$  @  $I_{out} = 400mA$ .

$V_{OUT(H)}$ :  $>2.4V$  @  $I_{out} = 1mA$ .

$V_{OUT(H)MAX}$ :  $<42V$  with external open drain pull-up.

WRITE SPEED: 50/s.

## GENERAL

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

RELAY TYPE: Latching electromechanical.

ACTION TIME:  $<3ms$ .

FIRMWARE: Specified for Model 2700 rev. A02 or B01, 2701 rev. A01, and 2750 rev. A01 or higher.

## ENVIRONMENTAL

OPERATING ENVIRONMENT: Specified for  $0^\circ C$  to  $50^\circ C$ . Specified to 80% R.H. at  $35^\circ C$ .

STORAGE ENVIRONMENT:  $-25^\circ C$  to  $65^\circ C$ .

WEIGHT: 0.5kg (1.1 lbs).

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