7706 All-in-One I/O Module

GENERAL

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

RELAY TYPE: Latching electromechanical.

ACTUATION TIME: <3ms.

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 (Channels 1–20)

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

SAFETY CATEGORY: CAT I.

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

CONTACT RESISTANCE: <1Ω at end of contact life.

CONTACT POTENTIAL: <±2μV typical per contact pair, 3μV max.

OFFSET CURRENT: <100pA.

CONNECTOR TYPE: Screw terminal, #22 AWG wire size.

ISOLATION BETWEEN ANY TWO TERMINALS: >10^9Ω, <100pF with isolation channels 27 and 28 open.

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

CROSS TALK (10MHz, 50Ω Load): <–35dB.

INSERTION LOSS (50Ω Source, 50Ω Load): <0.1dB below 1MHz. <3dB below 2MHz.

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

DIGITAL OUTPUT (Channels 21 and 22)

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

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

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

WRITE SPEED: 50/s.

ANALOG VOLTAGE OUTPUT (Channels 23 and 24)

DAC 1, 2: ±12V, non-isolated.

RESOLUTION: 1mV.

I_{OUT}: 5mA max.

SETTLING TIME: 1ms to 0.01% of output.

ACCURACY ±(% of output + mV):
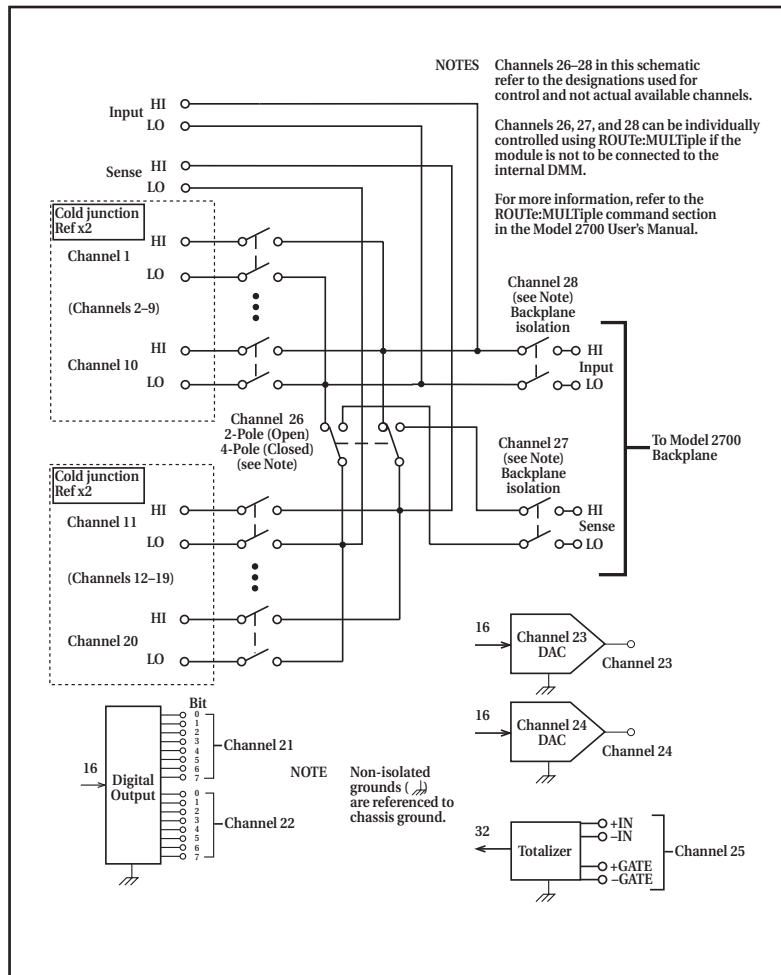 Measured with ≥10MΩ input resistance DMM.
  1 year ±5°C: 0.15% + 19mV;
  90 day ±5°C: 0.1% + 19mV;
  24 hour ±1°C: 0.04% + 19mV.

TEMPERATURE COEFFICIENT: ±(0.015% + 1mV)/°C.

WRITE SPEED: 50/s.

NOTES Channels 26–28 in this schematic refer to the designations used for control and not actual available channels.

Channels 26, 27, and 28 can be individually controlled using ROUTe:MULTiple if the module is not to be connected to the internal DMM.

For more information, refer to the ROUTe:MULTiple command section in the Model 2700 User's Manual.

TOTALIZE INPUT (Channel 25)

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.

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

COUNT RESET: manual or Read+Reset.

READ SPEED: 50/s.

ENVIRONMENTAL

Specified for Model 2700, firmware revision A02 or later.

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

STORAGE ENVIRONMENT: –25°C to 65°C.

WEIGHT: 0.5kg (1.1 lbs).