3761 10-Channel Low Current Multiplexer Card
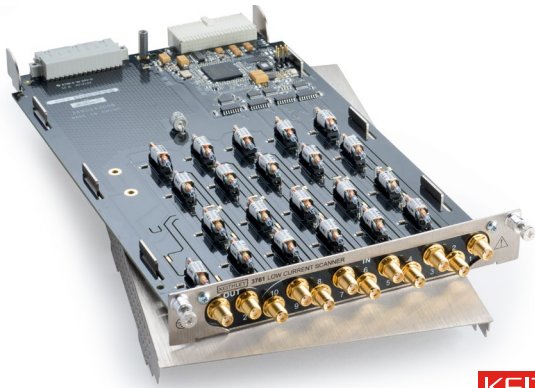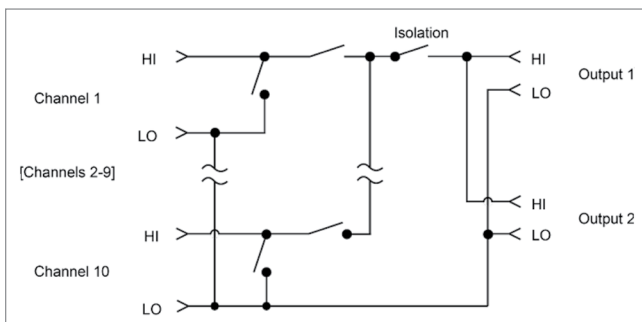
The 3761 provides quality low-current switching at an affordable price. The offset current error generated is specified <1pA, with typical performance at <30fA. When used with a voltage source and an electrometer or picoammeter, this card can easily automate insulation resistance tests, reverse leakage tests on semiconductor junctions, or gate leakage tests on FETs.

The 3761 features both current and voltage modes. In current mode, the current path is maintained even when the channel is open. This eliminates cable charging time between measurements. In voltage mode, the input is broken and is high impedance. Input connectors are SMA for shielding of the sensitive measurements. An SMA male to BNC male cable (3761-BNC-SMA) is available for compatibility with existing 7158 configurations and with Keithley accessory cables such as the 4801 and 4803. The 3761 does not connect to the 6 common buses on the 3706A backplane, but two outputs are provided to allow for chaining several scanner cards to one measurement instrument, allowing up to 60 channels, while an isolation relay in the output HI minimizes interaction between cards.

Specifications

Channels Per Card	10.
Contact Configuration	Form A. Signal LO is common for all 10 channels and output. When open, signal HI is shorted to signal LO in current mode. When open, signal HI is high impedance in voltage mode.
Connector Type	SMA.
Relay Drive Current	16 mA/relay typ.
Maximum Signal Level	30 V, 100 mA peak (resistive load).
Contact Life	>10^6 closures at maximum signal levels; >10^7 closures cold switching or at low signal levels.
Contact Resistance	<1 Ω.
Contact Potential	<200 μV.
Offset Current	<1 pA (<30 fA typical).
3dB Bandwidth	1 MHz typical.
Actuation Time	<1 ms, exclusive of mainframe.
Channel Isolation	>10^{14} Ω, <50 pF.
Common Mode Isolation	>10^9 Ω, <150 pF.
Common Mode Voltage	<30 V maximum.

Available Accessories

3761-BNC-SMA	SMA to BNC Cable
???	Low Noise Male to Male SMA Cable
4801	Low Noise Male to Male BNC Cable
4802-10	Low Noise BNC to Unterminated Cable, 10 ft.
4803	Low Noise BNC Cable kit

Available Services

-3761-3Y-EW	1 year factory warrenty extended to 3 years from date of shipment
-3761-5Y-EW	1 year factory warrenty extended to 5 years from date of shipment

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