

## 7158



- Sub-picoamp offset current
- Maintains current path for unselected channel
- BNC connectors

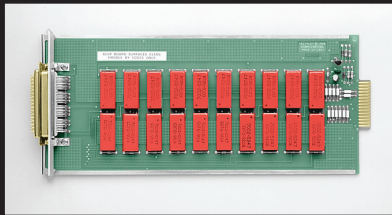
## Ordering Information

7158 Low Current Scanner Card

## Accessories Supplied

4801 Low Noise Male to Male BNC Input Cable

## 7164-D



- Low cost general purpose scanning
- Easy cabling with mass terminated D-Sub connectors

## Ordering Information

7164-D 20-Channel Scanner Card

## Accessories Supplied

7164-MTR Mating Connector for 7164-MTC-10 Cable

# Low Current Scanner Card

## 10-Channel

The Model 7158 provides quality low-current switching at an affordable price. The offset current error generated is specified  $<1\text{pA}$ , with typical performance at  $<30\text{fA}$ . When used with a voltage source and electrometer or picoammeter, this card can easily automate insulation resistance tests, reverse leakage tests on semiconductor junctions, or gate leakage tests on FETs.

The Model 7158 is designed to maintain the current path even when the channel is de-selected. Input connectors are BNC for shielding of the sensitive measurements and for compatibility with low noise coaxial cables such as Keithley accessory cables Models 4801 and 4803. Two outputs are provided to allow for chaining several scanner cards to one measurement instrument, and an isolation relay in the output HI minimizes interaction between cards.

**CHANNELS PER CARD:** 10.

**CONTACT CONFIGURATION:** Single pole, simultaneous break and make for signal HI input. Signal LO is common for all 10 channels and output. When a channel is off, signal HI is connected to signal LO.

**CONNECTOR TYPE:** BNC.

**RELAY DRIVE CURRENT:** 100mA per card typical (regardless of channel closures selected).

**MAXIMUM SIGNAL LEVEL:** 30V, 100mA peak (resistive load).

**CONTACT LIFE:**  $>10^6$  closures at maximum signal levels;  $>10^7$  closures at low signal levels.

**CONTACT RESISTANCE:**  $<1\Omega$ .

**CONTACT POTENTIAL:**  $<200\mu\text{V}$

**OFFSET CURRENT:**  $<1\text{pA}$  ( $<30\text{fA}$  typical).

**3dB BANDWIDTH:** 1MHz typical.

**ACTUATION TIME:**  $<1\text{ms}$ , exclusive of mainframe.

**CHANNEL ISOLATION:**  $>10^{14}\Omega$ .

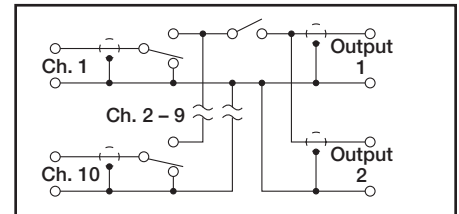
**INPUT ISOLATION: Differential:**  $>10^9\Omega$ ,  $<50\text{pF}$ .

**Common Mode:**  $>10^9\Omega$ ,  $<150\text{pF}$ .

**COMMON MODE VOLTAGE:**  $<30\text{V}$  maximum.

## ACCESSORIES AVAILABLE

4801	Low Noise Male to Male BNC Input Cable
4802-10	Low Noise BNC to Unterminated Cable, 10 ft.
4803	Low Noise BNC Cable Kit for 7158



# Dry Reed Scanner Card

## 20-Channel, 2-Pole

The 7164-D is a 20-channel, 2-pole scanner card. The card reduces system integration and maintenance costs by using standard 50-pin D connectors and terminations to twisted-pair ribbon cable for ease of assembly and interconnect.

The 7164-D uses dry reed relays for economy with fully specified performance. It is to be used as a one-of-twenty channel selector only.

**CHANNELS PER CARD:** 20.

**CONTACT CONFIGURATION:** 2-pole Form A, common guard/shield connection.

**CONNECTOR TYPE:** 50-pin D connector.

**ACTUATION TIME:**  $<2\text{ms}$ , exclusive of mainframe.

**CHANNEL ISOLATION:**  $>10^9\Omega$ ,  $<20\text{pF}$ .

**INPUT ISOLATION: Differential:**  $>10^9\Omega$ ,  $<50\text{pF}$ .

**Common Mode:**  $>10^9\Omega$ ,  $<150\text{pF}$ .

**CHANNEL-TO-CHANNEL VOLTAGE:** 100V peak.

**COMMON MODE VOLTAGE:** 200V peak.

**CONTACT TYPE:** Dry reed.

**RELAY DRIVE CURRENT (typical):** 30mA.

**MAXIMUM SIGNAL: Voltage:** 100V peak. **Current (switched):** 0.5A rms. **Current (carry):** 1.0A rms. **V-A (resistive load):** 10VA.

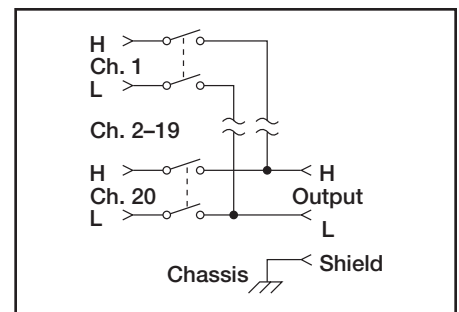
**CONTACT RESISTANCE: Initial:**  $<400\text{m}\Omega$ .  
**At rated life:**  $<2\Omega$ .

**CONTACT LIFE: Cold Switching:**  $>10^8$ . **Max. Signal:**  $>10^7$ .

**CONTACT POTENTIAL: Per Contact Pair:**  $<50\mu\text{V}$ .

## ACCESSORIES AVAILABLE

7164-MTC-10	50-Pin Male to Female DSUB Cable for 7164-D, 10 ft.
7164-MTR	Mating Connector for 7164-MTC-10 Cable
7164-KIT	7164-D Mating Connector Kit for Custom Cabling



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