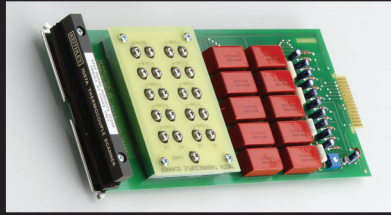


# 7057A



- Cold junction compensated
- 2-pole Form A
- <math>1\mu\text{V}</math> of switch contact potential

## Ordering Information

**7057A Thermocouple Scanner Card**

# Thermocouple Scanner Card

## 9-Channel

These cards permit monitoring of up to nine thermocouples or other transducers. The nine signal channels use a guarded 2-pole configuration. An isothermal block provides electrical isolation up to 42V while assuring excellent thermal conductivity between cold junction terminations. A sensing device mounted in the isothermal block monitors the cold junction and outputs a calibrated reference voltage that is linearly related to the temperature. The Model 7057A provides a higher change in reference output for improved cold junction sensitivity. Formulae for converting the voltage outputs of all of the most popular thermocouple types are included in the manual. The contact potential of <math>1\mu\text{V}</math> per channel translates to <math>0.025^\circ\text{C}</math> error for precision measurements on type K thermocouples.

**CHANNELS PER CARD:** 9 plus temperature reference.  
**CONTACT CONFIGURATION:** 2-pole Form A, with common guard.  
**CONNECTOR TYPE:** Screw terminals in isothermal block, #18AWG maximum wire size.  
**RELAY DRIVE CURRENT:** 12mA per relay typical.

**TEMPERATURE REFERENCE:** Thermistor in a linearized bridge.  
**TEMPERATURE OFFSET:**  $\pm 0.05^\circ\text{C}$  maximum from HI to LO of any channel or between any two adjacent channels in one column on the isothermal block.  $\pm 0.1^\circ\text{C}$  maximum between any two terminals on the isothermal block. Maximum additional dynamic offset due to  $10^\circ\text{C}$  step change in environment:  $\pm 0.1^\circ\text{C}$  after one hour setting.  
**REFERENCE OUTPUT:**  $-1\text{mV}/^\circ\text{C}$  (0mV at  $+30^\circ\text{C}$ ).  
**REFERENCE ACCURACY (1 Year):**  $\pm 0.25^\circ\text{C}$  ( $10^\circ\text{C}$  to  $35^\circ\text{C}$ );  $\pm 0.5^\circ\text{C}$  ( $0^\circ\text{C}$  to  $10^\circ\text{C}$  and  $35^\circ\text{C}$  to  $50^\circ\text{C}$ ).  
**WARM-UP:** 1 hour to rated accuracy in mainframe.  
**MAX. SIGNAL LEVEL:** 42V 100mA, 2VA (resistive load only).  
**CONTACT POTENTIAL:**  $<1\mu\text{V}$   
**CONTACT LIFE:**  $>10^8$  closures cold switching;  $>10^6$  closures at maximum signal levels.  
**CONTACT RESISTANCE:**  $<2\Omega$  to rated life.  
**CHANNEL ISOLATION:**  $>10^8\Omega$ ,  $<10\text{pF}$ .  
**INPUT ISOLATION:**  $>10^7\Omega$ ,  $<150\text{pF}$ .  
**COMMON MODE VOLTAGE:** 200V peak.  
**SPECIFIED ENVIRONMENT:**  $10^\circ$  to  $35^\circ\text{C}$ , up to 70% RH.

## ACCESSORIES AVAILABLE

7401 Type K Thermocouple Wire Kit, 100ft.

# 7058



- Sub-pA offset current
- 10-channel scanner
- Maintains current path for unselected channel
- Triax connectors

## Ordering Information

**7058 Low Current Scanner Card**

### Accessories Supplied

**7024-3 Low Noise Triax Cable, 0.9m (3 ft.)**

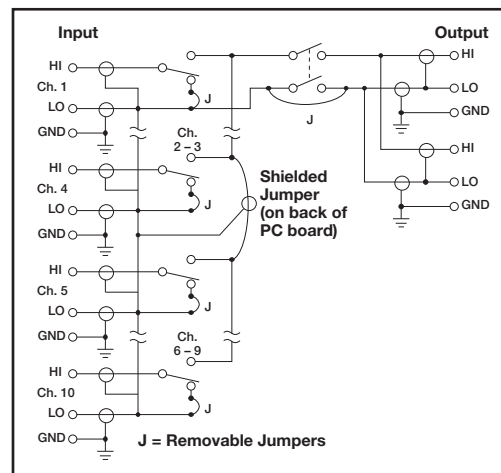
# Low Current Scanner Card

For optimum low-level current switching up to 10 channels, the Model 7058 is designed to introduce minimal offset current error (under 1pA), while guarding ensures that high isolation ( $10^{15}\Omega$ ) is maintained between input HI to input HI. Removable jumpers allow channels to be configured as voltage switches. Triaxial input connectors provide better shielding and permit direct connection to Keithley electrometers.

**CHANNELS PER CARD:** 10.  
**CONTACT CONFIGURATION:** Single pole, break-before-make for signal HI input. Signal LO is common for all 10 channels. When a channel is off, signal HI is connected to signal LO through an internal removable jumper.  
**CONNECTOR TYPE:** Two-lug triaxial.  
**RELAY DRIVE CURRENT:** 24mA per relay typical.  
**MAXIMUM SIGNAL LEVEL:** 200V 100mA (resistive load only).  
**CONTACT LIFE:**  $>10^7$  closures cold switching;  $>10^6$  closures at maximum signal levels.  
**CONTACT RESISTANCE:**  $<1\Omega$  to rated life.  
**CONTACT POTENTIAL:**  $<250\mu\text{V}$   
**ACTUATION TIME:**  $<15\text{ms}$ , exclusive of mainframe.  
**CHANNEL ISOLATION:**  $>10^{15}\Omega$ ,  $<0.1\text{pF}$  with internal jumper removed.  
**INPUT ISOLATION:**  $>10^{10}\Omega$ ,  $<50\text{pF}$  (Input HI to Input LO).  
**OFFSET CURRENT:**  $<10^{-12}\text{A}$  ( $<10^{-13}\text{A}$  typical).  
**COMMON MODE VOLTAGE:**  $<100\text{V}$  peak.

## ACCESSORIES AVAILABLE

7024-3 Low Noise Triax Cable, 3 ft.  
 7024-10 Low Noise Triax Cable, 10 ft.  
 7025-10 Low Noise Triax Cable with one end unterminated, 10 ft.



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