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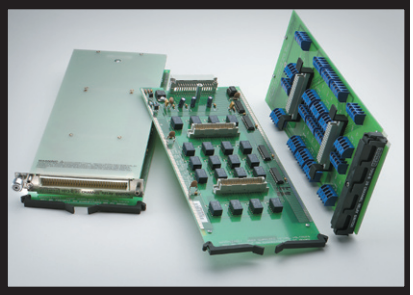
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Find the *Keithley 7013-C* at our website: *Click HERE*

7013-C
7013-S

20-Channel Isolated Switch Cards



- **20 independent 2-pole switches**
- **500nV, 100pA offsets**

Ordering Information

7013-C	**20-Channel, 2-Pole Independent Switch with 96-Pin Mass Terminated Connector Board**
7013-S	**20-Channel, 2-Pole Independent Switch with Screw Terminal Connector Board**

This isolated switch card contains 20 independent channels that can be connected in a wide variety of configurations. Each channel is 2-pole. The isolated switch configuration provides the greatest flexibility because the switches can be connected as needed. Both sides of each 2-pole relay are available for connection.

RELAY SWITCH CONFIGURATION: 20 independent channels of 2-pole switching.
CONTACT CONFIGURATION: 2-pole Form A (Hi, Lo).
CONNECTOR TYPE: 7013-C: 96-pin male DIN connector. **7013-S:** Screw terminal, #16AWG maximum wire size, with 0.092 inch O.D. 28 conductors per card maximum. #22AWG typical wire size with 0.062 inch O.D. 88 conductors per card maximum.
MAXIMUM SIGNAL LEVEL: DC Signals: 110V DC between any two pins, 1A switched. 30VA (resistive load). **AC Signals:** 125V rms and 175V AC peak, between any two pins, 1A switched, 60VA (resistive load).
COMMON MODE VOLTAGE: 175V peak, any pin to chassis.
CONTACT LIFE: Cold Switching: 10^8 closures. **At Maximum Signal Levels:** 10^5 closures.
CHANNEL RESISTANCE (per conductor): <1Ω.
OFFSET CURRENT: <100pA.
CONTACT POTENTIAL: 7013-C: <2μV per channel contact pair (HI, LO); <5μV per single contact. **7013-S:** <2μV per contact pair (HI, LO); <5μV per single contact.
ACTUATION TIME: 3ms.
ISOLATION: Channel to Channel: $>10^{10}$Ω, <25pF. **Differential:** $>10^{10}$Ω, <50pF. **Common Mode:** $>10^{10}$Ω, <100pF.
CROSSTALK (1MHz, 50Ω Load): <–50dB.
INSERTION LOSS (50Ω Source, 50Ω Load): <0.1dB below 1MHz, <3dB below 10MHz.
RELAY DRIVE CURRENT (per relay): 16mA.
EMC: Conforms to European Union Directive 89/336/EEC.
SAFETY: Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).
ENVIRONMENT: Operating: 0° to 50°C, up to 35°C <80% RH. **Storage:** –25°C to 65°C.

ACCESSORIES AVAILABLE

FOR 7013-C

7011-KIT-R	96-Pin Female Connector Kit
7011-MTC-1	96-Pin Mass Terminated Cable, Female to Female, 1m
7011-MTC-2	96-Pin Mass Terminated Cable, Female to Female, 2m
7011-MTR	96-Pin Male Connector Kit

FOR 7013-S

7013-ST	Extra Screw Terminal Connection Board

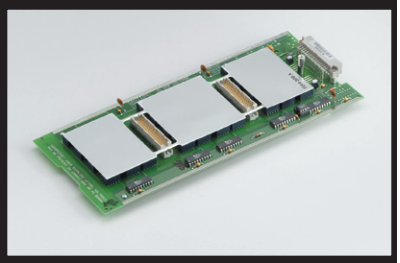
SERVICES AVAILABLE

7013-C-3Y-EW	1-year factory warranty extended to 3 years from date of shipment
7013-S-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

7014

Thermocouple Multiplexer

39 Channels of T/C or General Purpose Switching



- **Built-in temperature reference for thermocouple cold junction compensation**
- **39-channel, 2-pole multiplexer**
- **For thermocouple and general purpose signal switching**

Ordering Information

7014	**39-Channel Thermocouple Scanner with Screw Terminal Connector Board**

The 7014 can multiplex up to 39 cold junction compensated thermocouple channels. The built-in reference junction can be measured to determine the temperature of the isothermal connection board for accurate temperature measurements. The reference junction sensing device outputs a calibrated reference voltage that is linearly related to the temperature of the isothermal connection board.

The 7014 card with the 7001 or 7002 mainframe is designed to be used with the Keithley Model 2000, 2001, and 2010 DMMs. The 2001 uses the reference junction output from the 7014 to display properly compensated and linearized temperature readings from the thermocouples.

MULTIPLEX CONFIGURATION: Four independent 1×10 2-pole multiplex banks. Adjacent banks can be connected together. Jumpers can be removed to isolate any bank from the backplane. Channel one in the bank A multiplexer is used for the cold junction sensor.
CONTACT CONFIGURATION: 2-pole Form A (Hi, Lo).
CONNECTOR TYPE: Screw terminal, #16AWG maximum wire size, with 0.092 inch O.D. 28 conductors per card maximum. #22AWG typical wire size per conductor, with 0.062 inch O.D. 86 conductors per card maximum.
REFERENCE OUTPUT: +200μV/°C (+54.63mV at 0°C).
TOTAL REFERENCE JUNCTION MEASUREMENT ACCURACY (1 Year): ±0.45°C (18°–28°C); ±0.7 (0°–18°C and 28°–50°C).
WARMUP: 2 hours to rated accuracy in mainframe.
COMMON MODE VOLTAGE: 175V peak, any pin to chassis.
MAXIMUM SIGNAL LEVEL: DC Signals: 110V DC between any two pins, 1A switched. 30VA (resistive load). **AC Signals:** 125V rms and 175V AC peak, between any two pins, 1A switched, 60VA (resistive load).
CONTACT LIFE: Cold Switching: 10^8 closures. **At Maximum Signal Levels:** 10^5 closures.
CHANNEL RESISTANCE (per conductor): <1Ω.
CONTACT POTENTIAL: <1μV per channel contact pair; <2μV typical per single contact.
OFFSET CURRENT: <100pA.
ACTUATION TIME: 3ms.
ISOLATION: Bank: $>10^9$Ω, <25pF. **Channel to Channel:** $>10^9$Ω, <50pF. **Differential:** Configured as 1×10: $>10^9$Ω, <100pF. Configured as 1×40: $>10^9$Ω, <200pF. **Common Mode:** Configured as 1×10: $>10^9$Ω, <300pF Configured as 1×40: $>10^9$Ω, <900pF.
CROSSTALK (1MHz, 50Ω Load): Bank: <–40dB. **Channel:** <–40dB.
INSERTION LOSS (50Ω Source, 50Ω Load): <0.1dB below 1MHz, <3dB below 2MHz.
RELAY DRIVE CURRENT (per relay): 20mA.
EMC: Conforms to European Union Directive 89/336/EEC.
SAFETY: Conforms to European Union Directive 73/23/EEC (meets EN61010-1/IEC 1010).
ENVIRONMENT: Operating: 0° to 50°C, up to 35°C <80% RH. **Storage:** –25°C to 65°C.

ACCESSORIES AVAILABLE

7014-ST	Extra Screw Terminal Connection Board

SERVICES AVAILABLE

7014-3Y-EW	1-year factory warranty extended to 3 years from date of shipment

Use with 7001 and 7002 switch mainframes

SWITCHING AND CONTROL

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