

Keithley Instruments, Inc.
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32 Channel Isolated Switch Card Specifications

28 Form C relays and 4 high power Form A relays

RELAY SWITCH CONFIGURATION: 32 general purpose independent channels. 28 channels of FORM C switching at 2A and 4 channels of FORM A switching at 7A. Relays can be connected to each other and backplane via removable terminal blocks.

CONTACT CONFIGURATION:

GENERAL PURPOSE: 1 pole FORM C.

HIGH CURRENT: 1 pole FORM A

CONNECTOR TYPE: Two 50 pin male D-shells.

MODEL 3740-ST SCREW TERMINAL OPTION:

#22 AWG typical wire size with .062 inch O.D. 84 conductors maximum. #16 AWG maximum wire size with .092inch O.D. 44 conductors per card maximum.

MAXIMUM SIGNAL LEVEL:

FORM C: 300V DC or RMS, 2A switched (3A carry), 60W, 125VA.

FORM A: 250VAC 7A, 30VDC 7A, 210W

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

VOLT-HERTZ LIMIT: 8×10^7 .

CONTACT LIFE:

FORM C > 10^5 operations at max signal level.

FORM C > 10^8 operations no load.¹

FORM A > 10^5 operations at max signal level.

FORM A > 5×10^7 operations no load¹

CHANNEL RESISTANCE : < .5 Ω at end of contact life

CONTACT POTENTIAL: $\leq \pm 3\mu\text{V}$ typical per contact

ISOLATION:

CHANNEL TO CHANNEL: $> 10^9 \Omega$, $< 200\text{pF}$

COMMON MODE: $> 10^{10} \Omega$, $< 150\text{pF}$

CROSSTALK CH-CH (50 Ω load- 50 Ω source):

100KHz : $< -50\text{dB}$

1MHz: $< -35\text{dB}$

10 MHz: $< -15\text{dB}$

BANDWIDTH: 30MHz

¹ Minimum signal level 10mV, 10uA

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GENERAL:

OVER-TEMPERATURE: Temperature sensor indicates over temperature.

ACTUATION TIME: Form C 4ms, Form A 10mS

RELAY TYPE: Form C Latching electromechanical, Form A nonlatching electromechanical.

RELAY DRIVE SCHEME: Direct

INTERLOCK: Backplane relays disabled when interlock connection removed.

OPERATING ENVIRONMENT:

Specified for 0°C to 50°C.

Specified to 70% R.H. at 35°

STORAGE ENVIRONMENT: -25°C to 65°C

WEIGHT: 2.5LBS

SAFETY: Conforms to European Union Directive 73/23/EEC, EN61010-1

EMC: Conforms to European Union Directive 2004/108/EC, EN61326-1

ACCESSORIES AVAILABLE:

3790-KIT50-R pin female D-sub connector kit (contains 2 female D-sub Connectors and 100 solder cup contacts)

3721-MTC-3 50 pin D-sub female to male cable, 3m

3721-MTC-1.5 50 pin D-sub female to male cable, 1.5m

3740-ST screw terminal block

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