

Keithley Instruments, Inc.
 28775 Aurora Road
 Cleveland, Ohio 44139
 1-888-KEITHLEY
 www.keithley.com

Dual 1x20 Channel Multiplexer Specifications

40 differential channels, automatic CJC w/3721-ST accessory

MULTIPLEXER CONFIGURATION: Two independent 1x 20 2-pole Multiplexers. Banks can be connected together via relay creating a single 1 x 40 Multiplexer. Banks can be isolated from the backplane by relays. Card can be configured for common side Ohm measurement via back plane relays.

Channel (41-42): Multiplex one of two 2-pole current signals into DMM

CONTACT CONFIGURATION: 2 pole form A.

CONNECTOR TYPE: Two 50 pin male D-shells. Removable screw terminal option.

MAXIMUM SIGNAL LEVEL:

Channels (1-40): 300V DC or RMS, 2A switched (3A carry), 60W, 125VA Maximum.

Channels (41-42): 60V DC or 30VRMS, 3A switched, 60W, 125VA Maximum. Fused 3A, 250V RMS

COMMON MODE VOLTAGE: 300V DC or RMS between any terminal and chassis. Channels (1-40)

VOLT-HERTZ LIMIT: 8×10^7

CONTACT LIFE: > 10^5 operations at max signal level.
 > 10^8 operations no load.¹

	Dual 1x20 ³	Single 1x40 ^{2,3}
Channel Resistance (end of contact life)	< 1.0 Ω	< 1.5 Ω
Contact Potential (differential)	< $\pm 1 \mu\text{V}$	< $\pm 3 \mu\text{V}$
Offset Current	< $\pm 250 \text{ pA}$	< $\pm 250 \text{ pA}$
Isolation		
Differential	$10^9 \Omega$, 280pF	$10^9 \Omega$, 530pF
Bank-Bank	$10^{11} \Omega$, 60pF	--
CH -CH	$10^9 \Omega$, 50pF	$10^9 \Omega$, 50pF
Common mode	$10^9 \Omega$, 180pF	$10^9 \Omega$, 480pF
Crosstalk CH-CH		
300KHz:	< -60dB	< -60dB
1MHz:	< -50dB	< -50dB
20MHz:	< -25dB	< -15dB
Bandwidth	28 MHz	9 MHz

¹ Open detector enabled during thermocouple measurements. Minimum signal level 10mV, 10uA

² 3706 mainframe with all DMM backplane relays disconnected. Maximum two card backplane relays closed.

³ Connections made using 3721-ST accessory

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GENERAL:

ACTUATION TIME: 4ms

TEMPERATURE ACCURACY USING Automatic CJC with 3721-ST accessory:

1°C for J, K, T and E types (see mainframe specification for details)

RELAY TYPE: Latching electromechanical

RELAY DRIVE SCHEME: Direct

INTERLOCK: Backplane relays are disabled when interlock connection is removed.

OPERATING ENVIRONMENT:

Specified for 0°C to 50°C.

Specified to 70% R.H. at 35°C

STORAGE ENVIRONMENT: -25°C to 65°C

WEIGHT: 2.25 lb

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

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

Typical Scanning Speeds, switch only⁴

	Ch/Sec
Sequential scanning ,single channel, immediate trigger advance	>120

Typical Scanning Speeds, with measurements into memory⁵

	Ch/Sec
DCV (10V range) or 2W Ohms (1KΩ range)	>110
Thermocouple	>110
3 or 4 Wire RTD	>100
4 Wire Ohms (1kΩ range)	>100
ACV (10V, 400Hz range) or ACI (1A, 400Hz range)	>110

⁴ Scanning script local to 3706 mainframe, within same bank, and break before make switching.

⁵ 3706 mainframe with autorange off, limits off, dmm.autozero=0, dmm.autodelay=0, 4½ digits (NPLC=.006), for ACV dmm.detectorbandwidth=300,for OHMs dmm.offsetcompensation=off, dmm.opendetector=off. Scanning script local to mainframe, sequential scan within same bank (2 pole) or card (4 pole), and break before make switching.

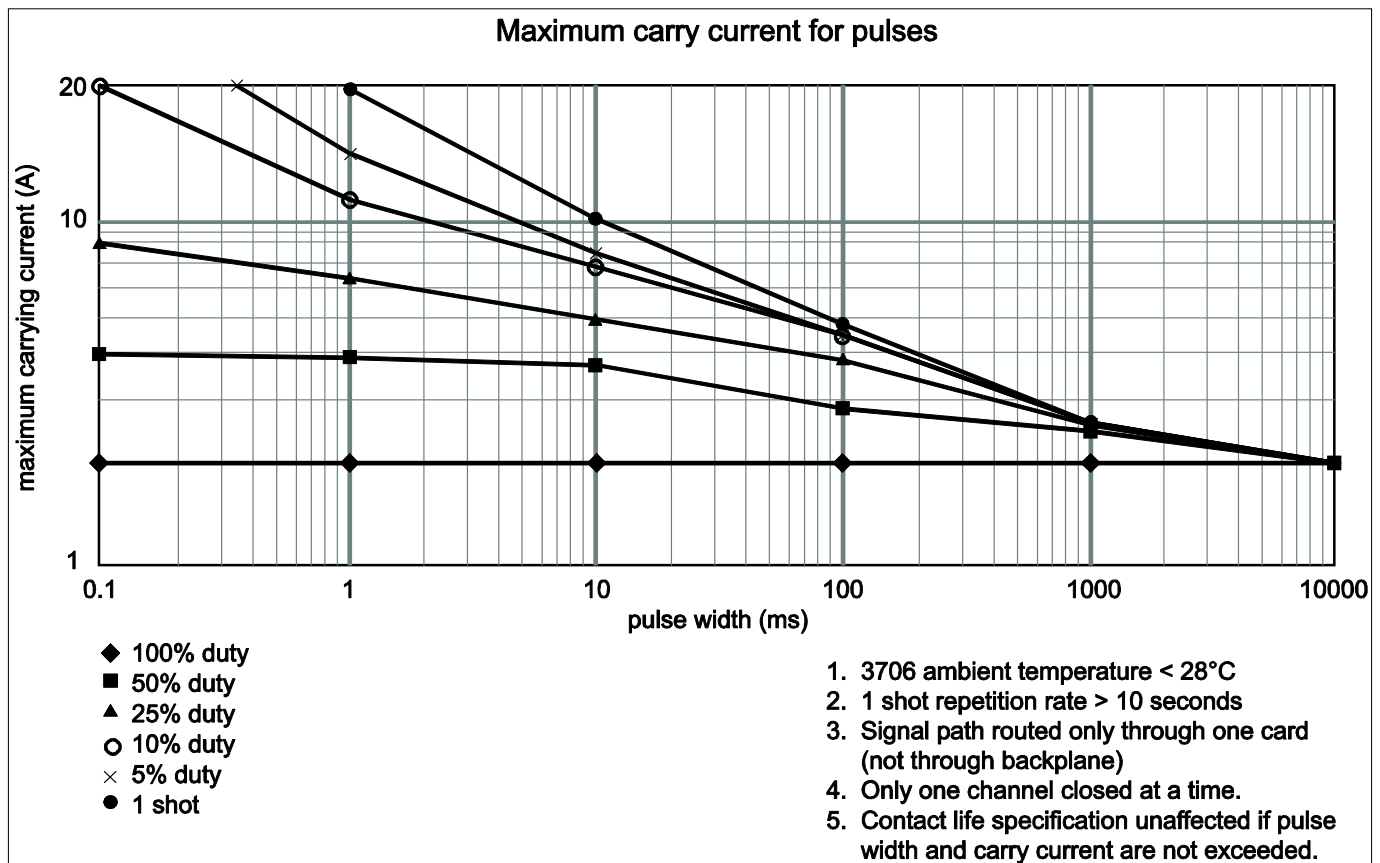
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ACCESSORIES AVAILABLE:

- 3790-KIT50R 50 pin female D-sub connector kit (contains 2 female D-sub connectors and 100 solder-cup)
- 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
- 3721-ST screw terminal block (Required for auto CJC thermocouple measurements)
- 7401 Type K Thermocouple Wire (100ft)



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