

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

Dual 1x30 Multiplexer Specification

60 differential channels, automatic CJC w/3720-ST accessory

MULTIPLEXER CONFIGURATION: Two independent 1x 30 2-pole Multiplexers. Banks can be isolated from the backplane by relays. Card can be configured for 2 and 4 wire.

CONTACT CONFIGURATION: 2 pole form A.

CONNECTOR TYPE: Two 78 pin male D-shells.

Model 3720-ST screw terminal option:

#22AWG typical wire size with .062 inch O.D 124 conductors maximum. 16 AWG maximum wire size with .092 inch O.D. 36 conductor per card maximum.

MAXIMUM SIGNAL LEVEL:

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

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

VOLT-HERTZ LIMIT: 8×10^7

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

	Dual 1x30³	Single 1x60^{2, 3}
Channel Resistance (end of contact life)	<1.0Ω	<1.5Ω
Contact Potential (differential)	<± 1μV	<± 3μV
Offset Current	<±250pA	<±250pA
Isolation		
Differential	10 ⁹ Ω,250pF	10 ⁹ Ω,450pF
Bank-Bank	10 ¹⁰ Ω,75pF	—
CH –CH	10 ⁹ Ω,75pF	10 ⁹ Ω,75pF
Common mode	10 ⁹ Ω,200pF	10 ⁹ Ω,400pF
Crosstalk CH-CH		
300KHz:	<-60dB	<-55dB
1MHz:	<-50dB	<-50dB
20MHz:	<-25dB	<-20dB
Bandwidth	30MHz	10MHz

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 3720-ST accessory

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GENERAL:

ACTUATION TIME: 4ms

TEMPERATURE ACCURACY USING Automatic CJC with 3720-ST accessory:

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

RELAY TYPE: Latching electromechanical

RELAY DRIVE SCHEME: Matrix

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: 2.5lb

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 range)	> 110

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

⁵3706 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:

3791-KIT78-R 78 pin female D-sub connector kit (contains 2 female D-sub connectors and 156 solder-cup contacts)

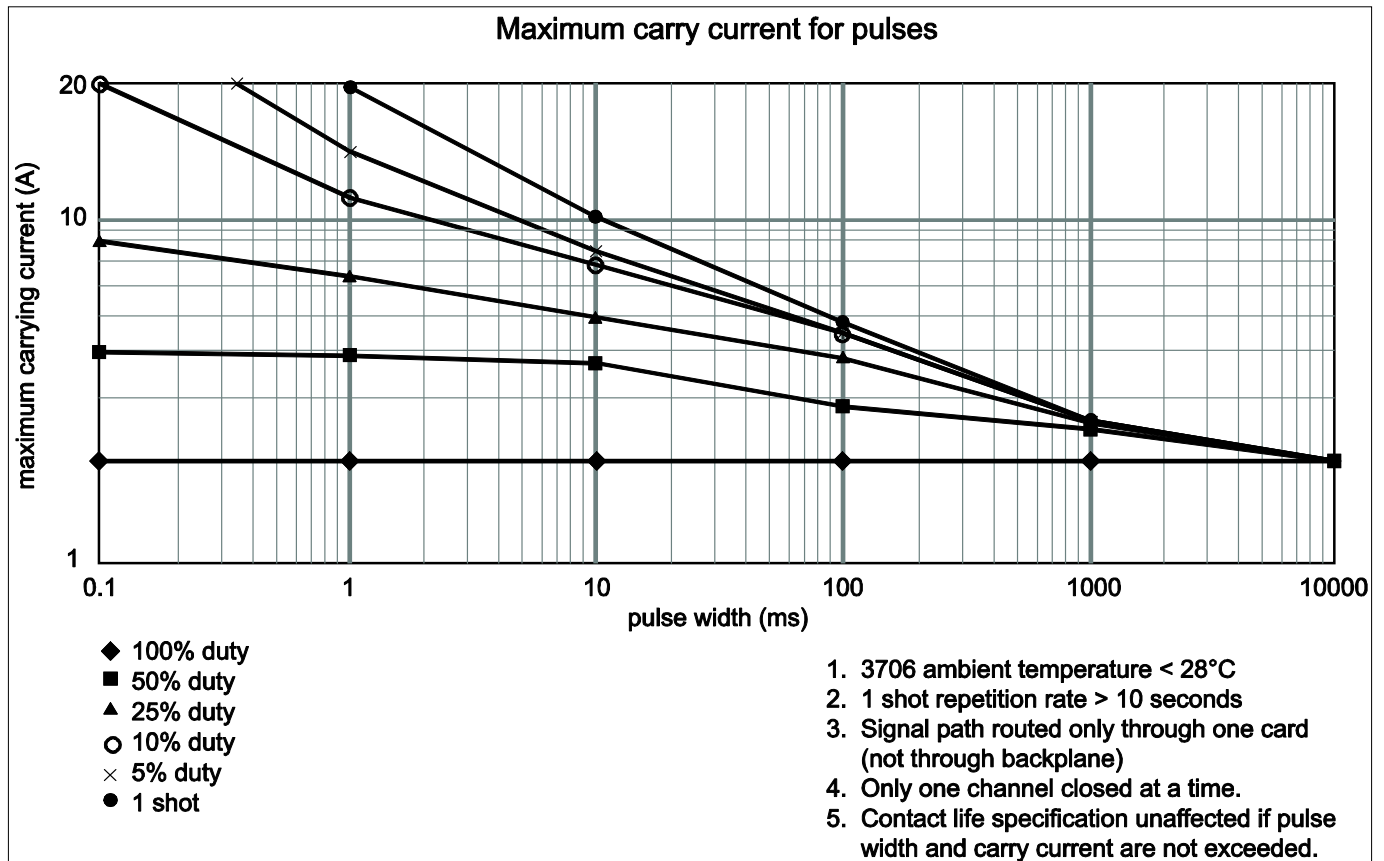
3720-MTC-3 78 pin D-sub female to male cable, 3m.

3720-MTC-1.5 78 pin D-sub female to male cable, 1.5m.

3720-ST screw terminal block (Required for auto CJC thermocouple measurements)

7401 Type K Thermocouple Wire (100ft)

3791-CIT Contact insertion and extraction tool.



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