

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:**  $8 \times 10^7$

**CONTACT LIFE:** >  $10^5$  operations at max signal level.  
 >  $10^8$  operations no load.<sup>1</sup>

	<b>Dual 1x30<sup>3</sup></b>	<b>Single 1x60<sup>2, 3</sup></b>
Channel Resistance (end of contact life)	<1.0Ω	<1.5Ω
Contact Potential (differential)	<± 1μV	<± 3μV
Offset Current	<±250pA	<±250pA
Isolation		
Differential	10 <sup>9</sup> Ω,250pF	10 <sup>9</sup> Ω,450pF
Bank-Bank	10 <sup>10</sup> Ω,75pF	—
CH –CH	10 <sup>9</sup> Ω,75pF	10 <sup>9</sup> Ω,75pF
Common mode	10 <sup>9</sup> Ω,200pF	10 <sup>9</sup> Ω,400pF
Crosstalk CH-CH		
300KHz:	<-60dB	<-55dB
1MHz:	<-50dB	<-50dB
20MHz:	<-25dB	<-20dB
Bandwidth	30MHz	10MHz

<sup>1</sup> Open detector enabled during thermocouple measurements. Minimum signal level 10mV,10uA.

<sup>2</sup> 3706 mainframe with all DMM backplane relays disconnected. Maximum two card backplane relays closed.

<sup>3</sup> Connections made using 3720-ST accessory

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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 only<sup>4</sup>**

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

**Typical Scanning Speeds, with measurements into memory<sup>5</sup>**

	<b>Ch/Sec</b>
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

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

<sup>5</sup> 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:

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

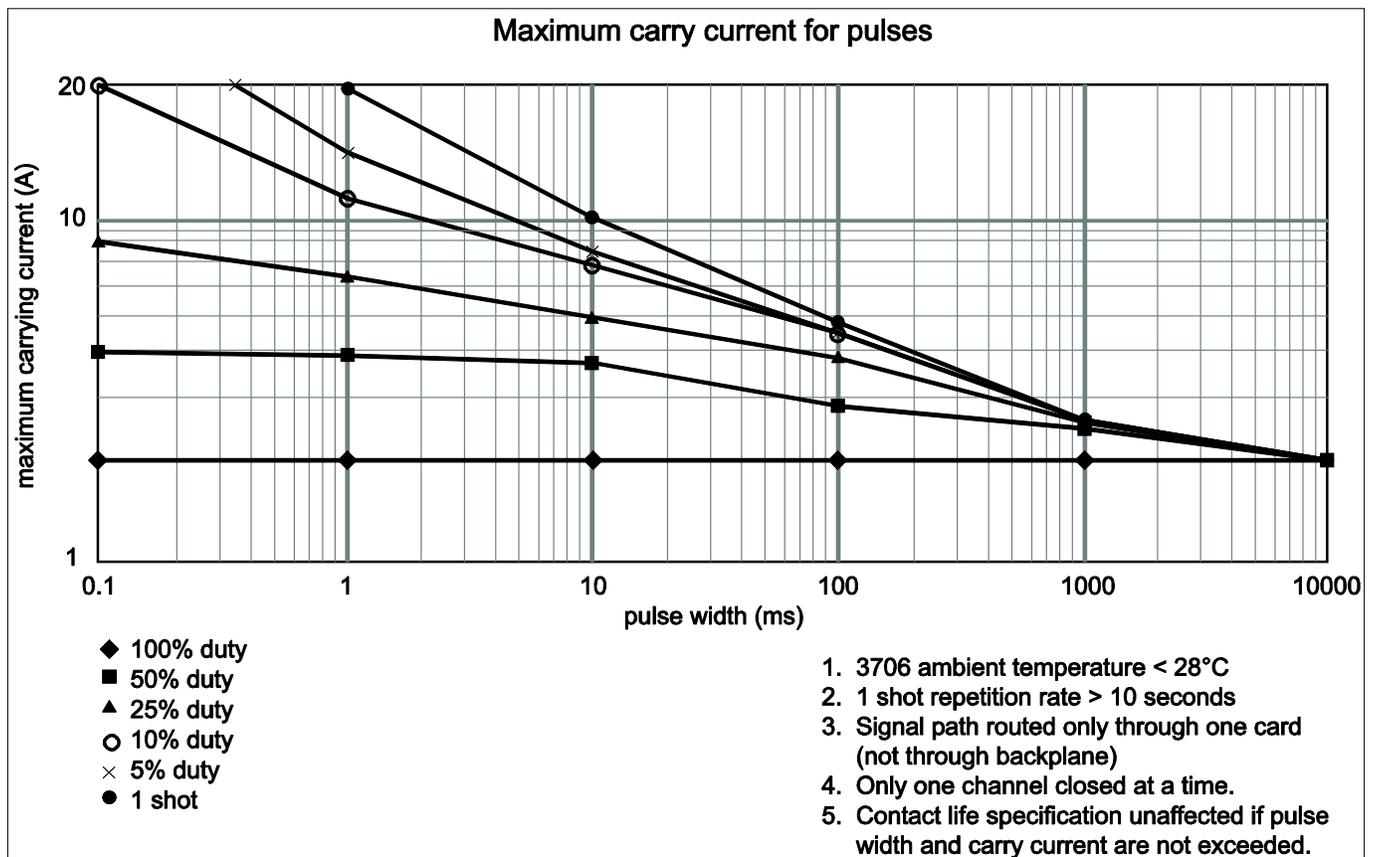
3720-MTC-3 78 pin D-sub female to male cable, 3m.

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)

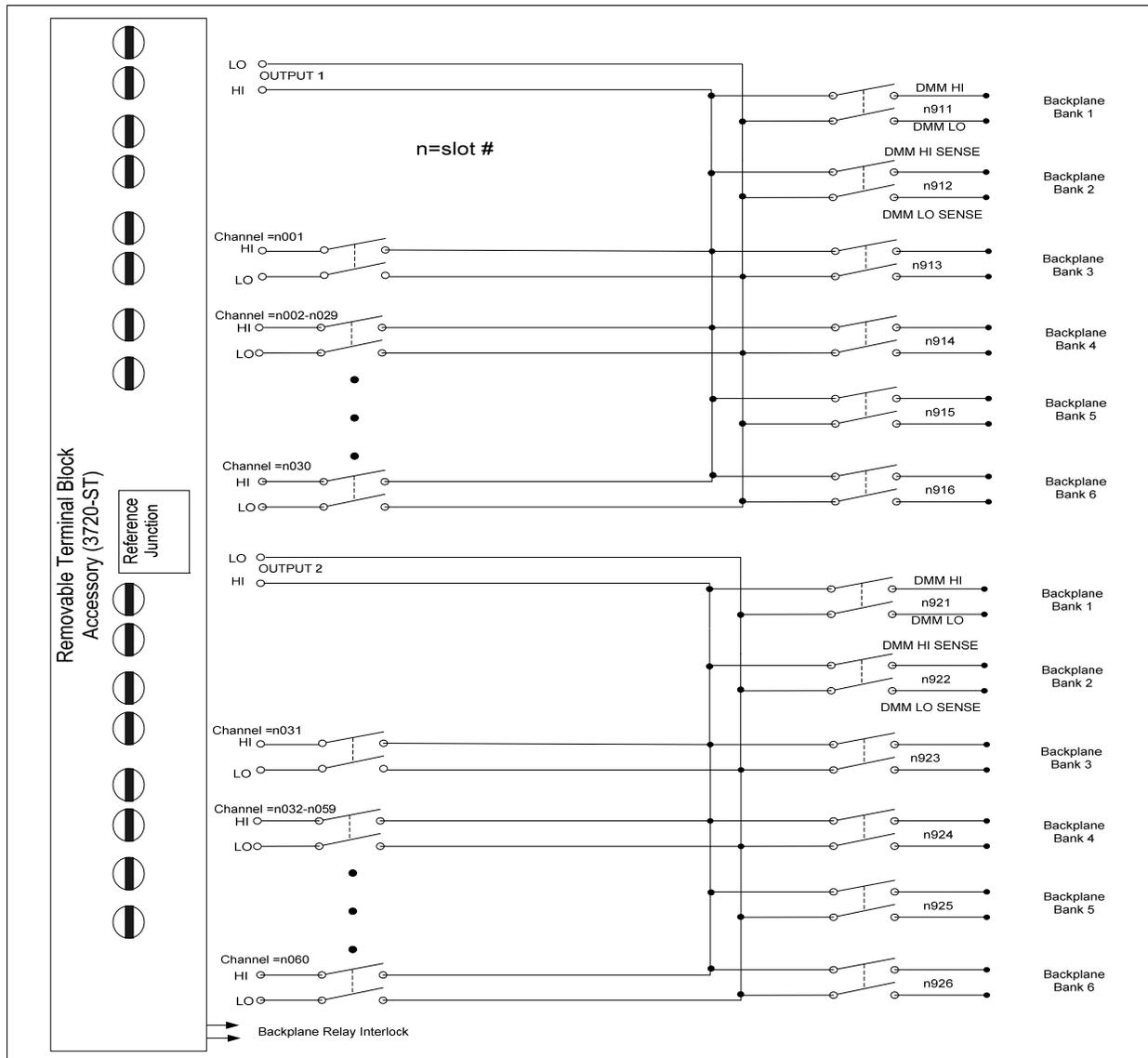
3791-CIT Contact insertion and extraction tool.



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