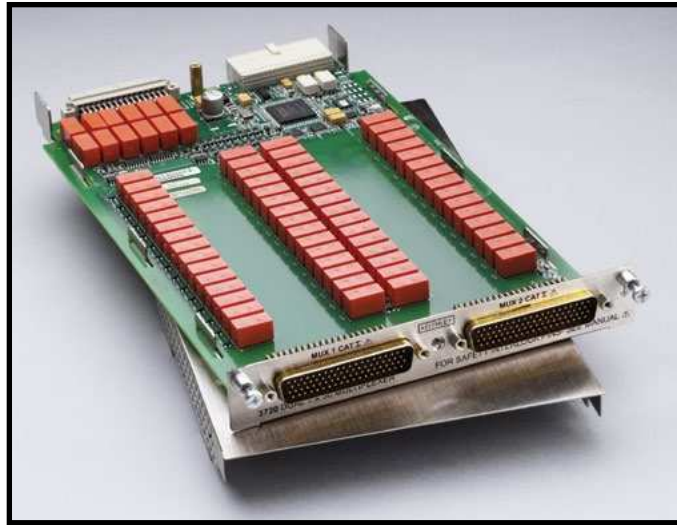


3720

Dual 1×30 Multiplexer Card

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

- 60 two-pole channels or 30 four-pole channels for general purpose switching
- Automatic CJC for temperature measurements when used with 3720-ST accessory
- Analog backplane connection relays provide easy bank and card interconnections
- 300V, 1A switched or 2A carry signal capacity; 60W, 125VA
- Screw terminal connections provided with removable 3720-ST accessory
- Relay closures stored in onboard memory
- Latching electromechanical relays



The Model 3720 offers two independent banks of 1×30 two-pole multiplexers. It is ideal for general purpose switching, including temperature measurements. The two banks can automatically be connected to the Series 3700A mainframe backplane and optional DMM through the analog backplane connection relays. This connection allows the mainframe to reconfigure the card to a single 1×60 two-pole multiplexer or to enable card-to-card expansion for even larger configurations.

Other features of the Model 3720 include its ability to be reconfigured to coordinated four-pole operation for additional measurement flexibility. Furthermore, the Model 3720 supports thermocouple-type temperature measurements when used with the Model 3720-ST (screw terminal) accessory providing automatic cold junction compensation (CJC).

The Model 3720 uses two 78-pin male D-sub connectors for signal connections. For screw terminal or automatic CJC, use the detachable Model 3720-ST accessory.

ACCESSORIES AVAILABLE

3720-MTC-1.5	78 Pin D-sub Female to Male Cable, 1.5m (5 ft.)
3720-MTC-3	78 Pin D-sub Female to Male Cable, 3m (10 ft.)
3720-ST	Screw Terminal Block (required for auto CJC thermocouple measurements)
3791-CIT	Contact Insertion and Extraction Tool
3791-KIT78-R	78 Pin Female D-sub Connector Kit (contains 2 female D-sub connectors and 156 solder-cup contacts)
7401	Type K Thermocouple Wire (100 ft.)

SERVICES AVAILABLE

3720-3Y-EW-STD	1-year factory warranty extended to 3 years from date of shipment
3720-5Y-EW-STD	1-year factory warranty extended to 5 years from date of shipment
C/3720-3Y-STD	3 (Z540-1 compliant) calibrations within 3 years of purchase*

*Not available in all countries

Ordering Information

3720 **Dual 1×30**
Multiplexer Card

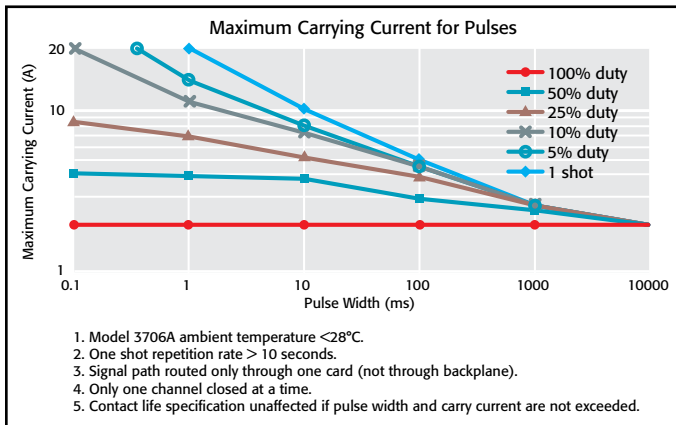
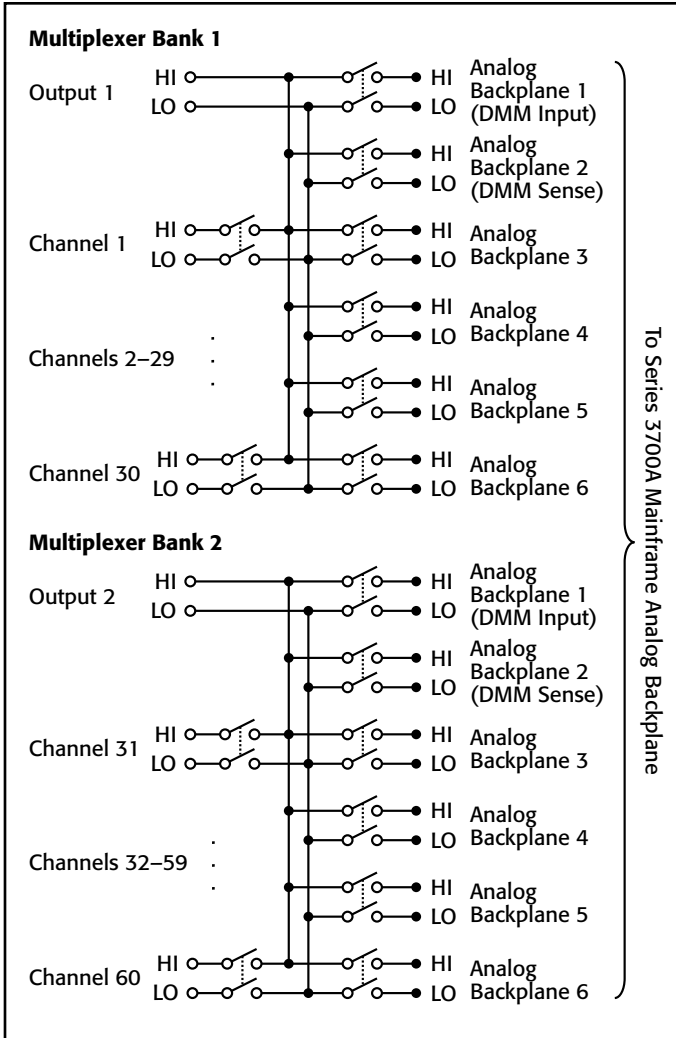
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3720

Dual 1×30 Multiplexer Card

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



MULTIPLEXER CONFIGURATION: Two independent 1×30 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: #22 AWG typical wire size with 0.062 inch O.D. 124 conductors maximum. #16 AWG maximum wire size with 0.092 inch O.D. 36 conductors 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 maximum signal level. $> 10^8$ operations no load.¹

	Dual 1×30 ³	Single 1×60 ^{2,3}
Channel Resistance (end of contact life)	<math>< 1.0 \Omega</math>	<math>< 1.5 \Omega</math>
Contact Potential (differential)	<math>< \pm 1 \mu\text{V}</math>	<math>< \pm 3 \mu\text{V}</math>
Offset Current	<math>< \pm 250 \text{ pA}</math>	<math>< \pm 250 \text{ pA}</math>
Isolation		
Differential	$10^9 \Omega, 250 \text{ pF}$	$10^9 \Omega, 450 \text{ pF}$
Bank-Bank	$10^{10} \Omega, 75 \text{ pF}$	—
Channel-channel	$10^9 \Omega, 75 \text{ pF}$	$10^9 \Omega, 75 \text{ pF}$
Common Mode	$10^9 \Omega, 200 \text{ pF}$	$10^9 \Omega, 400 \text{ pF}$
Crosstalk Channel-channel		
300kHz	<math>< -60 \text{ dB}</math>	<math>< -55 \text{ dB}</math>
1MHz	<math>< -50 \text{ dB}</math>	<math>< -50 \text{ dB}</math>
20MHz:	<math>< -25 \text{ dB}</math>	<math>< -20 \text{ dB}</math>
Bandwidth	30 MHz	10 MHz

TYPICAL SCANNING SPEEDS:

Switch Only⁴: Sequential scanning, single channel, immediate trigger advance: >120 ch/s.

With Measurements Into Memory³:

DCV (10V range) or 2W Ohms (1k Ω range): >110 ch/s.

Thermocouple: >110 ch/s.

3- or 4-Wire RTD: >100 ch/s.

4-Wire Ohms (1k Ω range): >100 ch/s.

ACV (10V range): >110 ch/s.

GENERAL

ACTUATION TIME: 4ms.

TEMPERATURE ACCURACY using Automatic CJC with 3720-ST accessory: 1°C for J, K, T and E types (see mainframe specification for details).

RELAY TYPE: Latching electromechanical.

RELAY DRIVE SCHEME: Matrix.

INTERLOCK: Backplane relays disabled when interlock connection is removed.

OPERATING ENVIRONMENT: Specified for 0° to 50°C. Specified to 70% R.H. at 35°C.

STORAGE ENVIRONMENT: –25° to 65°C.

WEIGHT: 2.5 lbs.

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

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

NOTES

- Open detector enabled during thermocouple measurements. Minimum signal level 10mV, 10 μA .
- 3706A mainframe with all DMM backplane relays disconnected. Maximum two card backplane relays closed.
- Connections made using 3720-ST accessory.
- Scanning script local to 3706A mainframe, within same bank, and break before make switching.
- 3706A mainframe with autorange off, limits off, dmm.autozero=0, dmm.autodelay=0, 4 $\frac{1}{2}$ digits (NPLC=0.006), 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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Model 3720 specifications

SWITCHING AND CONTROL

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