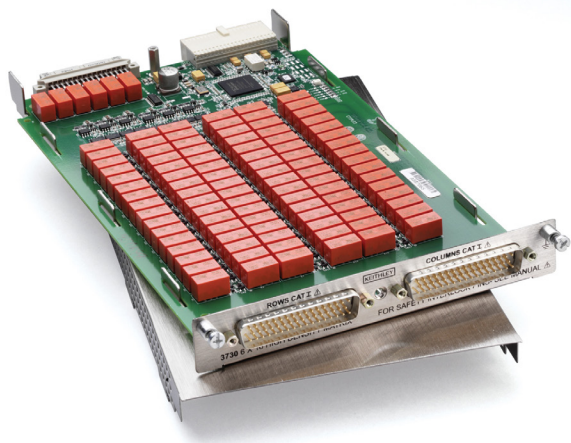


3730 6×16, High Density, Matrix Card

96 two-pole crosspoints with column expansion relays

DATA SHEET

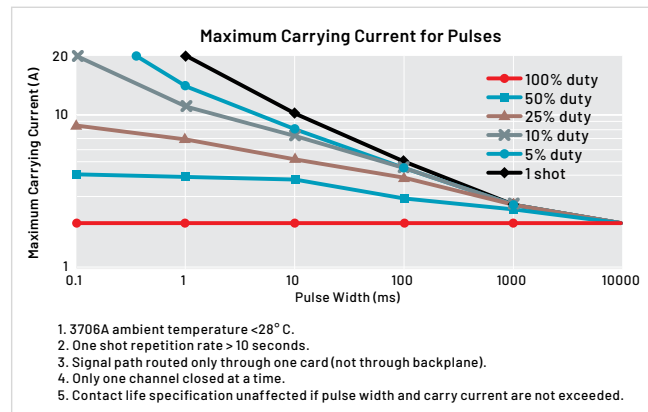


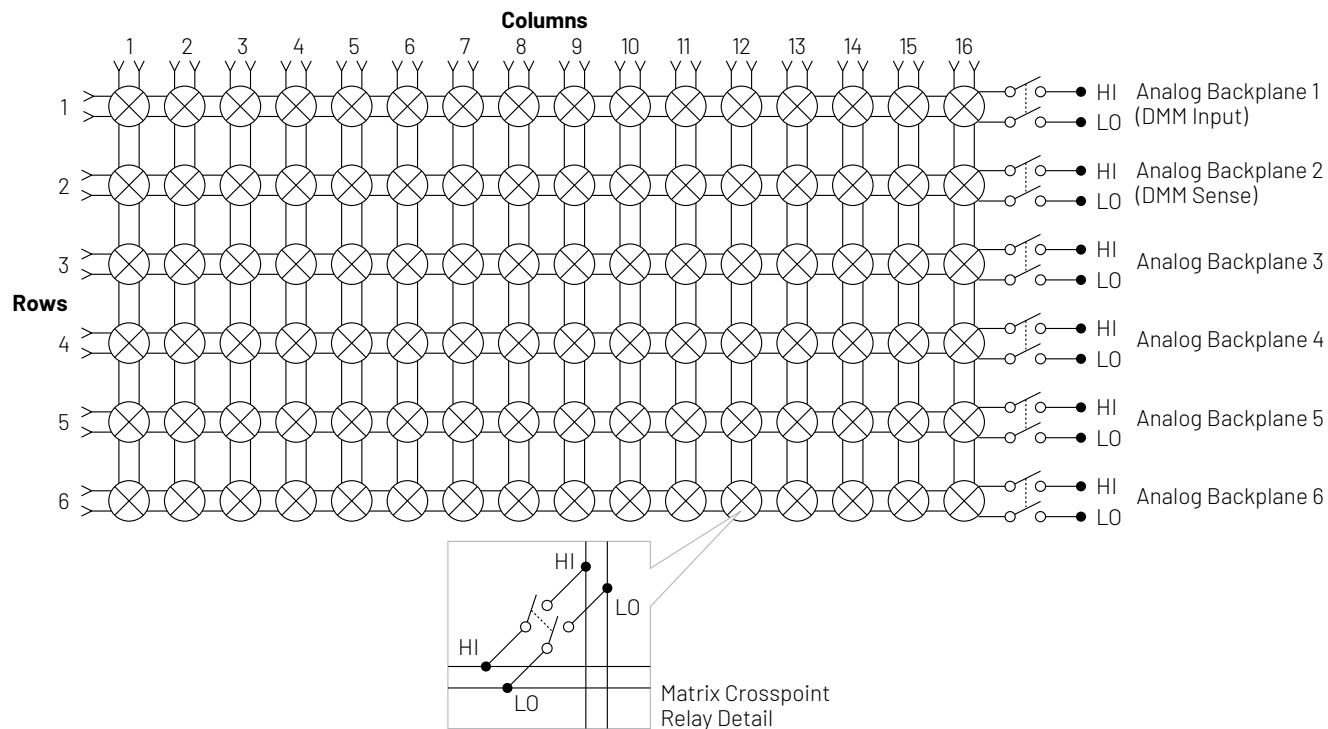
The 3730 is a two-pole, 6 row by 16 column matrix card. It can connect up to six differential instrument channels to any combination of 16 DUTs (devices under test). Any row can be connected to the Series 3700A mainframe backplane by using the analog backplane connection relays. This allows for easy matrix column expansion. A matrix of up to 6 rows by 96 columns can be supported within a single 3706A mainframe (with six 3730 cards).

Key Features

- 6 row by 16 column matrix (2-pole)
- Analog backplane connection relays provide easy column expansion
- 300 V, 1 A switched or 2 A carry signal capacity; 60 Ω , 125 VA
- Screw terminal connections provided on removable 3730-ST accessory
- 2 μ V and 100 pA offsets
- Relay closures stored in onboard memory
- Latching electromechanical relays

The 3730 uses two 50-pin male D-sub connectors for signal connections. For screw terminal connections, use the detachable 3730-ST accessory.





Specifications

Matrix Configuration	6 row by 16 column matrix. Columns can be expanded using the backplane or isolated by relays.																														
Contact Configuration	2-pole form A.																														
Connector Type	Two 50-pin male D-shells.																														
3730-ST Screw Terminal Option	#22 AWG typical wire size with 0.062 inch O.D. 88 conductors maximum. #16 AWG maximum wire size with 0.092 inch O.D. 44 conductor per card maximum.																														
Maximum Signal Level	300 V DC or RMS, 1 A switched (2 A carry), 60 Ω, 125 VA.																														
Common Mode Voltage	300 V DC or RMS between any terminal and chassis.																														
Volt-Hertz Limit	8×10 ⁷ .																														
Contact Life	>10 ⁵ operations @ maximum signal level. >10 ⁸ operations no load. ¹																														
<table><tr><td colspan="2"></td><td>6×16^{2,3}</td></tr><tr><td colspan="2">Channel Resistance (end of contact life)</td><td><1.0 Ω</td></tr><tr><td colspan="2">Contact Potential (differential)</td><td><±2 μV</td></tr><tr><td colspan="2">Offset Current</td><td><±100 pA</td></tr><tr><td rowspan="3">Isolation</td><td>Differential</td><td>10¹⁰ Ω, 250 pF</td></tr><tr><td>Channel-channel</td><td>10¹⁰ Ω, 75 pF</td></tr><tr><td>Common Mode</td><td>10¹⁰ Ω, 150 pF</td></tr><tr><td rowspan="3">Crosstalk Channel-Channel</td><td>300 kHz</td><td><-65 dB</td></tr><tr><td>1 MHz</td><td><-55 dB</td></tr><tr><td>20 MHz</td><td><-30 dB</td></tr><tr><td colspan="2">Bandwidth</td><td>27 MHz</td></tr></table>					6×16 ^{2,3}	Channel Resistance (end of contact life)		<1.0 Ω	Contact Potential (differential)		<±2 μV	Offset Current		<±100 pA	Isolation	Differential	10 ¹⁰ Ω, 250 pF	Channel-channel	10 ¹⁰ Ω, 75 pF	Common Mode	10 ¹⁰ Ω, 150 pF	Crosstalk Channel-Channel	300 kHz	<-65 dB	1 MHz	<-55 dB	20 MHz	<-30 dB	Bandwidth		27 MHz
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Notes

- 1. Minimum signal level 10mV, 10μA.
- 2. Connections made using 3730-ST accessory.
- 3. 3706A mainframe with all DMM backplane relays disconnected.

General

Actuation Time	4 ms.
Relay Type	Latching electromechanical.
Relay Drive Scheme	Hybrid Matrix.
Interlock	Backplane relays disabled when terminal assembly 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.

Ordering Information

3730	6×16, High Density, Matrix Card
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Available Accessories

3721-MTC-3	50-pin D-sub Female to Male Cable, 3 m (10 ft.)
3730-ST	Screw Terminal Block

Available Services

3730-3Y-EW-STD	1-year factory warranty extended to 3 years from date of shipment
3730-5Y-EW-STD	1-year factory warranty extended to 5 years from date of shipment
C/3730-3Y-STD	3 (Z540-1 compliant) calibrations within 3 years of purchase*

*Not available in all countries

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