

PXI High-Density Matrix Switch Module Models 1260-1145A, 1260-1145B, 1260-1145C, 1260-1145D, 1260-1145E, 1260-1145F, 1260-1145G



- ◆ **Adapt-a-Switch® High-Density Matrix Module on a Racal Instruments PXI Carrier**
- ◆ **Extended 12.1-inch Depth for High-Density, High-Crosspoint Count and Market-Leading Performance**
- ◆ **Seven Models Available with up to 144 Cross Points**
- ◆ **Excellent Bandwidth and Signal Integrity, Ideal for Differential Applications**
- ◆ **Unmatched 8 MHz Data Transfer Speed**

Model 1260-1145, a PXI matrix switch is an innovative, seamless integration of an off-the-shelf Adapt-a-Switch® Matrix module on a Racal Instruments PXI carrier. The module installs in any PXI/cPCI chassis without the need for user-supplied software or hardware to install or operate.

The 12.1" depth has market-leading performance that utilizes the available service area between the front of the chassis and a cable/connector receiver. Model 1260-1145 has 85% greater component density than a typical PXI matrix module, providing higher switch performance. Its 144 crosspoints provide 13% more crosspoints than typical 128 crosspoint PXI modules.

The module is constructed using tightly integrated 4x4 relay subassemblies that

minimize stub lengths for superior electrical performance. These subassemblies can be removed and replaced to return a module to service in under 10 minutes in the event of a relay failure. For customer versatility and ease of use, the module is available in 7 standard, 2-wire configurations:

1260-1145A	nine (4x4)
1260-1145B	three (4x12)
1260-1145C	two (4x16)
1260-1145D	one (4x36)
1260-1145E	two (8x8)
1260-1145F	one (8x16)
1260-1145G	one (12x12)

Model 1260-1145's high-voltage 125 VAC input is greater than typical 106 VAC matrix input ratings in the market today.

The module's input channel bandwidth, >42MHz (-3dB), low crosstalk, -81dB@ 300kHz, and low insertion loss, 0.1dB @ 300kHz provide excellent signal integrity, making it ideal for differential applications such as communications.

The electromechanical relays are interchangeable input/outputs, able to meet the most demanding of test requirements.

Model 1260-1145 has an 8 MHz data transfer speed for fast data transfer required in timely, uninterrupted data acquisition and processing.

In keeping with cPCI requirements, the module can be ordered either as a 5 V or 3.3 V PXI bus voltage module.

The module includes drivers for LabWindows/CVI 5.1 and LabVIEW 7.0.

Model 1260-1145 SPECIFICATIONS

AC PERFORMANCE (into 50 Ω)					
Model	Bandwidth (-3 dB)	Insertion Loss	Isolation	Crosstalk	Capacitance
1260-1145A	>42 MHz	300 kHz: 0.1 dB 1 MHz: 0.2 dB 10 MHz: 1.0 dB	300 kHz: >76 dB 1 MHz: >62 dB 10 MHz: >43 dB	300 kHz: <-81 dB 1 MHz: <-69 dB 10 MHz: <-49 dB	Channel-Chassis: <118 pF Hi-Lo: <414 pF
1260-1145B	>31 MHz	300 kHz: 0.1 dB 1 MHz: 0.1 dB 10 MHz: 0.5 dB	300 kHz: >75 dB 1 MHz: >68 dB 10 MHz: >52 dB	300 kHz: <-72 dB 1 MHz: <-70 dB 10 MHz: <-49 dB	Channel-Chassis: <135 pF Hi-Lo: <494 pF
1260-1145C	>24 MHz	300 kHz: 0.1 dB 1 MHz: 0.1 dB 10 MHz: 0.8 dB	300 kHz: >77 dB 1 MHz: >67 dB 10 MHz: >48 dB	300 kHz: <-63 dB 1 MHz: <-59 dB 10 MHz: <-46 dB	Channel-Chassis: <173 pF Hi-Lo: <640 pF
1260-1145D	>13 MHz	300 kHz: 0.1 dB 1 MHz: 0.1 dB 10 MHz: 2.0 dB	300 kHz: >75 dB 1 MHz: >67 dB 10 MHz: >44 dB	300 kHz: <-75 dB 1 MHz: <-68 dB 10 MHz: <-42 dB	Channel-Chassis: <309 pF Hi-Lo: <1483 pF
1260-1145E	>27 MHz	300 kHz: 0.1 dB 1 MHz: 0.2 dB 10 MHz: 0.7 dB	300 kHz: >74 dB 1 MHz: >61 dB 10 MHz: >43 dB	300 kHz: <-72 dB 1 MHz: <-64 dB 10 MHz: <-46 dB	Channel-Chassis: <169 pF Hi-Lo: <636 pF
1260-1145F	>20 MHz	300 kHz: 0.1 dB 1 MHz: 0.2 dB 10 MHz: 1.2 dB	300 kHz: >79 dB 1 MHz: >66 dB 10 MHz: >53 dB	300 kHz: <-77 dB 1 MHz: <-62 dB 10 MHz: <-44 dB	Channel-Chassis: <223 pF Hi-Lo: <838 pF
1260-1145G	>27 MHz	300 kHz: 0.1 dB 1 MHz: 0.1 dB 10 MHz: 0.7 dB	300 kHz: >74 dB 1 MHz: >67 dB 10 MHz: >52 dB	300 kHz: <-70 dB 1 MHz: <-65 dB 10 MHz: <-44 dB	Channel-Chassis: <171 pF Hi-Lo: <624 pF

INPUT

Maximum Switching Voltage

60 VDC or 125 VAC

Maximum Switching Current

1 A

Maximum Carry Current

2 A

Maximum Switching Power

30 W or 37.5 A

DC PERFORMANCE

Path Resistance

<2 Ω

Insulation Resistance

10⁹ Ω

Thermal EMF

<10 μV

INTERFACE DATA

Cooling

Airflow: 3.0 l/s

Backpressure: 0.7 mm H₂O

Power Requirements

+5 VDC at 15 mA plus 20 mA per energized relay

ENVIRONMENTAL DATA

Temperature

Operating: 0° C to 55° C

Storage: -40° C to 75° C

Relative Humidity

85% ±5% non-condensing at <30° C

Altitude

Operating: 10,000 ft.

Non-Operating: 15,000 ft.

Shock

30 G, 11 ms, ½ sine wave

Vibration

0.013 inch: pk-pk, 5-55 Hz

Bench Handling

4-inch drop at 45°

EMC

Emissions

EN5501 with limits in accordance with EN50081-1

Immunity

IEC801-2, 3, 4 with limits in accordance with EN50082-1

Safety

EN61010-1

RELIABILITY

Rated Switch Operations

Mechanical: 50,000,000 operations

Electrical: 100,000 operations at 1 Amp,

30 VDC or 0.3 Amp, 125 VAC

MTBF (including relays)

MIL-219FN2: 33,763 hrs.

Telcordia (Bellcore) 6: 50,660 hrs.

MTTR

<5 minutes

Switching Time

<7 ms (includes settling time)

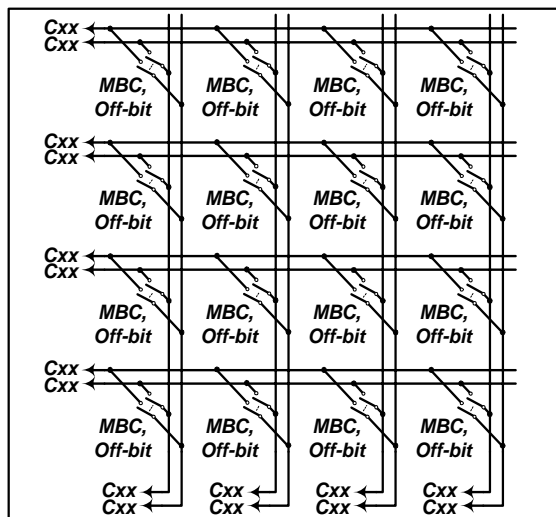
MECHANICAL

Weight

15.1 oz.

Dimensions

4.44" H x 0.8: W x 12.1" D



Typical 1260-1145 Matrix Building Block

ORDERING INFORMATION		
Model	Description	Part Number
1260-1145A-3	PXI, AaS, High-Density Matrix, 9 each 4x4 matrices, 3.3 V Bus Voltage	1260-1145A-001
1260-1145A-5	PXI, AaS, High-Density Matrix, 9 each 4x4 matrices, 5 V Bus Voltage	1260-1145A-002
1260-1145B-3	PXI, AaS, High-Density Matrix, 3 each 4x12 matrices, 3.3 V Bus Voltage	1260-1145B-001
1260-1145B-5	PXI, AaS, High-Density Matrix, 3 each 4x12 matrices, 5 V Bus Voltage	1260-1145B-002
1260-1145C-3	PXI, AaS, High-Density Matrix, 2 each 4x16 matrices, 3.3 V Bus Voltage	1260-1145C-001
1260-1145C-5	PXI, AaS, High-Density Matrix, 2 each 4x16 matrices, 5 V Bus Voltage	1260-1145C-002
1260-1145D-3	PXI, AaS, High-Density Matrix, 1 each 4x36 matrices, 3.3 V Bus Voltage	1260-1145D-001
1260-1145D-5	PXI, AaS, High-Density Matrix, 1 each 4x36 matrices, 5 V Bus Voltage	1260-1145D-002
1260-1145E-3	PXI, AaS, High-Density Matrix, 2 each 8x8 matrices, 3.3 V Bus Voltage	1260-1145E-001
1260-1145E-5	PXI, AaS, High-Density Matrix, 2 each 8x8 matrices, 5 V Bus Voltage	1260-1145E-002
1260-1145F-3	PXI, AaS, High-Density Matrix, 1 each 8x16 matrices, 3.3 V Bus Voltage	1260-1145F-001
1260-1145F-5	PXI, AaS, High-Density Matrix, 1 each 8x16 matrices, 5 V Bus Voltage	1260-1145F-002
1260-1145G-3	PXI, AaS, High-Density Matrix, 1 each 12x12 matrices, 3.3 V Bus Voltage	1260-1145G-001
1260-1145G-5	PXI, AaS, High-Density Matrix, 1 each 12x12 matrices, 5 V Bus Voltage	1260-1145G-002
408000-001	PXI to AaS Car/Encl. 3.3 V Kit	408000-001
408000-002	PXI to AaS Car/Encl. 5 V Kit	408000-002
407664	160-pin Mating Connector Kit	407664
407408-001	160-pin Cable Assembly, 6ft., 24 AWG	407408-001

CE The CE Mark indicates that the product has completed and passed rigorous testing in the area of RF Emissions, Immunity to Electromagnetic Disturbances and complies with European electrical safety standards.

The Racal policy is one of continuous development; consequently, the equipment may vary in detail from the description and specification in this publication.

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