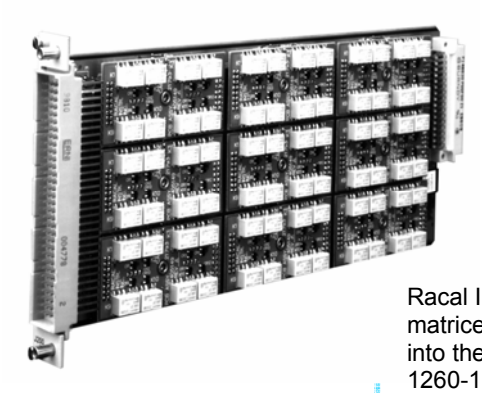
RACAL INSTRUMENTS™ 1260-145



High-Density Switch Matrix Plug-In

- **Seven Standard Versions with up to 144 Crosspoints**
- **All Configurations Specified**
- **Ideal for Differential Applications**
- **Plug-in Design for Rapid Expansion and Replacement**
- **Analog Bus for Construction of Large Matrices**
- **Relay Subassemblies Lower Spares and Repair Costs**

Racal Instruments™ 1260-145 Series plug-ins are high-density switch matrices for the Adapt-a-Switch™ platform. These quickly and easily plug into the front of an Adapt-a-Switch carrier, Racal Instruments 1260-100. Please refer to the 1260-100 data sheet for a complete description of the platform features and specifications.

These plug-ins provide the flexibility of high-density matrices while maintaining excellent bandwidth and signal integrity. Seven different versions are available. Each version is separately characterized for performance, eliminating the guesswork involved in using matrix families with "up to…" style specifications.

Racal Instruments 1260-145 Series plug-ins are 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 plug-in to service in under ten minutes in the event of a relay failure.

Careful consideration has been given to board layout to provide superior performance in demanding differential communications applications. Electromechanical relays support bi-directional operation.

1260-145 Series plug-ins are available in the following two-wire configurations:

- o 1260-145A nine (4x4)
- o 1260-145B three (4x12)
- o 1260-145C two (4x16)
- o 1260-145D one (4x36)
- o 1260-145E two (8x8)
- o 1260-145F one (8x16)
- o 1260-145G one (12x12)

Racal Instruments 1260-145 Series plug-ins can be used to construct large matrices from multiple plug-ins without using external loop-back connections. Each plug-in includes provisions for connection to a four-channel, two-wire analog bus on the Adapt-a-Switch™ carrier. The analog bus is easily implemented by installing jumpers on the plug-in motherboard.

Racal Instruments Adapt-a-Switch series includes VXI*plug&play* support for WIN95/NT frameworks, including drivers for LabWindows/CVI and LabView. Please refer to the option 01T datasheet for additional product features.

EADS NORTH AMERICA

1260-145 PRODUCT SPECIFICATIONS

INPUT

Maximum Switching Voltage
60 VDC or 125 VAC

Maximum Switching Current
1 ADC or 1 AAC

Maximum Carry Current
30W or 37.5 VA

DC PERFORMANCE

Path Resistance
<2 Ω

Insulation Resistance
10^9 Ω

Thermal EMF
<10 μV

AC PERFORMANCE (into 50Ω)

1260-145A

Bandwidth (-3 dB)
>42 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.2 dB
10 MHz: 1.0 dB

Isolation
300 kHz: >76 dB
1 MHz: >62 dB
10 MHz: >43 dB

Crosstalk
300 kHz: <-81 dB
1 MHz: <-69 dB
10 MHz: <-49 dB

Capacitance
Channel-Chassis: <118 pF
Hi-Lo: <414 pF

AC PERFORMANCE (into 50Ω)

1260-145B

Bandwidth (-3 dB)
>31 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.1 dB
10 MHz: 0.5 dB

Isolation
300 kHz: >75 dB
1 MHz: >68 dB
10 MHz: >52 dB

Crosstalk
300 kHz: <-72 dB
1 MHz: <-70 dB
10 MHz: <-49 dB

Capacitance
Channel-Chassis: <135 pF
Hi-Lo: <494 pF

AC PERFORMANCE (into 50Ω)

1260-145C

Bandwidth (-3 dB)
>24 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.1 dB
10 MHz: 0.8 dB

Isolation
300 kHz: >77 dB
1 MHz: >67 dB
10 MHz: >48 dB

Crosstalk
300 kHz: <-63 dB
1 MHz: <-59 dB
10 MHz: <-46 dB

Capacitance
Channel-Chassis: <173 pF
Hi-Lo: <640 pF

AC PERFORMANCE (into 50Ω)

1260-145D

Bandwidth (-3 dB)
>13 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.1 dB
10 MHz: 2.0 dB

Isolation
300 kHz: >75 dB
1 MHz: >67 dB
10 MHz: >44 dB

Crosstalk
300 kHz: <-75 dB
1 MHz: <-6 8dB
10 MHz: <-42 dB

Capacitance
Channel-Chassis: <309 pF
Hi-Lo: <1483 pF

AC PERFORMANCE (into 50Ω)

1260-145E

Bandwidth (-3 dB)
>27 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.2 dB
10 MHz: 0.7 dB

Isolation
300 kHz: >74 dB
1 MHz: >61 dB
10 MHz: >43 dB

Crosstalk
300 kHz: <-72 dB
1 MHz: <-64 dB
10 MHz: <-46 dB

Capacitance
Channel-Chassis: <169 pF
Hi-Lo: <636 pF

AC PERFORMANCE (into 50 Ω)

1260-145F

Bandwidth (-3 dB)
>20 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.2 dB
10 MHz: 1.2 dB

Isolation
300 kHz: >79 dB
1 MHz: >66 dB
10 MHz: >53 dB

Crosstalk
300 kHz: <-77 dB
1 MHz: <-62 dB
10 MHz: <-44 dB

Capacitance
Channel-Chassis: <223 pF
Hi-Lo: <838 pF

AC PERFORMANCE (into 50 Ω)

1260-145G

Bandwidth (-3 dB)
>27 MHz

Insertion Loss
300 kHz: 0.1 dB
1 MHz: 0.1 dB
10 MHz: 0.7 dB

Isolation
300 kHz: >74 dB
1 MHz: >67 dB
10 MHz: >52 dB

Crosstalk
300 kHz: <-70 dB
1 MHz: <-65 dB
10 MHz: <-44 dB

Capacitance
Channel-Chassis: <171 pF
Open Channel: <624 pF

1260-145 PRODUCT SPECIFICATIONS

Adapt-a-Switch™ PLUG-IN INTERFACE DATA

Cooling
See 1260-100 cooling data

Power Requirements
+5 VDC at 150 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: P-P, 5-55 Hz

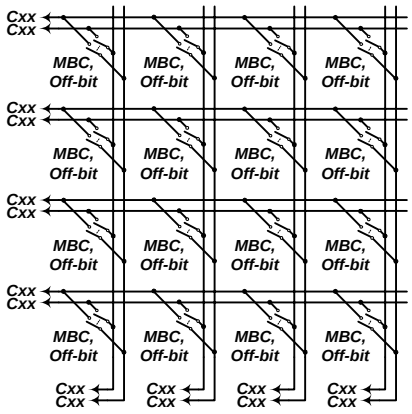
Bench Handling
4 inch drop at 45°

EMC

Emissions
EN55011A with limits in accordance with EN50081-1

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

Safety
EN61010-1



Typical 1260-145 Matrix Building Block

RELIABILITY

Rated Switch Operations
Mechanical: 50,000,000 operations
Electrical: 100,000 operation at 1 Amp, 30 VDC or 0.3 Amp 125 VAC

MTBF (including relays)
MIL-217FN2
33,763 hrs.
Telcordia (Bellcore) 6
50,660 hrs. 157253

MTTR
<5 minutes

Switching Time
<7 ms (includes settling time)

MECHANICAL

Weight
9 oz. (0.26kg)

Dimensions
4.5" H x 0.75" W x 9.5" D

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.

ORDERING INFORMATION

MODEL/DESCRIPTION	PART NUMBER
Racal Instruments 1260-145A, Adapt-a-Switch plug-in, 9 each 4X4 matrices	407643-001
Racal Instruments 1260-145B, Adapt-a-Switch plug-in, 3 each 4X12 matrices	407643-002
Racal Instruments 1260-145C, Adapt-a-Switch plug-in, 2 each 4X16 matrices	407643-003
Racal Instruments 1260-145D, Adapt-a-Switch plug-in, 1 each 4X36 matrices	407643-004
Racal Instruments 1260-145E, Adapt-a-Switch plug-in, 2 each 8X8 matrices	407643-005
Racal Instruments 1260-145F, Adapt-a-Switch plug-in, 1 each 8X16 matrices	407643-006
Racal Instruments 1260-145G, Adapt-a-Switch plug-in, 1 each 12X12 matrices	407643-007
160-pin Mating Connector Kit	407664
160-pin Cable Assembly, 6ft., 24AWG	407408-001

*One Option 01T must be ordered with switch system. Please specify the card on which Option 01T will be installed.

Note: Each switch card requires one mating connector

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