14F3S-1/2x5

PXI RF Switching Module

Features

DC - 18 GHz
Bidirectional Non-Blocking Matrix:
2 inputs and 5 outputs
Software Control:

- >> ***Custom GUI in LabVIEW, LabWindows/CVI and Visual Basic***
- >> ***VISA/IVI drivers (for advanced programming)***

Part Number

14F3S-1/2x5

Photo: 14F3S-1/2x5

Description

Overview:

The 14F3S-1/2x5 Model is a bidirectional PXI (PCI eXtensions for Instrumentation) RF switching module. It is configured as a non-blocking crossbar with 2 inputs and 5 outputs. The coaxial switch operates between DC to 18 GHz and the module occupies 4 slots of a 3U PXI chassis. NI PXI-1036 chassis, provided by National Instrument, is recommended; however the module is compatible with any desired PXI chassis. It is design for complex test setups and sophisticated switching requirements.

Software Control:

Graphical User Interfaces (GUIs) are provided in LabVIEW, LabWindows/CVI, and Visual Basics to allow the user to control the switch easily. For advanced programming, VISA and IVI drivers are included such that one can program and control the switch in any way desired using e.g. LabWindows/CVI (NI developed ANSI C-based programming), LabVIEW, Visual Basics, C or any other desired programming language or platform.

Physical

Relay Type:	Electromechanical
Contact Material:	Beryllium copper, gold-plated
I/O Connector Type:	SMA Female
Dimensions:	4-slots wide
	3U maximum height (5.25")
	7" maximum depth (NI chassis compatible)
Front Panel Color:	Gray
Weight (max):	1.20 lbs (540 grams)

RF Characteristics

Impedance:	50 Ohms
Operating Frequency:	DC – 18 GHz
Switching Speed*:	20 ms (max)
Operating Life:	1,000,000 cycles (Cold Switching)

* software delays are not taken into account

	Frequency (GHz)				
	DC-4	**4-8**	**8-12**	**12-16**	**16-18**
VSWR (Voltage Standing Wave Ratio)	1.30:1	1.35:1	1.40:1	1.50:1	1.80:1
Insertion Loss (dB)	0.3	0.4	0.6	0.8	0.9
Open Channel Isolation (dB)	80	80	70	60	50

Power Consumption Backplane Supply				
Voltage	+12 VDC	+5 VDC	+3.3 VDC	-12 VDC
Current	1 A	0.15 A	0.1 A	0 A

Shock and Vibration

Operational Shock:	30 g peak, half-sine, 11 ms pulse
Random Vibration:	
>> Operating	5 to 500 Hz, 0.3 g_{rms}
>> Non-operating	5 to 500 Hz, 2.4 g_{rms}

Environment

Operating Temperature:	0 °C to +55 °C
Storage Temperature:	-20 °C to +70 °C
Relative Humidity:	5% to 85% Non-Condensing
Operating Altitude:	5,000 m
Storage Altitude:	15,000 m

Platforms

PXI Compliance:

All Dow-Key PXI modules support full PXI/cPCI bus interface and complies with both PXI 2.1 specifications and CompactPCI specification (from the PCI Industrial Computer Group - PICMG).

Drivers:

>> VISA driver
>> IVI driver

Supported Platforms:

>> Windows 98/2000/XP
>> NI platforms: LabVIEW, LabWindows/CVI
>> Any programming language using VISA drivers

Developed GUIs (Graphical User Interfaces) *:

>> LabVIEW GUI
>> Visual Basic GUI
>> LabWindows GUI

* Refer to 14F3S-1/4x4 data sheet for more details or contact factory.