

Digital Multimeters

Product	Description	Platform	Digits	VDC	VAC	Resistance (Ω)	ADC	AAC	Capacitance	Inductance
PXI-4071	High-resolution DMM and 1.8 MS/s isolated digitizer	PXI	7½	1000	700	5 G	3	3	–	–
PXI-4072	DMM, 1.8 MS/s isolated digitizer, and LCR meter	PXI	7	300	300	1 G	1	1	10,000 µF	5 H
NI 4070	DMM and 1.8 MS/s isolated digitizer	PCI, PXI	7	300	300	1 G	1	1	–	–
NI 4065	Low-cost DMM	PXI, PCI, PCI Express, USB	6½	300	300	1 G	3	3	–	–
PCMCIA-4050	Portable PCMCIA DMM	PCMCIA	5½	250	250	200 M	250 m	250 m	–	–

Programmable Power Supplies and Source Measure Units

Product	Description	Platform	Channel Number	Voltage Range	Max Source Power	Max Sink Power	Voltage Resolution	Current Resolution	Remote Sense	Programming Speed
PXI-4130	Power source measure unit (SMU)	PXI	0	-20 to 20 V (4-quadrant)	40 W	10 W	100 µV	1 nA	✓	<500 ns
				0 to 6 V	6 W	–	120 µV	20 µA	–	–
PXI-4110	Triple output programmable DC power supply	PXI	1	0 to +20 V	20 W	–	400 µV	400 nA	–	<1 ms
				0 to -20 V	20 W	–	400 µV	400 nA	–	–
				0 to 6 V	6 W	–	120 µV	20 µA	–	–

Digital Waveform Generator/Analyzers

Product	Description	Platform	Channels	Maximum Rate (MHz)	Voltage Levels	Memory	Scripting (Linking/Looping)	Programmable Data Delay
NI 6562	Digital waveform generator/analyzer	PXI, PCI	16	200 (400 Mb/s)	LVDS	2, 16, or 128 Mb/channel	✓	✓
NI 6561	Digital waveform generator/analyzer	PXI, PCI	16	100 (200 Mb/s)	LVDS	2, 16, or 128 Mb/channel	✓	✓
NI 6552	Digital stimulus-response instrument	PXI, PCI	20	100	Programmable 10 mV steps	1, 8, or 64 Mb/channel	✓	✓
NI 6551	Digital stimulus-response instrument	PXI, PCI	20	50	Programmable 10 mV steps	1, 8, or 64 Mb/channel	✓	✓
NI 6542	Digital waveform generator/analyzer	PXI, PCI	32	100	Compatible with 5.0, 3.3, 2.5, or 1.8 V	1, 8, or 64 Mb/channel	✓	✓
NI 6541	Digital waveform generator/analyzer	PXI, PCI	32	50	Compatible with 5.0, 3.3, 2.5, or 1.8 V	1, 8, or 64 Mb/channel	✓	✓
NI 6537	Digital I/O and handshaking	PXI Express, PCI Express	32	50	Compatible with 5.0, 3.3, and 2.5 V	–	–	–
NI 6536	Digital I/O and handshaking	PXI Express, PCI Express	32	20	Compatible with 5.0, 3.3, and 2.5 V	–	–	–
NI 6535	Digital I/O and handshaking	PXI Express, PCI Express	32	10	Compatible with 5.0, 3.3, and 2.5 V	–	–	–
NI 6534	Digital I/O and handshaking	PXI, PCI	32	20	5 V TTL/CMOS	64 MB	–	–
NI 6533	Digital I/O and handshaking	PXI, PCI, PCMCIA	32	Up to 2 (pattern I/O)	5 V TTL/CMOS	–	–	–
NI PXI-6581R	FPGA-based Digital I/O	PXI	54	100	Compatible with 5.0, 3.3, 2.5, or 1.8 V	128MB FPGA DRAM	User Defined FPGA	User Defined FPGA

Digitizers/Oscilloscopes

Model	Description	Platforms	Input Channels	Sampling Rate (S/s)	RIS Sampling Rate (GS/s)	Bandwidth (MHz)	Resolution (bits)	Input Range	Onboard Memory per Channel
NI 5154	High-speed, high-bandwidth	PXI, PCI	2	1 G (or 2 G on 1 ch)	20	1000	8	±100 mV to ±2.5 V	8, 64, 256 MB
NI 5153	High-speed, high-bandwidth	PXI, PCI	2	1 G (or 2 G on 1 ch)	20	500	8	±100 mV to ±2.5 V	8, 64, 256 MB
NI 5152	High-speed	PXI, PCI	2	1 G (or 2 G on 1 ch)	20	300	8	±50 mV to ±5 V	8, 64, 256 MB
NI 5114	High-speed, low-cost	PXI, PCI	2	250 M	5	125	8	±20 mV to ±20 V	8, 64, 256 MB
NI 5124	High-speed, high-resolution	PXI, PCI	2	200 M	4	150	12	±100 mV to ±10 V	8, 32, 256, 512 MB
NI 5122	High-speed, high-resolution	PXI, PXI Express, PCI	2	100 M	2	100	14	±100 mV to ±10 V	8, 32, 256, 512 MB
NI 5142	High-speed, high-resolution, IF Acquisition	PXI, PCI	2	100 M	2	100	14	±100 mV to ±10 V	8, 32, 256, 512 MB
NI 5132/33	High-speed, low-cost, portable	USB	2	50 M/100 M	–	50	8	±40 mV to ±40 V	4 MB
NI 5105	High-density, low-cost	PXI	8	60 M	–	60	12	±25 mV to ±15 V	2, 16, 64 MB
NI 5622	High-speed, high-resolution, IF Acquisition	PXI Express	1	150 M	–	3 to 60	16	±350 mV to ±700 mV	64, 256 MB
NI 5922	High-resolution	PXI, PCI	2	15 M	–	6	24 to 16	±1 to ±5 V	8, 32, 256 MB

Signal Generators

Product	Description	Platform	Output Channels	Update Rate (MS/s)	Analog Bandwidth (MHz)	Resolution (bits)	Impedance (Ω)	Digital Pattern Output	Linking/Looping	Memory
NI PXIe-5450	Dual-channel I/Q signal generator	PXI Express	2	400	145	16	50	–	✓	128 or 512 MB
PXI-5422	Arbitrary waveform generator	PXI	1	200	80	16	50 or 75	LVDS	✓	8, 32, 256, or 512 MB
NI 5421	Arbitrary waveform generator	PCI, PXI	1	100	43	16	50 or 75	LVDS	✓	8, 32, or 256 MB
NI 5412	Arbitrary waveform generator	PCI, PXI	1	100	20	14	50 or 75	–	✓	8, 32, or 256 MB
PXIe-5442	Arbitrary waveform generator	PXI Express	1	100	43	16	50 or 75	–	✓	32, 256, or 512 MB
PXI-5441	Arbitrary waveform generator	PXI	1	100	43	16	50 or 75	LVDS	✓	32, 256, or 512 MB
NI 5402	Function generator	PCI, PXI	1	100	20	14	50 or 75	–	–	32 KB
NI 5406	Function generator	PCI, PXI	1	100	40	16	50 or 75	–	–	32 KB
PXI-5404	Clock and frequency generator	PXI	2	300	105	12	50	–	✓	–

RF Measurement and Generation

Module	Description	Frequency Range	Dynamic Range (dB)	Noise Floor (dBm/Hz)	Phase Noise (dBc/Hz) at 10 kHz Offset	Range (dBm)	Memory
NI PXIe-5663	RF vector signal analyzer	10 MHz to 6.6 GHz	80	<-158	<-112	-158 to 30	64 or 256 MB
NI PXIe-5673	RF vector signal generator	85 MHz to 6.6 GHz	80	<-156	<-112	-156 to 10	128 or 512 MB
PXI-5661	RF vector signal analyzer	9 kHz to 2.7 GHz	80	<-135	<-95	-135 to 30	32 or 64 MB
PXI-5600	RF downconverter	9 kHz to 2.7 GHz	80	<-135	<-95	-135 to 30	–
PXI-5671	RF vector signal generator	250 kHz to 2.7 GHz	80	-157 (at -50 dBm output)	<-96	-145 to 13	8, 32, or 256 MB
PXI-5610	RF upconverter	250 kHz to 2.7 GHz	80	-157 (at -50 dBm output)	<-96	-145 to 13	–
PXI-5650	RF signal generator	500 kHz to 1.3 GHz	65	<-140	<-110	-100 to 10	–
PXI-5651	RF signal generator	500 kHz to 3.3 GHz	65	<-140	<-110	-100 to 10	–
PXI-5652	RF signal generator	500 kHz to 6.6 GHz	65	<-140	<-110	-100 to 10	–

Sound and Vibration Measurement Devices (Dynamic Signal Acquisition)

Product	Bus	Analog Inputs	Dynamic Range (dB)	Sampling Rate per Channel	Maximum Signal Bandwidth	Input Range	Frequency Accuracy	Input Configuration	Analog Outputs	Triggering
NI 4461	PXI, PCI	2	118	204.8 kS/s	92 kHz	± 316 mV to ± 42.4 V	± 20 ppm	Differential/pseudodifferential	2	Analog and digital
NI 4462	PXI, PCI	4	118	204.8 kS/s	92 kHz	± 316 mV to ± 42.4 V	± 20 ppm	Differential/pseudodifferential	–	Analog and digital
NI 4495/96	PXI, PCI	16	113	204.8 kS/s	92 kHz	± 316 mV to ± 42.4 V	± 20 ppm	Differential/pseudodifferential	–	Analog and digital
NI 4498	PXI, PCI	16	113	204.8 kS/s	92 kHz	± 1 and 10 V	± 20 ppm	Differential/pseudodifferential	–	Analog and digital
NI 4472	PXI, PCI	8	110	102.4 kS/s	45 kHz	± 316 mV to ± 10 V	± 25 ppm	Pseudodifferential	–	Analog and digital
NI 4472B	PXI, PCI	8	110	102.4 kS/s	45 kHz	± 10 V	± 25 ppm	Pseudodifferential	–	Analog and digital
PCI-4474	PCI	4	110	102.4 kS/s	45 kHz	± 10 V	± 25 ppm	Pseudodifferential	–	Analog and digital
NI 9233/34	USB, wireless (WLS), Ethernet (ENET)	4	102	50 kS/s	21 kHz	± 5 V	± 100 ppm	Pseudodifferential	–	–
USB-4432	USB	5	101	102.4kS/s	45kHz	± 40 V	± 100 ppm	Pseudodifferential	–	–
PCI-4474	PCI	4	110	102.4 kS/s	45 kHz	± 10 V	± 25 ppm	Pseudodifferential	–	Analog and digital

Video Signal Acquisition

Product	Description	Platform	Channels	Update (MS/s)	Resolution (bits)	Impedance (Ω)	Video Formats
NI 5122	Video acquisition	PXI, PXI Express, PCI	2	100	14	50 or 1 M ¹	NTSC, PAL, SECAM
NI 5124	Video acquisition	PXI, PCI	2	200	12	50 or 1 M ¹	NTSC, PAL, SECAM
NI 5114	Video acquisition	PXI, PCI	2	250	8	50 or 1 M ¹	NTSC, PAL, SECAM

¹75 Ω input is available using 75 Ω termination on the 1 M Ω input path.

Switches (Relays, Multiplexers, Matrices)

Switch	Description	Function	Specification
PXI-2501	48-channel, FET relay	Multiplexer/matrix	±10 VDC
PXI-2503	48-channel, armature relay	Multiplexer/matrix	60 VDC/30 VAC
PXI-2527/SCXI-1127	64-channel, armature relay	Multiplexer/matrix	300 VDC/300 VAC
PXI-2529/SCXI-1129	128-/256-crosspoint (2-wire), armature relay	Matrix	150 VDC/150 VAC
PXI-2530/SCXI-1130	128-/256-channel, reed relay	Multiplexer/matrix	60 VDC/30 VAC
PXI-2532	512-crosspoint (1-wire), reed relay	Matrix	100 VDC/100 VAC
PXI-2533/34	256-crosspoint SSR matrix	Matrix	55 VDC, 1 A max
PXI-2535/36	544-crosspoint FET matrix switch	Matrix	12 VDC, 100 mA max
PXI-2545/55	4x1 RF multiplexer (terminated)	Multiplexer	2.5 GHz/2.7 GHz
PXI-2546/56	Dual 4x1 RF multiplexer (terminated)	Multiplexer	2.5 GHz/2.7 GHz
PXI-2547/47	8x1 RF multiplexer (terminated)	Multiplexer	2.5 GHz/2.7 GHz
PXI-2548/58	Quad SPDT RF relay	General-purpose	2.5 GHz/2.7 GHz
PXI-2549/59	Dual-terminated SPDT RF relay	General-purpose	2.5 GHz/2.7 GHz
PXI-2554	4x1 RF multiplexer	Multiplexer	2.5 GHz
PXI-2564	16-channel, SPST armature relay	General-purpose	150 VDC/150 VAC CAT II, 5 A max
PXI-2565	16-channel, SPST armature relay	General-purpose	125 VDC/250 VAC CAT II, 7 A max
PXI-2566/SCXI-1166	16-/32-channel, SPDT armature relay	General-purpose	150 VDC/125 VAC CAT I, 2 A max
PXI-2567/SCXI-1167	64-channel relay driver	Relay driver	50 VDC, 600 mA
PXI-2568	31-channel, SPST armature relay	General-purpose	150 VDC/150 VAC
PXI-2569/SCXI-1169	100-channel, SPST armature relay	General-purpose	100 VDC/100 VAC
PXI-2570	40-channel, SPDT armature relay	General-purpose	100 VDC/100 VAC
PXI-2575/SCXI-1175	196-channel, armature relay	Multiplexer	100 VDC/100 VAC
PXI-2576	16 banks of 4 channels, armature relay	Multiplexer	100 VDC/100 VAC
PXI-2584	12-channel, reed relay	Multiplexer	600 V CAT I/300 V CAT II
PXI-2585	10-channel, armature relay	Multiplexer	300 VDC/300 VAC CAT II, 12 A max
PXI-2586	10-channel, SPST armature relay	General-purpose	300 VDC/300 VAC CAT II, 12 A max
PXI-2593/SCXI-1193	16-/32-channel, RF relay	50 Ω multiplexer/matrix	150 V CAT I, 500 MHz
PXI-2594/SCXI-1194	4-channel/quad 4-channel, RF relay	50 Ω multiplexer	24 V, 1.3 GHz
PXI-2595/SCXI-1195	4-channel/quad 4-channel, RF relay	50 Ω multiplexer	30 V, 4 GHz
PXI-2596	Dual 6-channel, RF relay	Multiplexer	26.5 GHz
PXI-2597	6-channel, RF relay	Terminated multiplexer	26.5 GHz
PXI-2598	Single transfer switch, RF relay	General-purpose	26.5 GHz
PXI-2599	Dual SPDT, RF relay	General-purpose	26.5 GHz
SCXI-1128	64-channel, solid-state relay	Multiplexer/matrix	300 VDC/250 VAC
SCXI-1160	16-channel, SPDT armature relay	General-purpose	250 VDC/250 VAC
SCXI-1161	8-channel, SPDT armature relay	General-purpose	250 VDC/250 VAC, 8 A
SCXI-1163R	8 banks of 4 channels, solid-state relay	Multiplexer	240 VDC/240 VAC

NI FlexRIO FPGA Modules

Product	General Purpose I/O	FPGA	Onboard Memory (DRAM)
PXI-7951R	66 Differential or 132 Single-Ended	Virtex-5 LX30	0 MB
PXI-7952R	66 Differential or 132 Single-Ended	Virtex-5 LX50	128 MB
PXI-7953R	66 Differential or 132 Single-Ended	Virtex-5 LX85	128 MB
PXI-7954R	66 Differential or 132 Single-Ended	Virtex-5 LX110	128 MB

NI FlexRIO Adapter Modules

Product	Description	Specification
NI 6581	100MHz High-Speed Digital I/O	54 Single-Ended Channels
Custom Adapter Module Development Kit (MDK)	Includes design documentation, CAD files, 3 blank adapter module enclosures and 1 windowed enclosure	Requires knowledge of PCB hardware design and HDL code