

PRODUCT FLYER

Rack-Mountable Power Distribution Units

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Rack-Mountable Power Distribution Units

RMX-10050 and RMX-10051



- 1U and 2U full-width form factor for power distribution of test rack systems
- Up to 16 A current output rating
- Supports global voltage levels (100-240V / 200-208V / 380-415V)
- Single-phase and three-phase options available
- Emergency power-off (EPO) integration and outlet switching
- Integrated DC power outlets available
- Sequential startup between outlet banks

Built for Automated Test and Measurement

NI's rack-mountable power distribution units provide the perfect balance of connectivity, load, size, and cost for globally deployable automated test systems. The RMX-10050 and RMX-10051 receive mains power through a single inlet and distribute it through multiple outlets to provide power to components of a test rack such as PXI chassis, human-machine interfaces, or RAID data storage devices, simplifying the system power architecture. Optional DC power outlets can further simplify power management by providing power to components such as system fans or DUT interface boards.

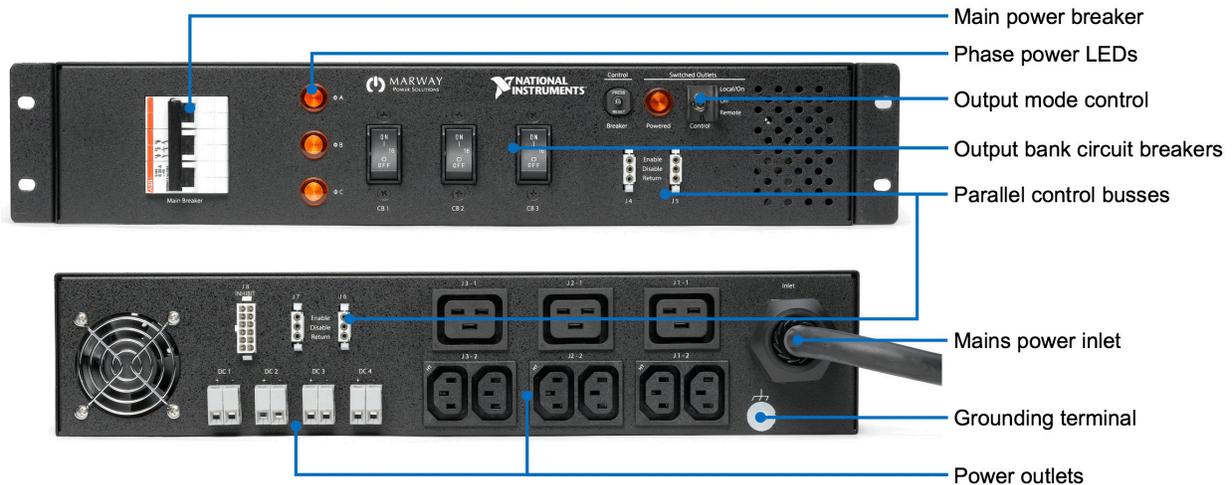
NI offers multiple configurations of the rack-mounted power distribution unit to meet a range of application requirements, including single-phase and three-phase versions with voltage levels compatible on a global scale. Additionally, both the RMX-10050 and RMX-10051 feature advanced outlet control through emergency power-off (EPO) capabilities, remote DC outlet switching, and forced hardware delays between outlet groups for sequenced power-up of connected devices.

Table 1. NI offers multiple rack power distribution units to meet a range of test system requirements.

	Single-Phase RMX-10050	Three-Phase Delta RMX-10051	Three-Phase Wye RMX-10051
Form Factor	1U, Full-Width (19")	2U, Full-Width (19")	2U, Full-Width (19")
Inlet Type	C20 (mates to C19)	IEC 60309 ABL Sursum S51S30	IEC 60309 ABL Sursum S51S30
Mains Inlet Voltage Rating	100-240 V	200-208 V	380-415 V
Mains Inlet Current Rating	50-60 Hz	50-60 Hz	50-60 Hz
Max Current Output	16 A	9.2 A per bank	16 A per bank
Max Current Output with DC Outputs Fully Loaded ¹	8.7 A	Bank J1: 5.6 A Bank J2: 9.2 A Bank J3: 9.2 A	Bank J1: 12.7 A Bank J2: 16 A Bank J3: 16 A
Max Current per Outlet	10 A	C19: 12.8 A C13: 10 A	C19: 16 A C13: 10 A
AC Outlets	(8) C13 Outlets	(3) C19 Outlets (6) C13 Outlets	(3) C19 Outlets (6) C13 Outlets
AC Outlet Banks	Group A: 4 C13 outlets Group B: 4 C13 outlets	Bank J1: 1 C19, 2 C13, DC Outlets Bank J2: 1 C19, 2 C13 Bank J3: 1 C19, 2 C13	Bank J1: 1 C19, 2 C13, DC Outlets Bank J2: 1 C19, 2 C13 Bank J3: 1 C19, 2 C13
DC Output Channels ¹	4 channels (12, 24, 24, 48 V)	4 channels (12, 24, 24, 48 V)	4 channels (12, 24, 24, 48 V)
DC Output Rating ¹	125 W per channel	125 W per channel	125 W per channel

¹ DC output optional on single-phase model, standard for three-phase models

Detailed View of the RMX-10051 Three-Phase PDU



Key Features

Global Compatibility

NI rack-mounted power distribution units are designed with flexibility to serve variety of applications and regions. With single-phase and three-phase options available for a range of voltages, a PDU can be chosen to match the power options of the test rack's facility. Additionally, the support of wye and delta three-phase power and compatibility with 50 Hz and 60 Hz supplies provide compatibility for regions across the globe.

Outlet Control and Emergency Power-Off

NI PDUs feature outlet control busses which provide a connection for enabling or disabling outlets. A hardware switch allows the PDU to operate in one of three modes: all outlets off, all outlets on unless an emergency power-off (EPO) signal is provided, or all outlets switched on and off remotely. All outlet control busses are wired in parallel for daisy-chaining to additional power distribution units and each PDU features two front and rear busses for convenient wiring.

Outlet Sequencing

Outlet sequencing forces a delay between groups of outlets when providing power through remote control. This serves to prevent inrush current and allow for valid startup of devices requiring a specific power-up order, such as a multi-chassis PXI system using MXI-Express. On single-phase PDUs power is immediately provided to Group A and DC outlets with a 2-second delay before power is provided to Group B outlets. On three-phase PDUs power is immediately provided to bank J1 and DC outlets with a 2-second delay before power is provided to banks J2 and J3 simultaneously. Note that sequencing is standard on three-phase power distribution units but optional for single-phase models.

DC Power

Some power distributions units feature DC power output providing a total of 500 W across four outlets in the form of 12-, 24-, and 48-volt lines. These DC outlets can be used to power additional components of a test rack such as system fans or device interface boards while minimizing system wiring complexity. Through the accompanying inhibit bus, individual DC outlets can be enabled or disabled remotely. Note that DC outlets are standard on three-phase power distribution units and optional for single-phase models.

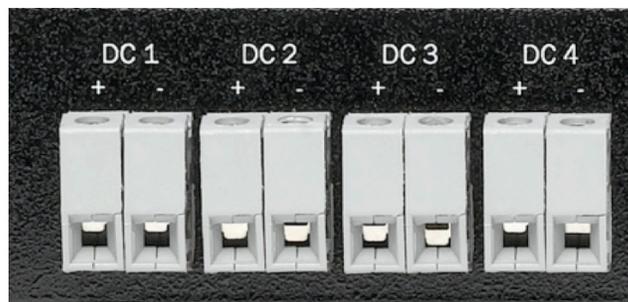
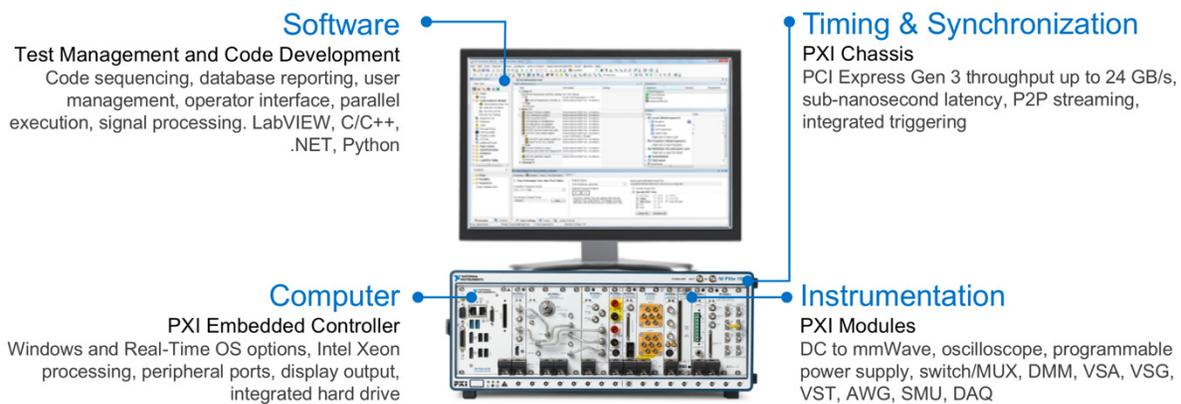


Figure 1. Up to 500 W of DC power is provided across four outlets, enabling integration of DC-powered devices such as device interface boards or system fans.

Platform-Based Approach to Test and Measurement

What Is PXI?

Powered by software, PXI is a rugged PC-based platform for measurement and automation systems. PXI combines PCI electrical-bus features with the modular, Eurocard packaging of CompactPCI and then adds specialized synchronization buses and key software features. PXI is both a high-performance and low-cost deployment platform for applications such as manufacturing test, military and aerospace, machine monitoring, automotive, and industrial test. Developed in 1997 and launched in 1998, PXI is an open industry standard governed by the PXI Systems Alliance (PXISA), a group of more than 70 companies chartered to promote the PXI standard, ensure interoperability, and maintain the PXI specification.



Integrating the Latest Commercial Technology

By leveraging the latest commercial technology for our products, we can continually deliver high-performance and high-quality products to our users at a competitive price. The latest PCI Express Gen 3 switches deliver higher data throughput, the latest Intel multicore processors facilitate faster and more efficient parallel (multisite) testing, the latest FPGAs from Xilinx help to push signal processing algorithms to the edge to accelerate measurements, and the latest data converters from TI and ADI continually increase the measurement range and performance of our instrumentation.

<p>HIGHER DATA THROUGHPUT</p>  <p>PCI Express Gen 3</p>	<p>PARALLEL TEST EXECUTION</p>  <p>Multicore Processors</p>	<p>MEASUREMENT ACCELERATION</p>  <p>FPGAs</p>	<p>INCREASED MEASUREMENT RANGE</p>  <p>Data Converters</p>
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PXI Instrumentation

NI offers more than 600 different PXI modules ranging from DC to mmWave. Because PXI is an open industry standard, nearly 1,500 products are available from more than 70 different instrument vendors. With standard processing and control functions designated to a controller, PXI instruments need to contain only the actual instrumentation circuitry, which provides effective performance in a small footprint. Combined with a chassis and controller, PXI systems feature high-throughput data movement using PCI Express bus interfaces and sub-nanosecond synchronization with integrated timing and triggering.



Oscilloscopes

Sample at speeds up to 12.5 GS/s with 5 GHz of analog bandwidth, featuring numerous triggering modes and deep onboard memory



Digital Multimeters

Perform voltage (up to 1000 V), current (up to 3A), resistance, inductance, capacitance, and frequency/period measurements, as well as diode tests



Digital Instruments

Perform characterization and production test of semiconductor devices with timing sets and per channel pin parametric measurement unit (PPMU)



Waveform Generators

Generate standard functions including sine, square, triangle, and ramp as well as user-defined, arbitrary waveforms



Frequency Counters

Perform counter timer tasks such as event counting and encoder position, period, pulse, and frequency measurements



Source Measure Units

Combine high-precision source and measure capability with high channel density, deterministic hardware sequencing, and SourceAdapt transient optimization



Power Supplies & Loads

Supply programmable DC power, with some modules including isolated channels, output disconnect functionality, and remote sense



FlexRIO Custom Instruments & Processing

Provide high-performance I/O and powerful FPGAs for applications that require more than standard instruments can offer



Switches (Matrix & MUX)

Feature a variety of relay types and row/column configurations to simplify wiring in automated test systems



Vector Signal Transceivers

Combine a vector signal generator and vector signal analyzer with FPGA-based, real-time signal processing and control



GPIB, Serial, & Ethernet

Integrate non-PXI instruments into a PXI system through various instrument control interfaces



Data Acquisition Modules

Provide a mix of analog I/O, digital I/O, counter/timer, and trigger functionality for measuring electrical or physical phenomena

Hardware Services

All NI hardware includes a one-year warranty for basic repair coverage, and calibration in adherence to NI specifications prior to shipment. PXI Systems also include basic assembly and a functional test. NI offers additional entitlements to improve uptime and lower maintenance costs with service programs for hardware. Learn more at ni.com/services/hardware.

	Standard	Premium	Description
Program Duration	3 or 5 years	3 or 5 years	Length of service program
Extended Repair Coverage	•	•	NI restores your device's functionality and includes firmware updates and factory calibration.
System Configuration, Assembly, and Test ¹	•	•	NI technicians assemble, install software in, and test your system per your custom configuration prior to shipment.
Advanced Replacement ²		•	NI stocks replacement hardware that can be shipped immediately if a repair is needed.
System RMA ¹		•	NI accepts the delivery of fully assembled systems when performing repair services.
Calibration Plan (Optional)	Standard	Expedited ³	NI performs the requested level of calibration at the specified calibration interval for the duration of the service program.

¹This option is only available for PXI, CompactRIO, and CompactDAQ systems.

²This option is not available for all products in all countries. Contact your local NI sales engineer to confirm availability.

³Expedited calibration only includes traceable levels.

PremiumPlus Service Program

NI can customize the offerings listed above, or offer additional entitlements such as on-site calibration, custom sparring, and life-cycle services through a PremiumPlus Service Program. Contact your NI sales representative to learn more.

Technical Support

Every NI system includes a 30-day trial for phone and e-mail support from NI engineers, which can be extended through a [Software Service Program \(SSP\)](#) membership. NI has more than 400 support engineers available around the globe to provide local support in more than 30 languages. Additionally, take advantage of NI's award winning [online resources](#) and [communities](#).

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