Industrial Power Supplies

NI PS-15, NI PS-16, NI PS-17 *NEW!*

- 24 VDC power supplies for CompactRIO, NI CompactDAQ, Compact FieldPoint, NI Single-Board RIO, NI Smart Cameras, and NI touch panel computers
- Full output power between -25 and +60 °C
- 115/230 V autoselect input
- Efficiencies up to more than 90 percent
- Low input rush current
- 20 or 50 percent power reserves for dynamic loads
- Toolless spring-clamp terminals for easy field connectivity
- DIN-rail mounting included and panel/side mount accessories available
- -25 to 70 °C operating temperature range



Product	Output Voltage (V)	Output Current (A)	Output Power (W)	Input Voltage	Temperature Range (°C)	Size WxHxD (mm)	Weight (g)	Part Number
PS-15	24 to 28	5	120	90 to 132/ 180 to 264 VAC	-25 to +70	32 by 124 by 117	500	781093-01
PS-16	24 to 28	10	240	90 to 132/ 180 to 264 VAC	-25 to +70	60 by 124 by 117	700	781094-01
PS-17	24 to 28	20	480	85 to 276 VAC/ 88 to 375 VDC	-25 to +70	82 by 124 by 127	1200	781095-01

Table 1. NI Power Supply Selection Guide

Overview and Applications

The NI PS-15, PS-16, and PS-17 industrial power supplies feature long expected life, generous power reserves, and compact size. The 24 V supplies are ideal for powering any NI CompactRIO, NI Compact FieldPoint, NI Single-Board RIO, NI Smart Camera, NI touch panel, or NI CompactDAQ system, as well as heavy accessory loads such as DC motor drives. The DIN-rail system and spring clamp terminals do not require tools and make installation fast and easy. Wide range and autoselect input voltages help you avoid user errors. The wide operating temperature range and extraordinary EMI immunity enables trouble-free operation even under harsh conditions.

Depending on the device, NI industrial power supplies guarantee power reserves of 20 to 50 percent. For the PS-15 and PS-16, you can use this extra current continuously for ambient temperatures under 45 °C. With these power reserves, you may not need to oversize for dynamic loads, but you can simply choose a unit that meets the operating requirements. In some cases, you can select a smaller unit to save money and space.

Mounting Options

The PS-15/16/17 power supplies include clips for DIN-rail mounting. National Instruments provides optional accessories for wall, panel, and side mounting to minimize install depth. You can couple the included DIN-rail mounting bracket with the side mount kit for a low-profile DIN-rail installation.

Part Number	Product	Installed Width (mm)	Installed Height (mm)	Installed Depth (mm)	Bracket Weight (g)
199432-01	Panel mount kit for PS-15/16/17	Equal to PS width	143	PS depth + 7	50
199429-01	Side mount kit for PS-15	118	145	38 (panel)/ 44 (DIN)	140
199430-01	Side mount kit for PS-16	118	145	66 (panel)/ 72 (DIN)	180
199431-01	Side mount kit for PS-17	138	145	88 (panel)/ 94 (DIN)	205

Table 2. NI Power Supply Mounting Accessories (See the NI PS-15/16/17 User Guide *manual at* ***ni.com/manuals*** *for more information.)*

NATIONAL INSTRUMENTS™

Specifications

Specifications subject to change without notice. For complete specifications, see the *NI PS-15/16/17 User Guide* manual at **ni.com/manuals**.

Dimensions and Weight

WxHxD (mm)

PS-15	32 by 124 by 117
PS-16	60 by 124 by 117
PS-17	82 by 124 by 127

Weight

PS-15	500 g (1.1 lb)
PS-16	700 g (1.54 lb)
PS-17	1200 g (2.65 lb)

Input Characteristics

Input Voltage Range

PS-15/16 voltage	90 to 132 V_{AC}/180 to 264 V_{AC}
PS-17 voltage	85 to 276 V_{AC}/88 to 375 V_{DC}
PS-15/16/17 input frequency	50 to 60 Hz ±6%

Power Factor

PS-15	0.56 @120 V_{AC}, 24 V, 5 A
PS-16	0.59 @120 V_{AC}, 24 V, 10 A
PS-17	0.95 @120 V_{AC}, 24 V, 20 A

Output Characteristics

Output Voltage Range

PS-15/16/17	24 to 28 V_{DC}

Output Power (-25 to +60 °C)

PS-15	120 W
PS-16	240 W
PS-17	480 W

Output Current (-25 to +60 °C)

PS-15	5 A @24 V/ 4.3 A @28 V
PS-16	10 A @24 V/ 8.6 A @28 V
PS-17	20 A @24 V/ 17 A @28 V

Ripple and Noise Voltage

PS-15/16	50 mV_{pp}
PS-17	100 mV_{pp}

Output Capacitance

PS-15	1800 µF
PS-16	7000 µF
PS-17	8500 µF

Efficiency

PS-15	89.4% @120 V_{AC}, 24 V, 5 A
PS-16	91.0% @120 V_{AC}, 24 V, 10 A
PS-17	92.4% @120 V_{AC}, 24 V, 20 A

Environmental

Operational Temperature

PS-15/16/17	-25 to +70 °C (reduce output power above 60 °C)

Output Derating

PS-15	3 W/°C (60 to 70 °C)
PS-16	6 W/°C (60 to 70 °C)
PS-17	12 W/°C (60 to 70 °C)

Note: To meet this operating temperature range, follow the guidelines in the user guide for your industrial power supply.

Storage Temperature

PS-15/16/17	-40 to +85 °C

Ingress Protection (EN/IEC 60529)

PS-15/16/17	IP 20

Operating Humidity (IEC 60068-2-30)

PS-15/16/17	5 to 95% RH, noncondensing
Maximum Altitude	6000 m (reduce output power or ambient temp above 2000 m)

Altitude Output Derating (above 2000 m)

PS-15	7.5 W or 5 °C per 1000 m
PS-16	15 W or 5 °C per 1000 m
PS-17	30 W or 5 °C per 1000 m
Pollution Degree (EN 50178)	2, not conductive

Shock and Vibration

Operating Vibration, Sinusoidal (IEC 60068-2-6)

PS-15/16/17	2 to 17.8 Hz: ±1.6 mm; 17.8 to 500 Hz: 2 g, 2 hours/axis

Operating Shock (IEC 60068-2-27)

PS-15/16/17	30 g, 6 ms, 20 g, 11 ms, 3 bumps/direction, 18 bumps total

Operating Vibration, Random (60060-2-64)

PS-17	0.5 $m^2(s^3)$; 2 hours/axis

Ordering Information

NI PS-15	781093-01
NI PS-16	781094-01
NI PS-17	781095-01

Accessories

Panel mount kit for NI PS-15/16/17	199432-01

BUY NOW

For complete product specifications, pricing, and accessory information, call 800 813 3693 (U.S.) or go to **ni.com/compactrio**.

Safety

These products are designed to meet the requirements of the following standards of safety for electrical equipment for measurement, control, and laboratory use:

SELV .....IEC/EN 60950-1

PELV .....EN 60204-1, EN 50178, IEC 60364-4-41

Note: For UL and other safety certifications, refer to the product label or visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Electromagnetic Compatibility

This product meets the requirements of the following EMC standards for electrical equipment for measurement, control, and laboratory use:

- EN 61000-6-2, EN 61000-6-1
- EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6, EN 61000-4-11
- VDE 0160
- EN 55011 Emissions; Group 1, Class A
- CE, C-Tick, ICES, and FCC Part 15 Emissions; Class A

Note: For EMC compliance, operate this product according to the documentation.

CE Compliance

This product meets the essential requirements of applicable European Directives as follows:

- 2006/95/EC, Low-Voltage Directive (safety)
- 2004/108/EC, Electromagnetic Compatibility Directive (EMC)

Approvals

18WM LISTED IND. CONT. EQ.	LISTED as Industrial Control Equipment (UL 508)
c UL us	RECOGNIZED as Information Technology Equipment (UL 60950-1)
GL	GL (Germanischer Lloyd) classified for marine and offshore applications. Environmental category: C, EMC2

Online Product Certification

Refer to the product Declaration of Conformity (DoC) for additional regulatory compliance information. To obtain product certifications and the DoC for this product, visit **ni.com/certification**, search by model number or product line, and click the appropriate link in the Certification column.

Environmental Management

National Instruments is committed to designing and manufacturing products in an environmentally responsible manner. NI recognizes that eliminating certain hazardous substances from our products is beneficial not only to the environment but also to NI customers.

For additional environmental information, refer to the NI and the Environment Web page at **ni.com/environment**. This page contains the environmental regulations and directives with which NI complies, as well as other environmental information not included in this document.

Waste Electrical and Electronic Equipment (WEEE)

EU Customers: At the end of their life cycle, all products must be sent to a WEEE recycling center. For more information about WEEE recycling centers and National Instruments WEEE initiatives, visit **ni.com/environment/weee.htm**.

NI Services and Support



NI has the services and support to meet your needs around the globe and through the application life cycle – from planning and development through deployment and ongoing maintenance. We offer services and service levels to meet customer requirements in research, design, validation, and manufacturing.
Visit **ni.com/services**.

Training and Certification

NI training is the fastest, most certain route to productivity with our products. NI training can shorten your learning curve, save development time, and reduce maintenance costs over the application life cycle. We schedule instructor-led courses in cities worldwide, or we can hold a course at your facility. We also offer a professional certification program that identifies individuals who have high levels of skill and knowledge on using NI products.
Visit **ni.com/training**.

Professional Services

Our NI Professional Services team is composed of NI applications and systems engineers and a worldwide National Instruments Alliance Partner program of more than 600 independent consultants and integrators. Services range from start-up assistance to turnkey system integration. Visit **ni.com/alliance**.

NATIONAL INSTRUMENTS™
Certified Alliance Partner

OEM Support

We offer design-in consulting and product integration assistance if you want to use our products for OEM applications. For information about special pricing and services for OEM customers, visit **ni.com/oem**.

Local Sales and Technical Support

In offices worldwide, our staff is local to the country, giving you access to engineers who speak your language. NI delivers industry-leading technical support through online knowledge bases, our applications engineers, and access to 14,000 measurement and automation professionals within NI Developer Exchange forums. Find immediate answers to your questions at **ni.com/support**.

We also offer service programs that provide automatic upgrades to your application development environment and higher levels of technical support. Visit **ni.com/ssp**.

Hardware Services

System Assurance Programs

NI system assurance programs are designed to make it even easier for you to own an NI system. These programs include configuration and deployment services for your NI PXI, CompactRIO, or Compact FieldPoint system. The NI Basic System Assurance Program provides a simple integration test and ensures that your system is delivered completely assembled in one box. When you configure your system with the NI Standard System Assurance Program, you can select from available NI system driver sets and application development environments to create customized, reorderable software configurations. Your system arrives fully assembled and tested in one box with your software preinstalled. When you order your system with the standard program, you also receive system-specific documentation including a bill of materials, an integration test report, a recommended maintenance plan, and frequently asked question documents. Finally, the standard program reduces the total cost of owning an NI system by providing three years of warranty coverage and calibration service. Use the online product advisors at **ni.com/advisor** to find a system assurance program to meet your needs.

Calibration Services

NI recognizes the need to maintain properly calibrated devices for high-accuracy measurements. We provide manual calibration procedures, services to recalibrate your products, and automated calibration software specifically designed for use by metrology laboratories. Visit **ni.com/calibration**.

Repair and Extended Warranty

NI provides complete repair services for our products. Express repair and advance replacement services are also available. We offer extended warranties to help you meet project life-cycle requirements. Visit **ni.com/services**.

NATIONAL INSTRUMENTS™

ni.com ▪ 800 813 3693
National Instruments ▪ info@ni.com

©2009 National Instruments. All rights reserved. CompactRIO, FieldPoint, National Instruments, National Instruments Alliance Partner, NI, ni.com, and NI CompactDAQ are trademarks of National Instruments. Other product and company names listed are trademarks or trade names of their respective companies. A National Instruments Alliance Partner is a business entity independent from National Instruments and has no agency, partnership, or joint-venture relationship with National Instruments. 2009-11329-161-101-D