- **Dual Isolated Outputs; 0-48VDC/ 2A / 60W**
- **Current Capability 2A to 30V, 1.25A at 48V**
- **Programmable Current Limit**
- **Includes Over Voltage, Over Current and Short Circuit Protection**
- **On-Board Isolation and Remote Sense Relays**
- **16 Bit Read Back of Output Voltage and Current**
- **Outputs May Be Connected in Parallel or Series**
- **DLLs & LabVIEW™ Application Software**

Pickering Interfaces' 41-740 programmable power supply is designed specifically for test applications that demand precision output voltage/current and tightly coupled measurement capabilities.

The versatile design of the 41-740 makes it ideal for a broad range of testing applications in markets as diverse as communications, aerospace, and automotive manufacturing.

Power Levels

The 41-740 programmable power supply provides two independent and isolated 60W(max) supplies, each channel is programmable from 0-48Vdc to a maximum of 2.0 Amps. The 41-740 includes a programmable current limit to protect critical UUTs from excessive current, the output will automatically switch into constant current mode when limit is reached. For greater power or voltage applications, channels can be connected in series or parallel.

Measurement function

In operation, the capabilities include quickly setting I/V and then measuring I/V automatically without processor intervention. The 41-740 has a hardware built in sequence list that can execute commands and store data in a FIFO without processor action. With the tight integration of a Pickering Interfaces 41-740, you'll get high speeds for high throughput as well as high measurement accuracy and repeatability.

Input Power

To avoid excess power draw from the PXI backplane, the 41-740-001 draws input power (+56Vdc) via front panel connections. This approach not only minimizes power required from the backplane but also maintains complete isolation between backplane logic and power conversion circuitry thereby increasing noise immunity. Pickering Interfaces includes an AC-DC adapter with the 41-740-001 which allows the instrument to be operate from 90–260VAC mains where +56VDC is not readily available.

Pickering's Range of PXI Power Supplies					
Model No.	Configuration	Channels	Input	Output Voltage	Max Current
41-735	Programmable	2	Backplane or External	0 to +10V	1A
41-736	Programmable	2	Backplane or External	0 to -10V	1A
41-740	Programmable	2	56VDC	0 to 48V	2A to 30V, 1.25A at 48V
41-743	Programmable	1	Backplane	0 to 48V	2A to 20V, 0.8A at 48V
41-752	Battery Simulator	6	Backplane	0 to 7V	300mA Source, 100mA Sink
41-753	Battery Simulator	1	Backplane	0 to 6V	2.8A Source, 0.5A Sink

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Specification

Power Input:	+56VDC or 90 to 260VAC, 47 to 63Hz via supplied AC to 56VDC converter
Output Channels:	2
Output Voltage Range:	0V to 48V
Output Voltage Accuracy:	0.5% of programmed value ±50mV
Voltage Setting Resolution:	12-Bits
Line Regulation:	0.1%
Load Regulation:	0.1% (10 to 90% load change)
Output Current Range:	2A to 30V, 1.25A at 48V.
Current Limit Accuracy:	0.5% ±50mA
Read back Voltage:	±0.2% of Reading +60mV
Read back Current:	±0.5% of Reading +10mA
Rise Time (typical):	14ms (full load)
Efficiency	84% typical
Isolation:	500V (channel to channel) 500V (channel to chassis)
Measurement Function:	Maximum sampling rate: 5kS/s of each channel
	Input Impedance: 5kΩ
	Trigger sources: Software, external
	Buffer size: 2K samples per channel
	Data transfers: Polling
Sequence Function:	Trigger sources: Software, external
	Input Impedance - 5kΩ
	Buffer size: 256 command words per channel
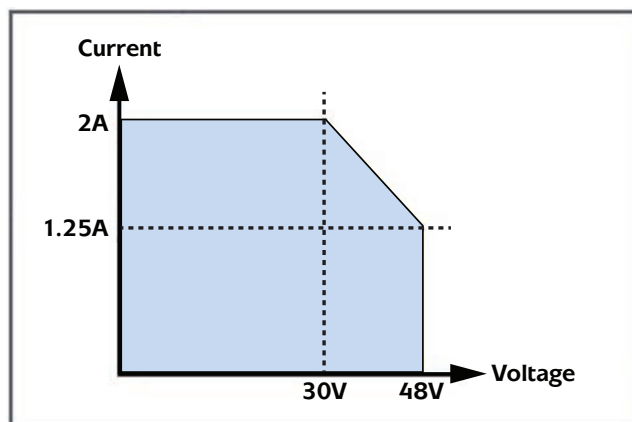
41-740 Safe Operational Area

Mechanical Characteristics

Single slot 3U PXI (CompactPCI card).
3D models for all versions in a variety of popular file formats are available on request.

Connectors

PXI bus via 32-bit P1/J1 backplane connector.

Power supply input: 4-pin plug-in screw terminal block

Power supply outputs & sense: 8-pin plug-in screw terminal block

Trigger Input: SMB coaxial connector.

For pin outs please refer to the operating manual.

Operating/Storage Conditions

Operating Conditions

Operating Temperature:	0°C to +55°C
Humidity:	Up to 90% non-condensing
Altitude:	5000m

Storage and Transport Conditions

Storage Temperature:	-20°C to +75°C
Humidity:	Up to 90% non-condensing
Altitude:	15000m

PXI & CompactPCI Compliance

The module is compliant with the PXI Specification 2.2. Local Bus, Trigger Bus and Star Trigger are not implemented.

Uses a 33MHz 32-bit backplane interface.

Safety & CE Compliance

All modules are fully CE compliant and meet applicable EU directives: Low-voltage safety EN61010-1:2010, EMC Immunity EN61326-1:2013, Emissions EN55011:2009+A1:2010.*

Product Order Codes

Dual 0-48VDC Programmable Power Supply 56VDC Input (Including 41-740-901 AC-DC Adapter)	41-740-001
Spare AC-DC Adapter 90-260VAC input, 56VDC output (for use with 41-740-001)	41-740-901

Product Customization

Pickering PXI modules are designed and manufactured on our own flexible manufacturing lines, giving complete product control and enabling simple customization to meet very specific requirements.

All customized products are given a unique part number, fully documented and may be ordered at any time in the future. Please contact your local sales office to discuss.

41-740-901 AC-DC Adapter
(included with the 41-740-001 Power Supply Module)

Chassis Compatibility

This PXI module must be used in a suitable chassis. It is compatible with the following chassis types:

- All chassis conforming to the 3U PXI and 3U Compact PCI (cPCI) specification
- Legacy and Hybrid Peripheral slots in a 3U PXI Express (PXIe) chassis

Chassis Selection Guide

Standard PXI or hybrid PXIe Chassis from any Vendor:

- Mix our 1000+ PXI switching & simulation modules with any vendor's PXI instrumentation
- Embedded or remote Windows PC control
- Real-time Operating System Support
- High data bandwidths, especially with PXI Express
- Integrated module timing and synchronization
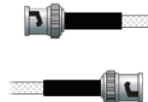
Connectivity Solutions

We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed to mechanically and electrically mate to our modules.

Connectors & Backshells   **Multiway Cable Assemblies**   **RF Cable Assemblies**   **Connector Blocks**

We also offer customized cabling and have a free online **Cable Design Tool** that can be used to create custom cable solutions for many applications. Visit: pickeringtest.com/cdt to start your design.

Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required for a PXI or LXI based test system. Our modules are fully supported by both Virginia Panel and MacPanel.

Pickering Reed Relays

We are the only switch provider with in-house reed relay manufacturing capability via our Relay Division. These instrument grade reed relays feature *SoftCenter™* technology, ensuring long service life and repeatable contact performance. To learn more, please go to: pickeringrelay.com

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pickeringtest.com

Programming

Pickering provide kernel, IVI and VISA (NI & Keysight) drivers which are compatible with all Microsoft supported versions of Windows and popular older versions. For a list of all supporting operating systems, please see: pickeringtest.com/os

The VISA driver support is provided for LabVIEW Real Time Operating Systems (Pharlap and Linux-RT). For other RTOS support contact Pickering. These drivers may be used with a variety of programming environments and applications including:

- **Pickering Interfaces Switch Path Manager**
- **National Instruments** products (LabVIEW, LabWindows/CVI, Switch Executive, MAX, TestStand, VeriStand, etc.)
- **Microsoft Visual Studio** products (Visual Basic, Visual C++)
- **Programming Languages** C, C++, C#, Python
- **Keysight** VEE and OpenTAP
- **Mathworks** Matlab
- **Marvin** ATEasy
- **MTQ Testsolutions** Tecap Test & Measurement Suite

Drivers for popular Linux distributions are available, other environments are also supported, please contact Pickering with specific enquiries. We provide Soft Front Panels (SFPs) for our products for familiarity and manual control, as well as comprehensive documentation and example programs to help you develop test routines with ease.

To learn more about software drivers and development environments, please go to: pickeringtest.com/software

Signal Routing Software

Our signal routing software, Switch Path Manager, automatically selects and energizes switch paths through Pickering switching systems. Signal routing is performed by simply defining test system endpoints to be connected together, greatly accelerating Test System software development. To learn more, please go to: pickeringtest.com/spm
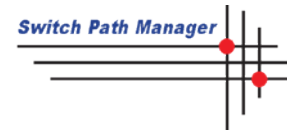
Diagnostic Relay Test Tools

eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.

To learn more, please go to: pickeringtest.com/ebirst

Three Year Warranty & Guaranteed Long-Term Support

All standard products manufactured by Pickering Interfaces are warranted against defective materials and workmanship for a period of three years from the date of delivery to the original purchaser. Extended warranty and service agreements are available for all our modules and systems with various levels to suit your requirements. Although we offer a 3-year warranty as standard, we also include guaranteed long-term support—with a history of supporting our products for typically 15-20 years. To learn more, please go to: pickeringtest.com/support

Available Product Resources

We have a large library of product resources including success stories, product and support videos, articles and white papers as well as application specific product brochures to assist when looking for the switching, simulation and connection solutions you need. We also have handy reference books on Switching Technology and for the PXI and LXI standards.

To view, download or request any of our product resources, please visit: pickeringtest.com/resources

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