

- Dual Output Non-Isolated Power Supply
- Fast Transient Load Response <25µs
- Low Noise Outputs For Testing Sensitive Devices
- Fine 16-bit Output Voltage Control For Evaluating Device Characteristics
- Up To 1 Amp and 10V Output On Each Channel
- Port For High Accuracy Current Monitoring With DMM
- Leakage Measurement Capability
- Remote Sense Lines
- PXI Backplane Or External Source Of Power
- Single Slot 3U Instrument
- VISA Drivers Supplied For Windows Plus Soft Front Panel
- Supported in PXI or LXI Chassis
- 3 Year Warranty



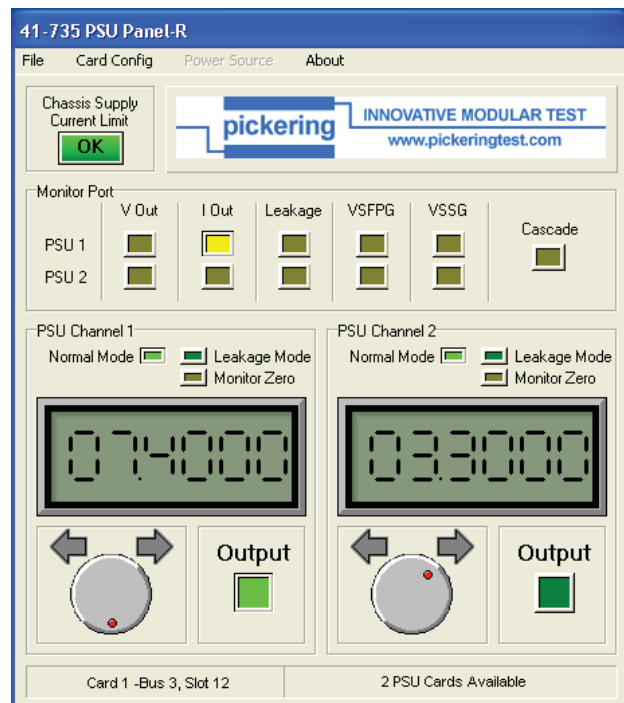
The 41-735 is a single slot power supply module providing two programmable positive output voltages. The module produces high quality regulated voltages from a linear regulator to ensure low levels of output noise. The module is perfect for exercising power to low power test targets and provides fine control of the DC output to allow accurate characterisation of device sensitivity and efficiency.

The module allows the power to be supplied either from the PXI +12V chassis supply or from an external power source.

Remote sense connections on both the positive and ground outputs are used to regulate the output voltage at the load, ensuring that wiring voltage drops do not affect measurement accuracy.

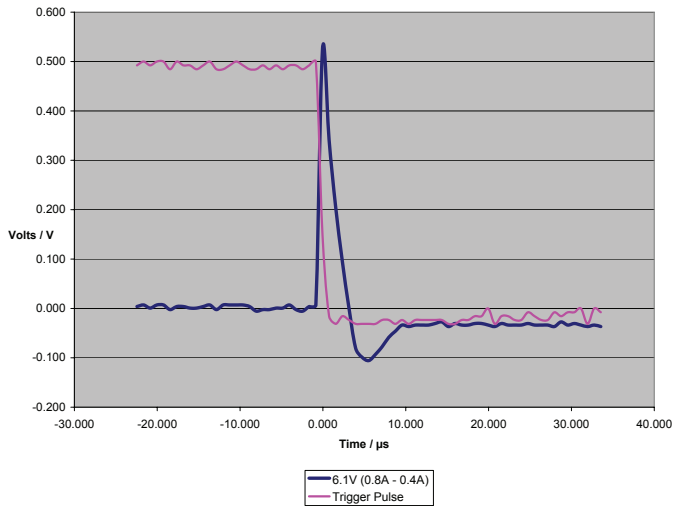
The monitor facility provides a simple and effective method of connection a DMM or Data Acquisition device. It allows the output voltages at the front panel or the load to be very accurately measured and for the current consumption of the load to be calculated. A special mode can be invoked to allow the measurement of leakage or standby current for devices with power sensitive applications. The monitor port is available on both the D-type connector and a dedicated monitor connector which allows easy daisy chaining of modules with a single DMM.

The 16-bit setting resolution of the output voltage combined with the accurate monitoring facility is perfect for characterizing device performance as a function of supply voltage.

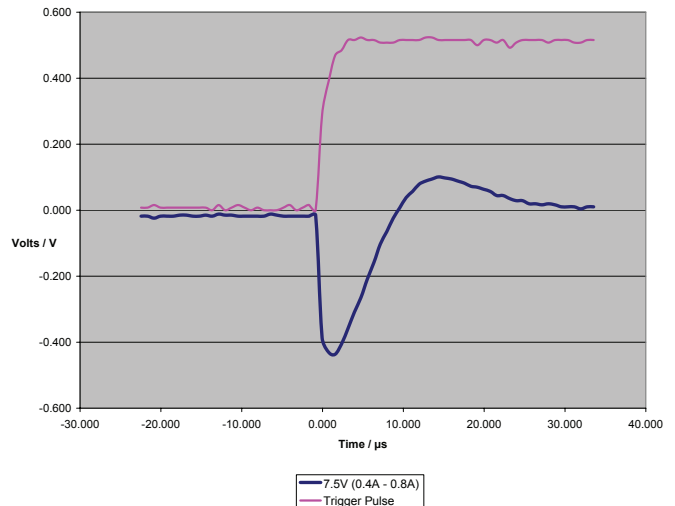


**41-735 Soft Front Panel**

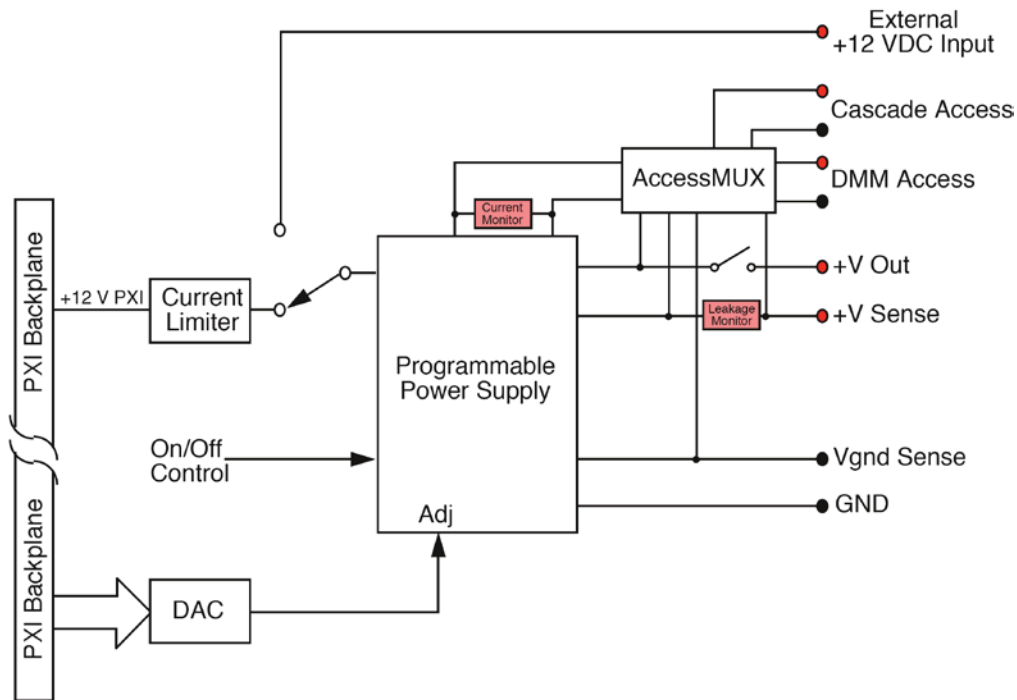
41-735 Transient Response (Typical)



41-735 Transient Response (Typical)



Transient Response Plots For 41-735 Power Supply Module



Block Diagram for 41-735 Power Supply Module

## Specification

Output Voltage:	0 to +10V, o/p is referenced to GND.
Remote Sense:	<p>Provided on positive and ground connections, maximum voltage drop 300mV on power connection leads.</p> <p>If sense is not connected automatically regulates the front panel voltage.</p>
Voltage Accuracy:	±0.5%, ±25mV. Output voltage can be monitored through monitor port.
Voltage Setting:	16-bit resolution.
Transient Response:	<25µs
Number of Channels:	2
Output Current:	<p>1 Amp each channel.</p> <p>When power is taken from the PXI chassis current consumption is limited to 1 Amp total.</p>
Sense Connection:	<p>On each output, the sense connection will compensate for a maximum voltage drop of 300mV on power feeds.</p> <p>Sense connections can be enabled and disabled under software control and include sense of remote ground.</p>
Load Ripple:	<<1mV measured from 10Hz to 100kHz
Protection:	<p>Short circuit protection.</p> <p>Thermal protection. Chassis +12V supply is protected by an active current limiter.</p> <p>Protected from accidental application of reverse voltages to 25V.</p>
Monitor:	<p>Built in Pickering Interfaces Monitor allows the use of an external DMM to measure voltage and current. Voltage measurement accuracy is as the DMM ±30µV. Load current is measured across a sense resistor. Accuracy is 1% ±0.3mA. Accuracy can be improved by using sense resistor calibration</p>

Leakage Monitor:	Allows the measurement of leakage current. Maximum current is 10µA. Accuracy ±2% ±3nA
Load Regulation:	Recovers in 20µs from a load current change of 1 Amp (full load).
On/Off Control:	Separate from voltage setting control. 20µs rise and fall time (no additional capacitive load, load current 1A).

## Power Requirements

+3.3V	+5V	+12V	-12V
0	0.15A	Up to 1A	0.05A

## 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 outputs via front panel 25-pin male D-type 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 Programmable +10V Power Supply    41-735-001**

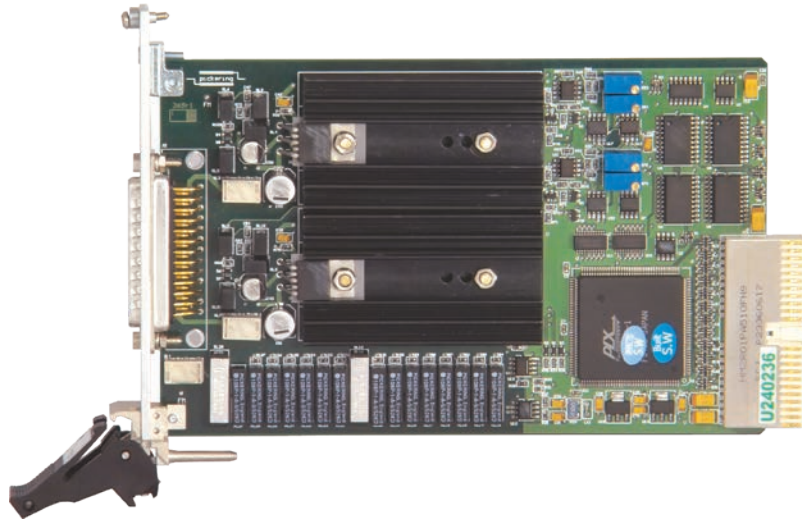
## Product Customization

Pickering 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.

## Mating Connectors & Cabling

For connection accessories for the 41-735 module please refer to the [90-008D](#) 25-pin D-type Connector Accessories data sheet where a complete list and documentation can be found for accessories, or refer to the Connection Solutions catalog.



## 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
- Pickering Interfaces LXI or LXI/USB Modular 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

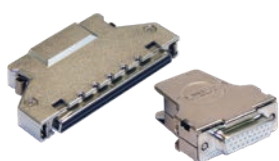
### Pickering LXI or LXI/USB Modular Chassis—only accept our 1000+ PXI Switching & Simulation Modules:

- Ethernet or USB control enables remote operation
- Low-cost control from practically any controller
- LXI provides manual control via Web browsers
- Driverless software support
- Power sequencing immunity
- Ethernet provides chassis/controller voltage isolation
- Independence from Windows operating system



## Connectivity Solutions

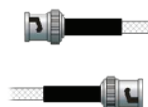
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed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



Connectors & Backshells



Multiwire 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](http://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](http://pickeringrelay.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](http://pickeringtest.com/os)

The VISA driver is also compatible with Real-Time Operating Systems such as LabVIEW RT. For other RTOS support contact Pickering. These drivers may be used with a variety of programming environments and applications including:

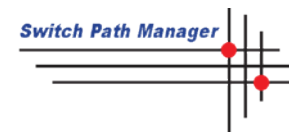
- **Pickering Interfaces Switch Path Manager**
- **National Instruments** products (LabVIEW, LabWindows/CVI, Switch Executive, MAX, TestStand, VeriStand, etc.)
- **Microsoft Visual Studio** products (Visual Basic, Visual C+)
- **Keysight** VEE and OpenTAP
- **Mathworks** Matlab
- **Marvin** ATEasy
- **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](http://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](http://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](http://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](http://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 have also published 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](http://pickeringtest.com/resources)