

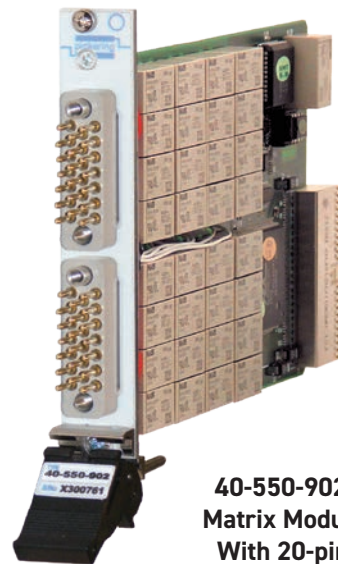
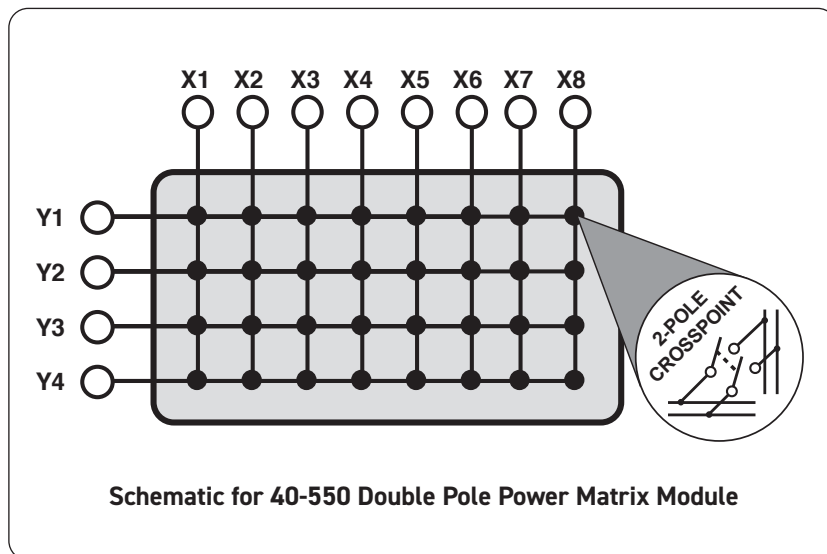
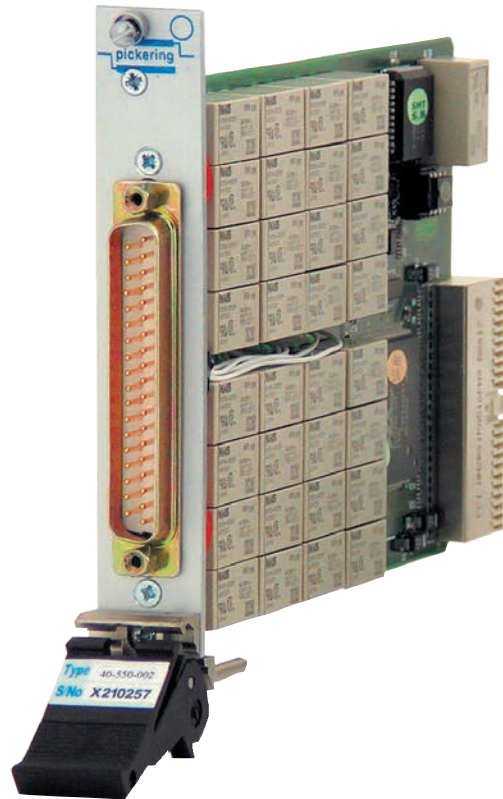
- Double Pole 8x4 Power Matrix
- 5A Current Rating With 150W/1250VA Maximum Power
- Hot Switch to 125VDC/250VAC, Cold Switch to 400VDC/250VAC
- Special Version For Heavy Current/Low Duty Cycle Power Switching Type 40-550-902
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty

Pickering Interfaces have a range of power switching PXI modules, available in relay, matrix or multiplexer configurations.

Model 40-550-001 is an 8x4 Power Matrix, suitable for switching inductive/capacitive loads up to 5A at 250VAC. Connections are made via a front panel 37-pin D-type male connector or two 20-pin GMCT male connectors which are fully supported by our comprehensive range of cables and connector accessories,

Power Matrix Modules are intended for switching heavy AC or DC loads or for slaving switching large external relays, contactors or solenoids.

The 40-550 Power Relay Module is suitable for applications requiring switching of either mains voltage or direct current.



40-550-902 Power Matrix Module Fitted With 20-pin GMCT Connectors

Relay Type

The 40-550 is fitted with electro-mechanical power relays, gold-flash over silver alloy. A spare relay is built onto the circuit board to allow easy maintenance with minimum downtime.

Switching Specification

Contact Type:	Gold flashed silver alloy
Cold Switching Capacity	
Maximum Current:	5A
Maximum Voltage:	400VDC/250VAC*
Hot Switching Capacity	
Maximum Current:	5A
Maximum Voltage:	125VDC/250VAC*
Maximum Power:†	150W/1250VA
Min. Switching Capacity:	10mA, 5VDC
Initial Path Resistance, On:	<250mΩ
Path Resistance, Off:	>10 ⁹ Ω
Thermal Offset:	<20μV
Bandwidth:	>20MHz
Operate Time:	10ms typical
Expected Life (operations) - resistive load	
Mechanical Life:	>5x10 ⁷
At Max. Switch Capacity:	>1x10 ⁵

* For full voltage rating, signal sources to be switched must be fully isolated from mains supply and safety earth.

† For variation of maximum hot switching capacity of voltage with current refer to plot.

Additional Switching Specification (40-550-902)

The 40-550-902 is a special variant designed for cold switching of very high currents at low duty cycle, e.g. 40A for 3ms (1% duty cycle).
For further details please contact factory
Initial On Path Resistance: <200mΩ
This module is fitted with higher capacity connectors and internal cabling.

Power Requirements

+3.3V	+5V	+12V	-12V
0	360mA (typ 280mA)	0	0

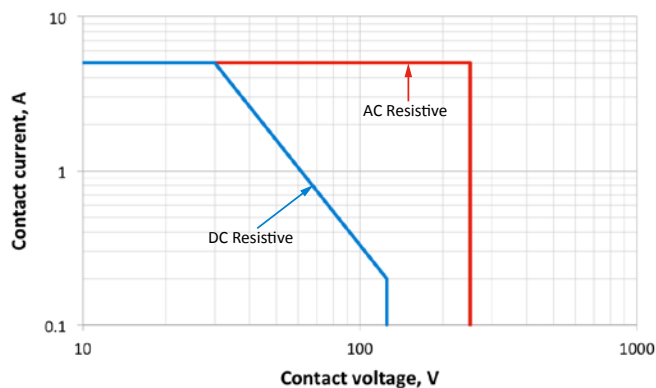
Mechanical Characteristics

Single slot 3U PXI (CompactPCI card).

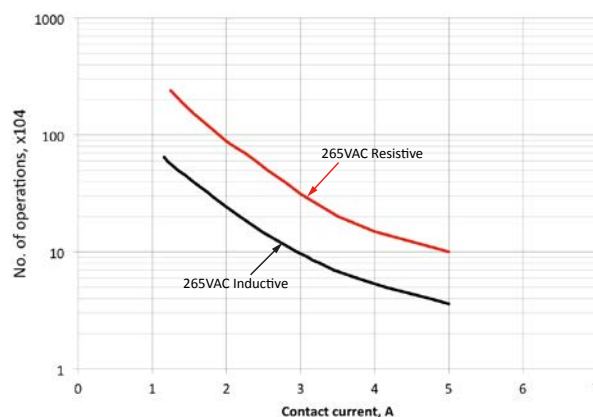
Module weight: 300g (40-550-002).

300g (40-550-902).

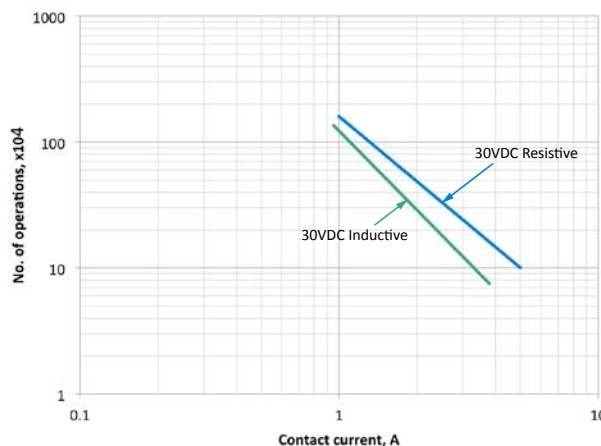
3D models for all versions in a variety of popular file formats are available on request.



40-550 Current/Voltage Curve



40-550 AC Operating Life Curve



40-550 DC Operating Life Curve

Connectors

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

Signals via front panel connectors:

- 40-550-002 37-pin male D-type
- 40-550-902 2 x 20-pin male GMCT

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

8x4 Power Matrix, 2-Pole, D-type Conn	40-550-002
8x4 Power Matrix, 2-Pole, 2xGMCT	40-550-902

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.

Customization can include:

- Alternative relay types
- Mixture of relay types
- Alternative number of relays
- Different performance specifications

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.

Support Products

Spare Relay Kits

Kits of replacement relays are available for the majority of Pickering's PXI switching products, simplifying servicing and reducing down-time.

Product	Relay Kit
40-550-002	91-100-032 (Relay Kit 32)
40-550-902	91-100-032 (Relay Kit 32)

For further assistance, please contact your local Pickering sales office.

Mating Connectors & Cabling

For connection accessories for the 40-550 series please refer to the [90-007D](#) 37-pin D-type and [90-014D](#) 20-pin GMCT 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.



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 sister company, Pickering Electronics. These instrument grade reed relays feature **SoftCenter®** technology, ensuring long service life and repeatable contact performance.

To learn more, please go to: 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

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

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, as well as complete product catalogs and product reference maps to assist when looking for the switching, simulation and cable and connector 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