PXI 16A Power Multiplexer 40-662A

- High Density, High Current Switching
- Quad 4 Channel 1 Pole, Dual 8 Channel 1 Pole, or Single 16 Channel 1 Pole
- Partially Populated Versions Available
- 16A Maximum Switch Current
- Switch up to 300VDC or 250VAC
- 448W/4000VA Maximum Power
- 400VDC Standoff Voltage
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty

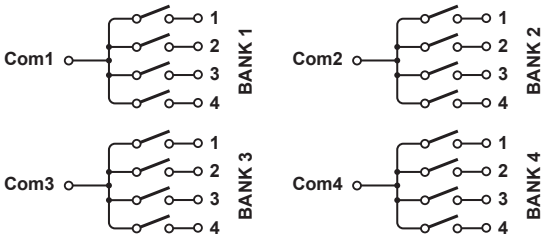
20-pin 16 Amp Power Connector

The 40-662A module range has a choice of 1-pole power multiplexers in fully populated and partially populated configurations as shown in the diagrams below. All versions are suitable for switching loads up to 16A at 250VAC.

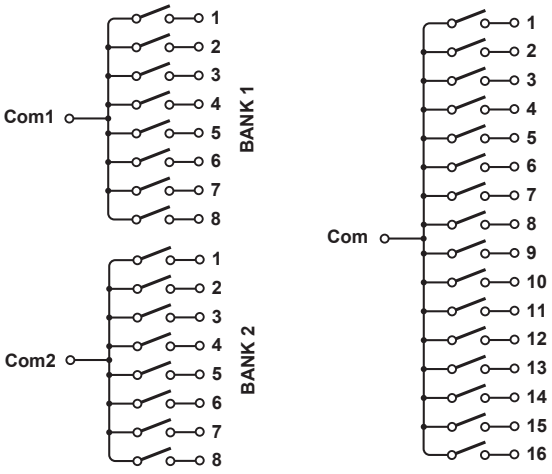
The 40-662A can be operated as a conventional multiplexer with break-before-make action when a new channel is selected. Alternatively, product variants can be supplied that allow multiple channels to be simultaneously selected.

Model 40-662A channel selection configurations have been revised from model 40-662. The 40-662A module defaults to single channel selection with multiple channel selection variants defined by use of a suffix.

Fully Populated Multiplexer Modules



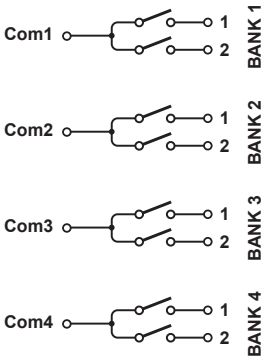
40-662A-001 MUX Quad 4-Channel 1-Pole



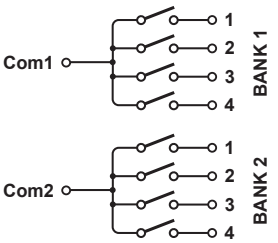
40-662A-002 MUX Dual 8-Channel 1-Pole

40-662A-003 MUX Single 16-Channel 1-Pole

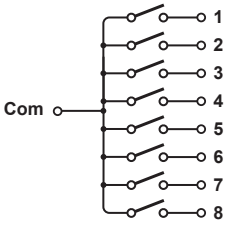
Partially Populated Multiplexer Modules



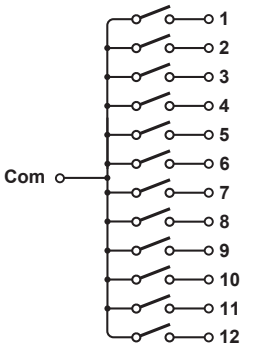
40-662A-011 MUX Quad 2-Channel 1-Pole



40-662A-012 MUX Dual 4-Channel 1-Pole



40-662A-013 MUX Single 8-Channel 1-Pole



40-662A-014 MUX Single 12-Channel 1-Pole

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Relay Type

The 40-662A is fitted with electro-mechanical power relays with silver alloy contacts.

Switching Specification

Relay Type:	Electro-mechanical power relay
Contact Type:	Silver Alloy (AgNi)
Cold Switching Capacity	
Maximum Current:	16A
Maximum Voltage:	400VDC/250VAC*
Hot Switching Capacity (Resistive Load)	
Maximum Current:	16A
Maximum Voltage:	300VDC/250VAC*
Maximum Power:	448W/4000VA
Minimum Switching Capacity:	100mA, 12V
Maximum Continuous Total Switch Path Loading:	Can carry 16A on all MUXs at the same time
Module Thermal Time Constant:	4 minutes typical
Maximum Standoff Voltage:	400VDC
Initial Path Resistance, On:	<20mΩ (12mΩ typical)
Path Resistance, Off:	$>10^9\Omega$
Bandwidth:	>10MHz
Typical Operate Time:	17ms typical, 8.5ms for multichannel mode
Expected Life (operations)	
Mechanical Endurance:	$>3x10^7$
Maximum Switch Capacity (Resistive Load)	
16A @ 250VAC (4000VA):	$1x10^5$
8A @ 30VDC (240W):	$>1x10^5$ (NC/NO Contacts, Frequency of Operation 0.1Hz, Duty Cycle 90%)
16A @ 28VDC (448W):	$>1x10^5$ (NC/NO Contacts, Frequency of Operation 0.1Hz, Duty Cycle 90%)

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

Power Requirements

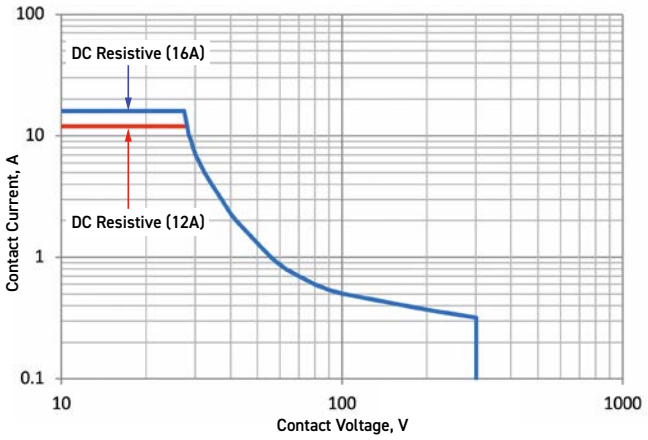
+3.3V	+5V	+12V	-12V
0	1.3A max	0	0

Mechanical Characteristics

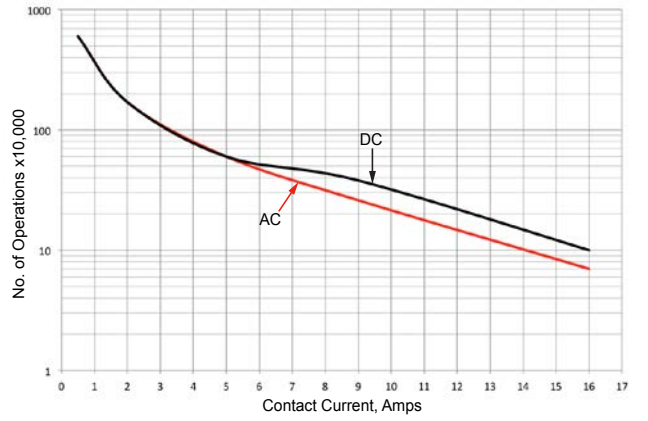
Single slot 3U PXI (CompactPCI card). Module weight: 400g typical
3D models for all versions in a variety of popular file formats are available on request.

Connectors

PXI bus via 32-bit P1/J1 backplane connector.
Signals via front panel 20-pin male GMCT connector, for pin outs please refer to the operating manual.



40-662A Maximum Switching Capacity



40-662A Operations Versus Hot Switch Current at Rated Power

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 - Fully Populated Configurations

Channel Selection	Model Variant	Order Code
Single	**16A MUX, Quad 4-Channel, 1-Pole**	**40-662A-001**
Single	**16A MUX, Dual 8-Channel, 1-Pole**	**40-662A-002**
Single	**16A MUX, Single 16-Channel, 1-Pole**	**40-662A-003**

Note: The above modules are available in multiple channel selection mode by adding the "-M" suffix to the part number. For example, the quad 4-channel 1-pole MUX with multiple channel capability would be: **40-662A-001-M**

Product Order Codes - Partially Populated Configurations

Channel Selection	Model Variant	Order Code
Single	**16A MUX, Quad 2-Channel, 1-Pole**	**40-662A-011**
Single	**16A MUX, Dual 4-Channel, 1-Pole**	**40-662A-012**
Single	**16A MUX, Single 8-Channel, 1-Pole**	**40-662A-013**
Single	**16A MUX, Single 12-Channel, 1-Pole**	**40-662A-014**

Note: The above modules are available in multiple channel selection mode by adding the "-M" suffix to the part number. For example, the quad 2-channel 1-pole MUX with multiple channel capability would be: **40-662A-011-M**

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
40-662A	**91-100-092**

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

Mating Connectors & Cabling

For connection accessories for the 40-662A please refer to the 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:

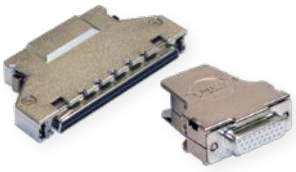
- Mix our 1000+ PXI switching & simulation modules with any vendor's PXI instrumentation
- Embedded or remote Windows PC control
- Real-time Operating System Support
- High data bandwidths, especially with PXI Express
- Integrated module timing and synchronization

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

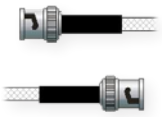
Connectivity Solutions

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.

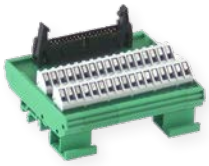


Connectors & Backshells

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

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

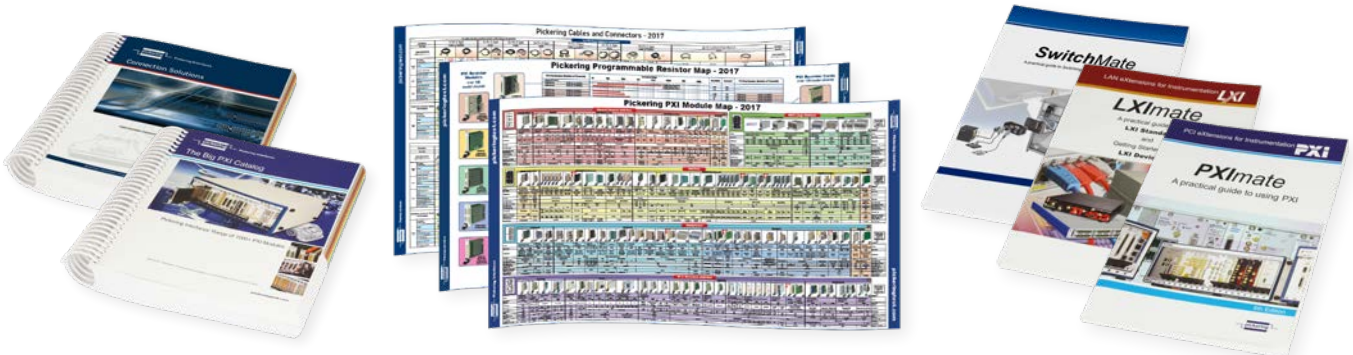
eBIRST Switching System Test Tools are designed specifically for our PXI, PCI or LXI products, these tools simplify switching system fault-finding by quickly testing the system and graphically identifying the faulty relay.
To learn more, please go to: pickeringtest.com/ebirst

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