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PXI High Density 10A Power Multiplexer 40-661

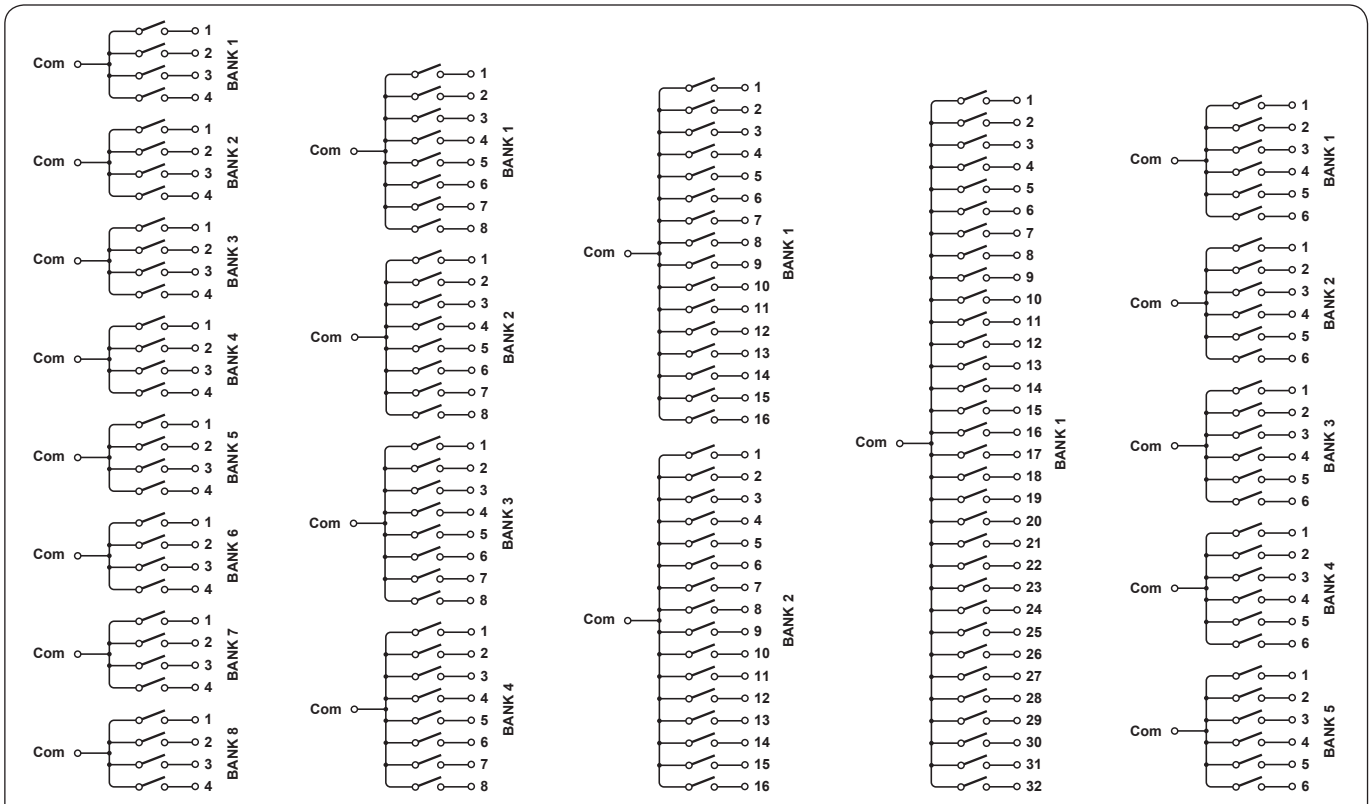
- High Density, High Current Switching
- 1-Pole Power Multiplexer Available as 8-Bank 4-Channel, 5-Bank 6-Channel, 4-Bank 8-Channel, 2-Bank 16-Channel or 1-Bank 32-Channel
- 3 Half Density Options
- 10A Current Rating With 300W/2500VA Maximum Power
- Hot Switch to 125VDC/250VAC, Cold Switch to 400VDC/250VAC
- High Quality Electro-mechanical Relays
- VISA, IVI & Kernel Drivers Supplied for Windows
- Supported by PXI or LXI Chassis
- 3 Year Warranty



The 40-661 is a single pole power multiplexer module, suitable for switching inductive/capacitive loads up to 10A with 125VDC/250VAC hot switching and 400VDC/250VAC cold switching. The multiplexer is available in 5 standard formats as shown below. Also, 4-bank 4-channel, 2-bank 8-channel and 1-bank 16-channel half density configurations are available.Signal connections are via front panel mounted 20-pin GMCT plugs.

The 40-661 allows multiple channels to be simultaneously selected. Alternatively, product variants can be supplied that operate as a conventional multiplexer with break-before-make action when a new channel is selected.

Applications for power multiplexers are switching heavy AC or DC loads or slave switching large external relays, contactors or solenoids. The module is suitable for switching mains voltage or direct current.



40-661-001
8-Bank 4-Channel, 1-Pole MUX

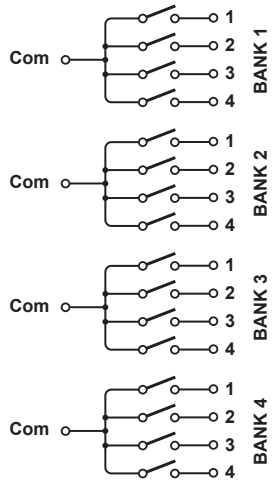
40-661-002
4-Bank 8-Channel, 1-Pole MUX

40-661-003
2-Bank 16-Channel, 1-Pole MUX

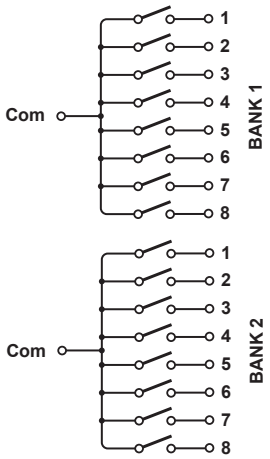
40-661-004
1-Bank 32-Channel, 1-Pole MUX

40-661-005
5-Bank 6-Channel, 1-Pole MUX

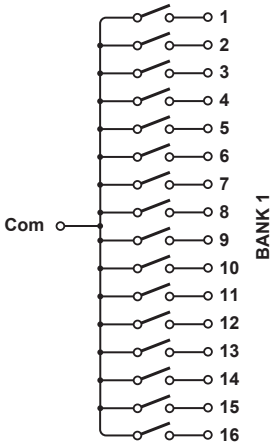
ISSUE 3.0 NOV 2018



40-661-101 Half Density
4-Bank 4-Channel, 1-Pole MUX



40-661-102 Half Density
2-Bank 8-Channel, 1-Pole MUX



40-661-103 Half Density
1-Bank 16-Channel, 1-Pole MUX

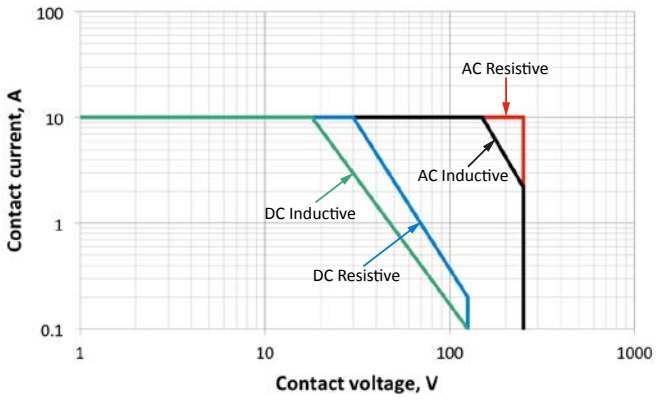
Relay Type

The 40-661 is fitted with high quality electro-mechanical power relays, gold-flash over silver alloy.

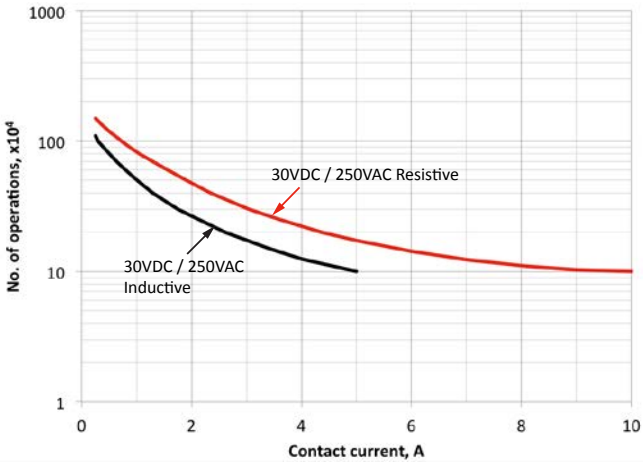
Switching Specification

Contact Type:	Gold flash over silver alloy
Cold Switching Capacity Maximum Current: Maximum Voltage:	 10A 400VDC/250VAC*
Hot Switching Capacity Maximum Current: Maximum Voltage: Maximum Power: † Min. Switching Capacity:	 10A 125VDC/250VAC* 300W/2500VA 10mA, 5VDC
Typical Pulse Capability: Max Continuous Total Switch Path Loading:	Cold Switch 20A for 100ms under low duty cycle conditions (please contact sales office for further advice) All multiplexer banks capable of carrying 10A at the same time.
Initial Path Resistance, On: Path Resistance, Off:	<50mΩ at 10A $>10^9$Ω
Bandwidth:	10MHz
Operate Time:	21ms typical, 10.5ms for multichannel mode
Expected Life - resistive load ‡ Mechanical Life: At Max. Switch Capacity:	 $>5x10^7$ operations $>1x10^5$ operations

* 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.
‡ As switch life deteriorates rapidly when hot switching signals above 30VDC, it is advisable to only cold switch above this level.



40-661 Maximum Hot Switch Voltage Versus Current



40-661 Current/Operating Life Curve for Hot Switching

Power Requirements

+3.3V	+5V	+12V	-12V
0.17A	0	0.15A	0

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.
Signals via front panel 2 x 20-pin GMCT male connectors (Standard configurations) or 1 x 20-pin GMCT male connector (Half Density configurations), 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 - Standard Configurations

Channel Selection	Model Variant	Order Code
Multiple	**10A MUX, 8-Bank, 4-Ch, 1-Pole**	**40-661-001**
Multiple	**10A MUX, 4-Bank, 8-Ch, 1-Pole**	**40-661-002**
Multiple	**10A MUX, 2-Bank, 16-Ch, 1-Pole**	**40-661-003**
Multiple	**10A MUX, 1-Bank, 32-Ch, 1-Pole**	**40-661-004**
Multiple	**10A MUX, 5-Bank, 6-Ch, 1-Pole**	**40-661-005**

Note: Contact factory if the above modules are required in single channel selection mode.

Product Order Codes - Half Density Configurations

Channel Selection	Model Variant	Order Code
Multiple	**10A MUX, 4-Bank, 4-Ch, 1-Pole**	**40-661-101**
Multiple	**10A MUX, 2-Bank, 8-Ch, 1-Pole**	**40-661-102**
Multiple	**10A MUX, 1-Bank, 16-Ch, 1-Pole**	**40-661-103**

Note: Contact factory if the above modules are required in single channel selection mode.

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
All Types except 40-661-005	**91-100-071 (Relay Kit 71)**

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

Mating Connectors & Cabling

For connection accessories for the 40-661 module 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

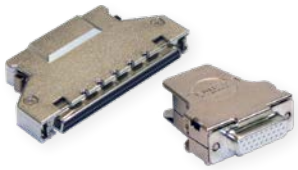
Pickering LXI or LXI/USB Modular Chassis—only accept our 1000+ PXI Switching & Simulation Modules:

- 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

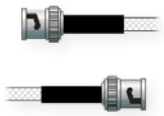
We provide a full range of supporting cable and connector solutions for all our switching products—20 connector families with 1200+ products. We offer everything from simple mating connectors to complex cables assemblies and terminal blocks. All assemblies are manufactured by Pickering and are guaranteed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



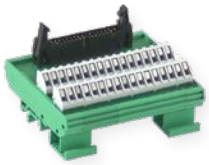
Connectors & Backshells



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 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
- **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

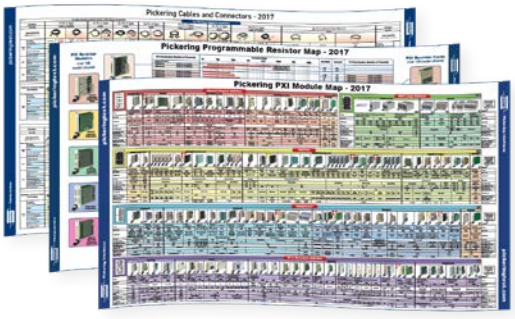
Three Year Warranty & Guaranteed Long-Term Support

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 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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Pickering Interfaces maintains a commitment to continuous product development, consequently we reserve the right to vary from the description given in this data sheet.

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

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