PRELIMINARY DATA

- PXIe Compliant Embedded Controller Module
- PXI™-5 PXI Express Hardware Spec. Rev.2.0 Compliant
- Maximum System Throughput 14 GB/s
  - 4-Link Configuration: x4 x1 x4 x1
  - 2-Link Configuration: x4 x4 PCIe Gen4/PCIe Gen3
- 1 TB m.2 NVMe SSD & 32 GB DDR4 RAM
- 11th Gen Intel® Core™ I5-1145G7E Processor
- Compact Form Factor for Versatile Applications
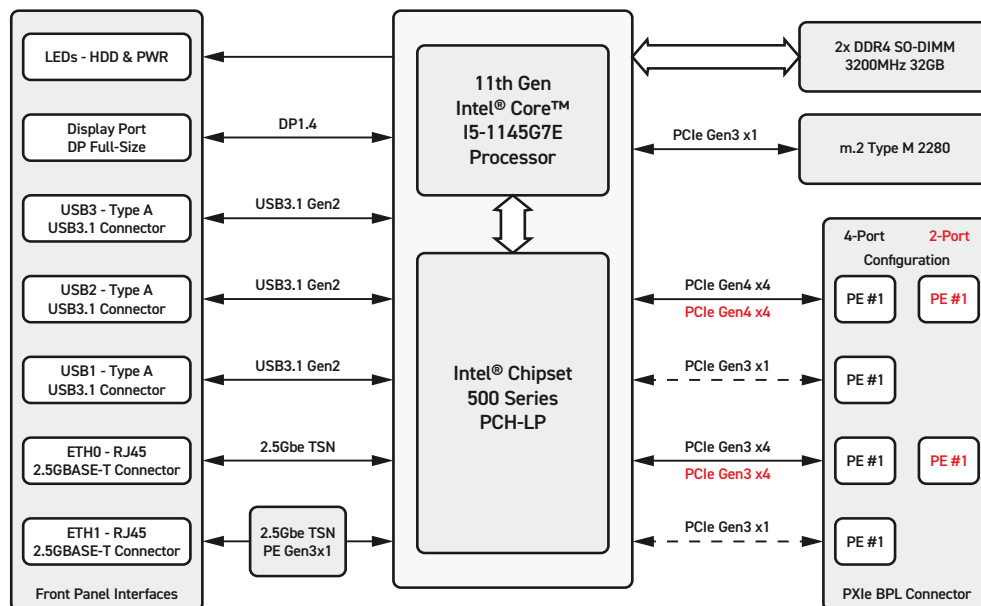- Fully Customizable AMI Aptio® Embedded BIOS
- 2 Year Warranty

The 43-920-001 PXIe embedded controller is the most compact and powerful 3U one-slot embedded controller for the PXI Express and CPCIexp platforms. With its huge and future-ready interface capabilities, it runs perfectly with most test and measurement applications.

The Controller is driven by a 11th generation Intel® Core™ i5 processor combined with 32 GB DDR4 memory and easily supports high bandwidth applications with future ready PCIe Gen4 and dual 2500BASE-T system interconnectivity.

Factory configuration service including windows license and driver installation available. Order 43-920-WIN in addition to 43-920-001.

PXIe Embedded Controller Architecture (Part No. 43-920-001)

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PRELIMINARY DATA

Specification

CPU:	i5-1145G7E 4x 1.5 GHz, 12 MB Cache
Chipset:	RM590E/QM580E/HM570E
DRAM:	32 GB 3200 MHz DDR4
Graphics:	Integrated Xe (Gen12) graphics with 96 EU
Storage:	m.2 Type M NVMe Samsung EVO980PRO (1 TB)
I/O Ports:	2x 2.5GBASE-T 2x USB3.1 Type A DP 1.4
Power:	Peak: 45 W TDP: 20 W

Mechanical Characteristics

Form Factor: 3 U, 1 Slot PXIe/CPCIexp System Slot

Dimensions: 20.3 mm x 128.7 mm x 213.2 mm

Weight: 0.38 kg

Connectors

Front panel connectors:

- Display Port - Full-size DP socket
- USB1 - USB type A socket
- USB2 - USB type A socket
- USB3 - USB type A socket
- ETH0 - RJ45 Ethernet socket
- ETH1 - RJ45 Ethernet socket

Product Order Codes

PXIe Embedded Controller Module	43-920-001
Windows License & Configuration	43-920-WIN

Operating/Storage Conditions

Operating Temperature:	0 °C to +45 °C
Humidity:	Up to 90 % non-condensing
Altitude:	5000 m

Storage Temperature:	-20 °C to +80 °C
Humidity:	Up to 90 % non-condensing
Altitude:	15000 m

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.

PRELIMINARY DATA

PXI Switching and Sensor Simulation

Pickering is a leading manufacturer of PXI switching and sensor simulation modules, available in PXI and PXIe formats. With our deep portfolio of over 1,000 modules, we provide the assurance that you can optimize your test system switching and simulation to exactly fit your needs. These modules range from the highest density switching matrices, RF/Microwave and optical switching, to sensor simulation, including programmable resistors, strain gauge, battery and thermocouple simulators.
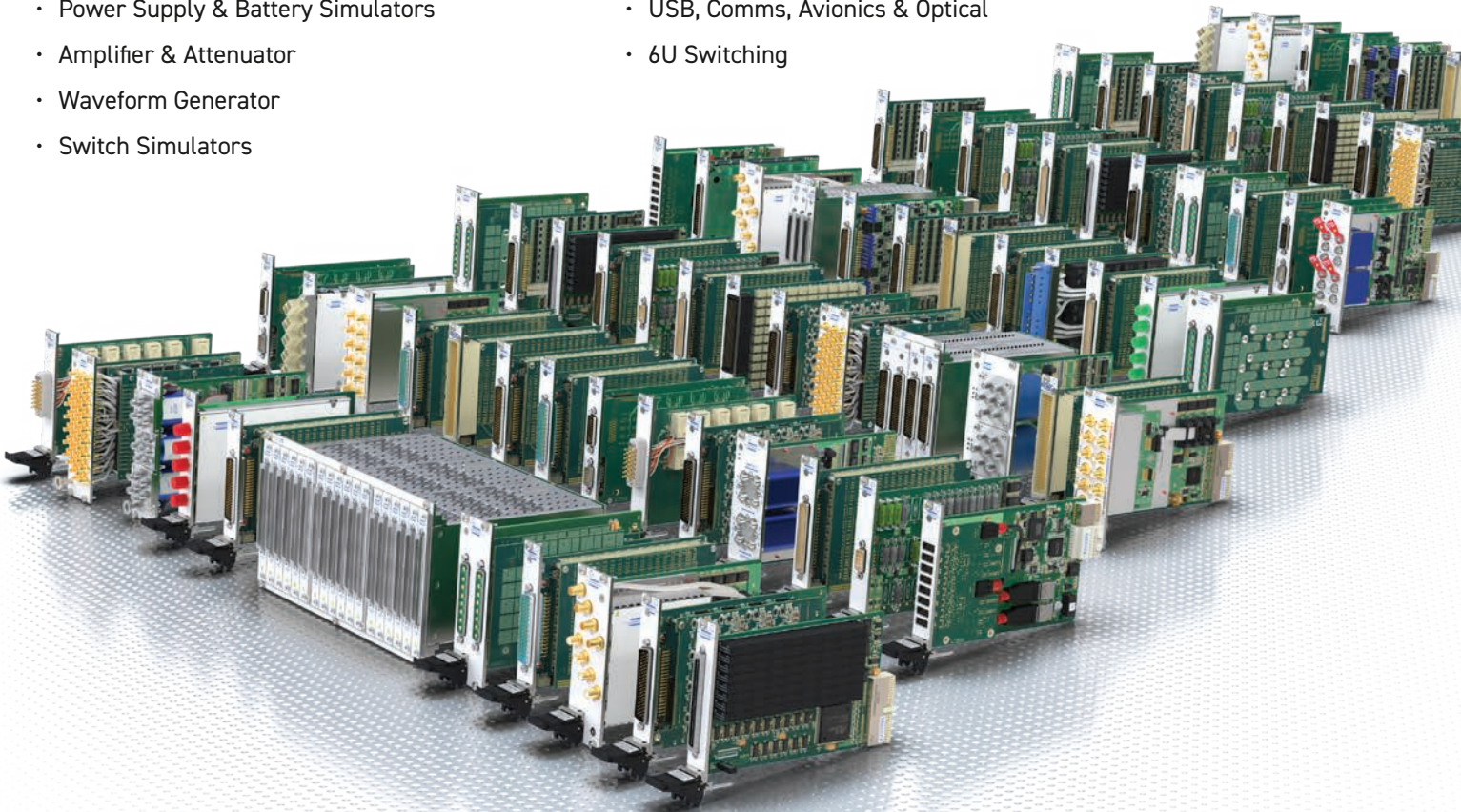
Please refer to the categories below and visit **pickeringtest.com/pxi** to find the products you need:

Sensor Simulation

- Programmable Resistors
- Thermocouple Simulators
- LVDT/RVDT/Resolver Simulators
- Analog Output/Current Loop Simulators
- Strain Gauge Simulators
- Digital I/O and Prototype
- Power Supply & Battery Simulators
- Amplifier & Attenuator
- Waveform Generator
- Switch Simulators

Switching

- General Purpose Relay
- BRIC™ Large Matrices
- Matrices
- Multiplexers
- RF & Microwave
- Fault Insertion
- USB, Comms, Avionics & Optical
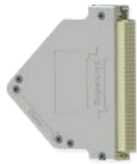- 6U Switching

All of our PXI modules will plug into any PXI compliant chassis or a Hybrid Slot in a PXIe chassis and may also be used in our Ethernet controlled modular LXI switching chassis. Our PXIe modules will plug into any compliant PXIe slot or Hybrid Slot in a PXIe chassis.
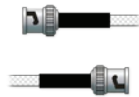
PRELIMINARY DATA

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. These accessories are detailed in Connector Accessories data sheets, where a complete list and documentation can be found for each accessory.

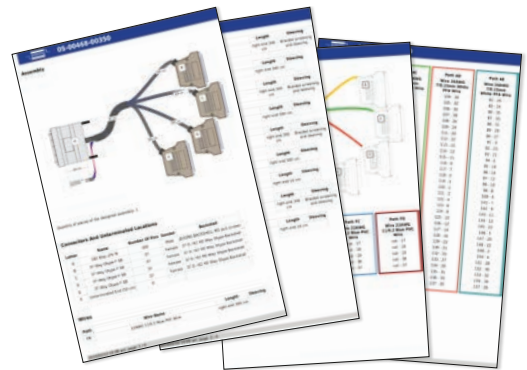| Connectors & Backshells | Multi-way Cable Assemblies | RF Cable Assemblies | Breakouts | Connector Blocks |

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.

- Fully supported on modern browsers and tablet operating systems.
- Built-in tutorials and videos allow you to get quickly up to speed.
- Store cable assemblies in the Cloud and develop over time.
- Each cable design has a downloadable PDF documentation file detailing all specifications

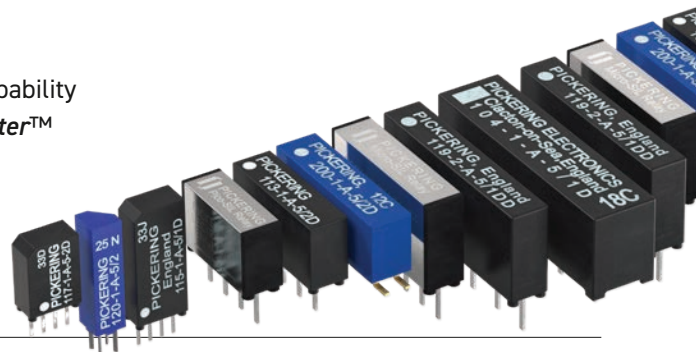Start designing your custom cabling, go to pickeringtest.com/cdt

Mass Interconnect

We recommend the use of a mass interconnect solution when an Interchangeable Test Adapter (ITA) is required for PXI/LXI based test systems. Our modules are fully supported by 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 go to pickeringrelay.com

PRELIMINARY DATA

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 more information go to 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, Simulink**
- **Marvin** ATEasy
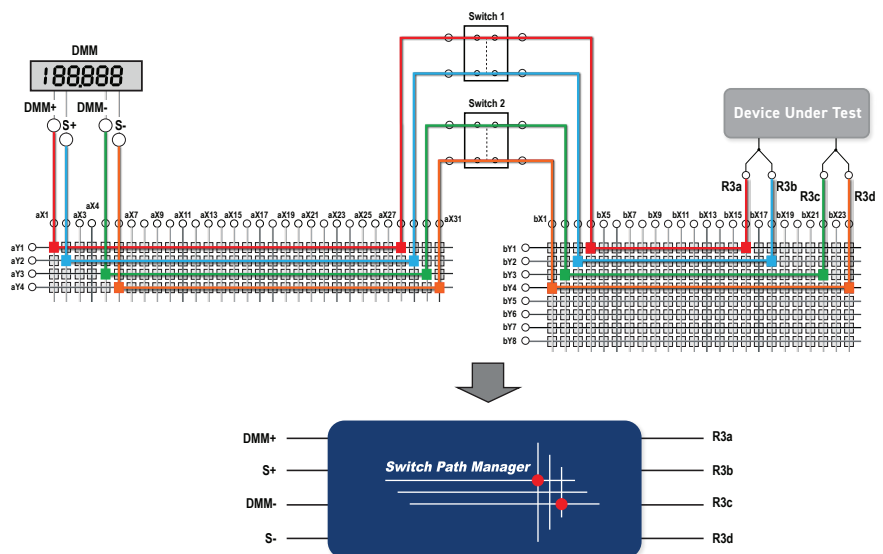- **MTQ Testsolutions** Tecap Test & Measurement Suite

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 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 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 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 three years from the date of delivery to the original purchaser. Extended warranty and service agreements are available with various levels for 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 go to pickeringtest.com/support

Available Product Resources

We have a library of resources including success stories, product and support videos, articles and white papers as well as application-specific brochures to assist you. We have also published reference books on switching technology and the PXI and LXI standards.

To view, download or request any of our product resources go to pickeringtest.com/resources

PRELIMINARY DATA