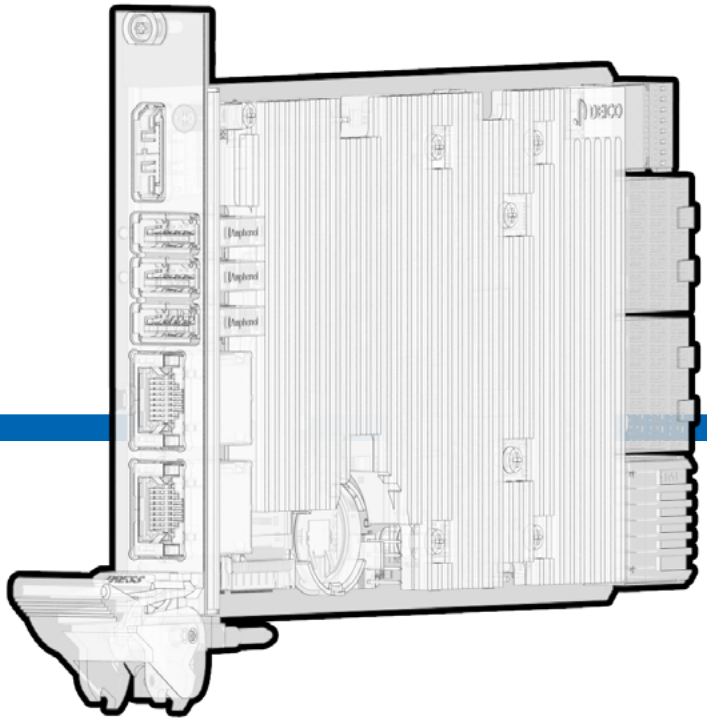
Datasheet



DE140120

PXIe Controller Module

SMARC

DEICO

www.deico.com.tr

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1. Description

PXIe Controller Module SMARC is a single slot PXI Express system controller. This device controls all peripheral modules and chassis in 4-link configuration. It has 2 x Ethernet, 2 x USB 3.2 Type-A, 1 x USB 2.0 Type-A, 1 x DisplayPort 1.4a, reset button, LED indicators on the front panel. It communicates with peripheral modules using PCIe lanes.

1.1. Key Features

- 2 x 2.5 Gb/s Ethernet
- 2 x USB 3.2 Type-A, 1 x USB 2.0 Type-A
- 1 x DisplayPort 1.4
- 4-Link (x1, x1, x1, x1)
- **Maximum Controller Bandwidth:** 4 GB/s
- **PCIe Link Speed:** 8 GT/s
- **Graphics:** Intel® UHD Graphics
- **CPU:** Intel® Processor i3-N305 / Intel® Atom® x7425E (optional)
- **Memory:** 8 GB / 16 GB DDR5 4800 MT/s (optional)
- **Storage:** 512 GB M.2, SATA Gen3
- **Operating System:** Windows 11

DE140120 is compatible with IEC 60068-2-1 / IEC 60068-2-2 / IEC 60068-2-78 / IEC 60068-2-27 / IEC 60068-2-64 / EN 61326 (IEC 61326) / EN 55011 (CISPR 11) / AS / NZS CISPR 11 / FCC 47 CFR Part 15B / ICES-001 standards.

Areas of application include:

- PXIe based test systems
- LAB usage
- Modular test systems
- Automated test equipment

2. Hardware Overview

2.1. Functional Block Diagram

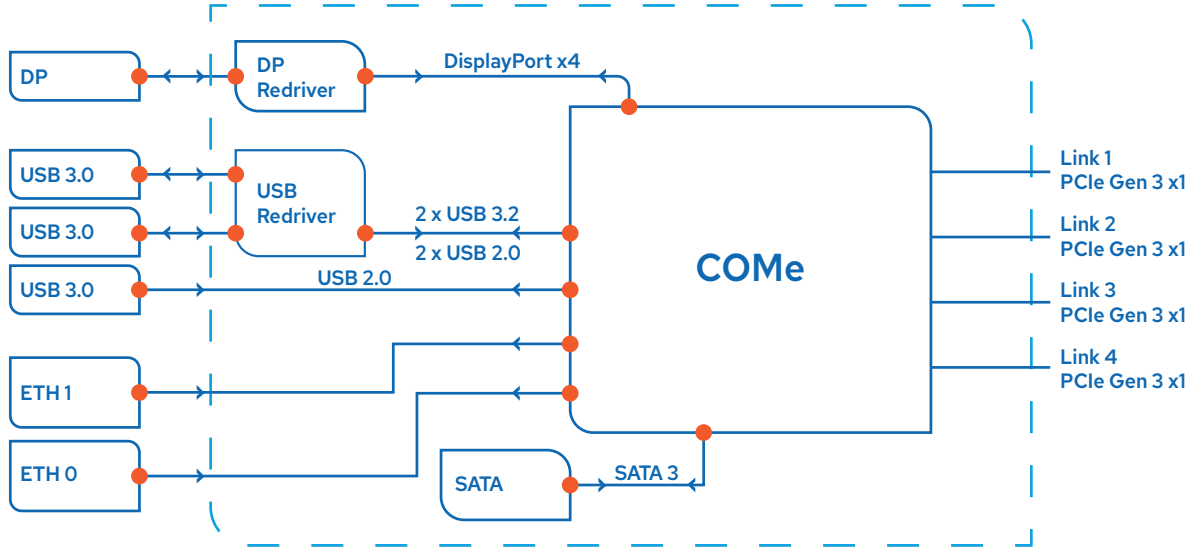


Figure 1: Chassis PCIe Connection Diagram

2.2. Hardware Specifications

2.2.1. Electrical

Table 1: Electrical Specifications

Specification	Min	Typ	Max	Notes
Current from 3.3 V	–	0.2 A	1 A	–
Current from 5 V	–	2 A	7 A	–
Current from 12 V	–	0.5 A	2 A	–
Current from 5 Vaux	–	0.2 A	1 A	–
Ethernet Data Rate	–	–	2.5 Gb/s	–
USB 3.2 Data Rate	–	–	10 Gb/s	–
USB 2.0 Data Rate	–	–	480 Mb/s	–
DisplayPort Version	–	DisplayPort 1.4a	–	–
DisplayPort Resolution	–	–	4096 x 2304	@ 60Hz, 36bpp
PXI Express Link Configuration	–	4-Link	–	x1, x1, x1, x1
PCI Express Link Speed	–	8 GT/s	–	Gen 3

2.2.2. Features

Table 2: Optional Features

Features	OPT1 Description	OPT2 Description
CPU	Intel® Processor I3-N305	Intel® Atom® x7425E
Core	8 Core	Quad Core
Speed	1.8 GHz up to 3.8 GHz Turbo	1.5 GHz up to 3.4 GHz Turbo
Cache	6 MB Intel® Smart Cache	6 MB Intel® Smart Cache
Graphics	Intel® UHD Graphics	Intel® UHD Graphics
Platform	Intel® Alder Lake-N	Intel® Alder Lake-N and Intel® Amston Lake
Memory	16 GB DDR5 4800 MT/s	8 GB DDR5 4800 MT/s
Storage	512 GB M.2, SATA Gen 3 128 GB EMMC 5.1	512 GB M.2, SATA Gen 3 32 GB EMMC 5.1
Operating System	Windows 11	Windows 11

2.2.3. Physical

Table 3: Physical Specifications

Specification	Description
Dimensions (L / W)	212.23 mm x 20 mm
Height (H)	130.8 mm

2.2.4. Environmental

Table 4: Environmental Specifications

Specification	Condition	Value
Operating Humidity	Relative, non-condensing	10% - 90%
Storage Humidity	Relative, non-condensing	5% - 95%
Operating Temperature	Forced-air cooling from chassis	0 °C - +55 °C
Storage Temperature	–	-40 °C – +71 °C

3. Software Overview

This device is PXI Express compatible.

4. Signal Connections

4.1. LED Indicators

LED functions are given below.

Table 5: LED Functions

Mode	Function
DRV	Indicates when an access to the internal drive is occurring.
PWR	Indicates when the power is good.

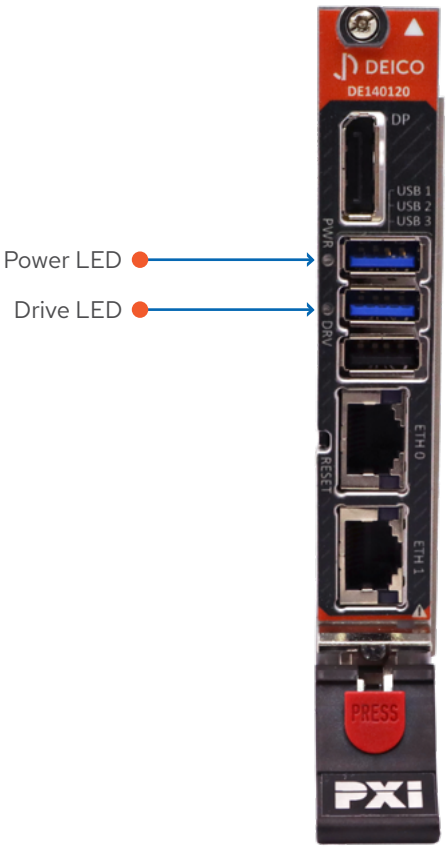


Figure 2: Front Panel View of the DE140120 Module Showing Power and Drive LEDs

5. Safety Guidelines

Caution

The DE140120 shall not be operated in any manner not specified in this document. Misuse of the product may result in a hazard. Safety protection features may be compromised if the product is damaged. In the event of damage, the product shall be returned for repair.

6. Compatibility Guidelines

This product has been tested and found to comply with the applicable regulatory requirements and limits for electromagnetic compatibility (EMC). These requirements and limits are intended to provide reasonable protection against harmful interference when the product is operated within the specified electromagnetic environment.

This product is intended for use in industrial locations. However, harmful interference may occur in certain installations if the product is connected to peripheral devices or test objects, or if it is used in residential or commercial areas. To minimize interference with radio and television reception and to prevent unacceptable performance degradation, the product shall be installed and operated in strict accordance with the instructions specified in the product documentation.

Any changes or modifications to the product not expressly approved by DEICO may void the user's authority to operate the equipment under local regulatory rules.



To ensure the specified EMC performance, the product shall be operated only with shielded cables and accessories.



To ensure the specified EMC performance, the length of any cable attached to front connectors must not be longer than 3 m (10 ft.)

7. Supporting Products & Software

DE140120 could be used with related modules.