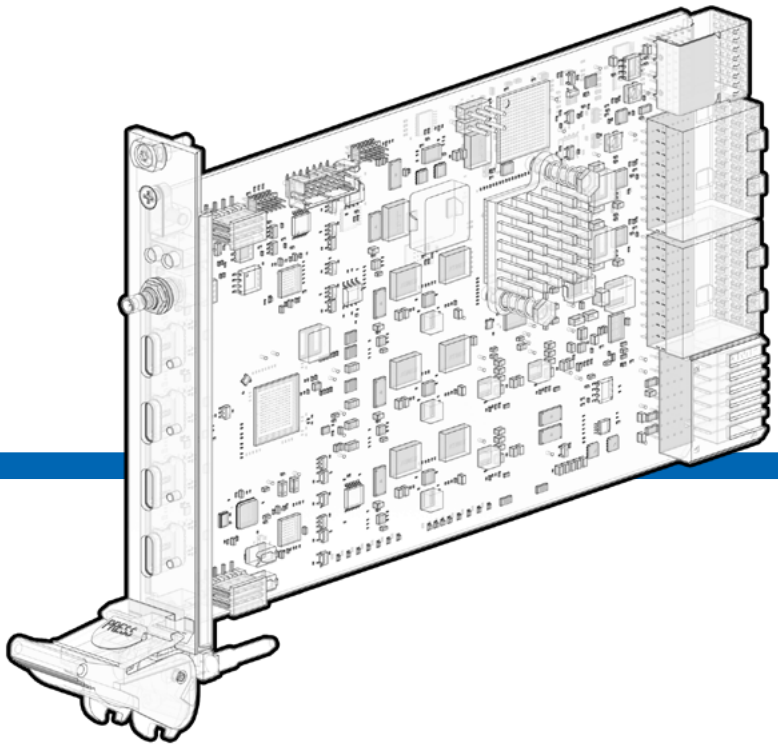
Datasheet



DE140130

PXIe Thunderbolt Controller Module

DEICO

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1. Description

DE140130 PXIe Thunderbolt Controller Module is a single slot PXI Express remote controller. This device controls all peripheral modules and chassis in 4-link configuration. It has 1 upstream Thunderbolt™ port, 3 downstream Thunderbolt™ ports, 1 external trigger input/output and 2 user LEDs.

1.1. Key Features

- 1 Thunderbolt™ 5, 80 Gb/s upstream port
- 3 Thunderbolt™ 5, 80 Gb/s downstream port
- 1 external trigger input/output
- 2 user controlled LEDs
- 4-link PCIe Gen3 x4 connection
- Maximum controller PCIe bandwidth: 4 GB/s
- Supported cable: copper
- Supports daisy chaining: yes
- Communication level: Thunderbolt 5

DE140130 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.

Typical Applications

- LAB usage
- Modular test systems
- Automated Test Equipment (ATE)
- PXIe based test systems

2. Hardware Overview

2.1. Functional Block Diagram

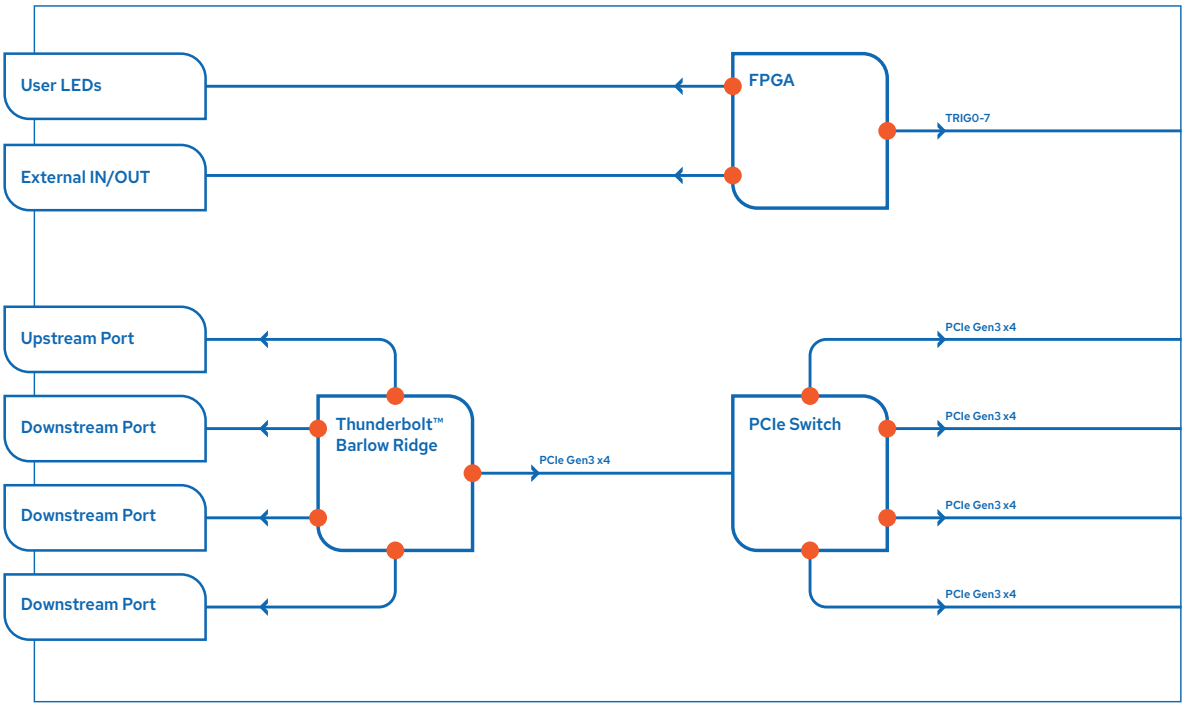


Figure 1: Block Diagram of DE140130 PXIe Thunderbolt Controller Module

2.2. Hardware Specifications

2.2.1. Electrical Specifications

Table 1: Board Electrical Specifications

Specification	Min	Typ	Max	Notes
PCIe Bandwidth	–	4 GB/s	–	Gen3 x4
Supply Current	–	–	@12 V, 2 A @3.3 V, 2.5 A @5 Vaux, 0.1 A	–
Upstream Port Speed	–	–	80 Gb/s	Thunderbolt™ 5
Downstream Port Speed	–	–	80 Gb/s	Thunderbolt™ 5
Upstream Port Current	–	–	3 A @ 5 V/9 V/15 V 4.8 A @ 20 V	Protected
Upstream Port Voltage	3.3 V	–	20 V	Programmable
Downstream Port Current	–	–	3 A @ 5 V/9 V 27 W @ 15 V/20 V	PDO
Downstream Port Current	–	–	3 A/5 A @ 3.3 V-20 V, 27 W	APDO
External Trigger Input Threshold	–	0.65 V	–	–
External Trigger Input Voltage	1.8 V	5 V	5.5 V	50 Ω
External Trigger Output Drive Current	–	±100 mA	–	–
External Trigger Output Voltage	–	5 V	–	50 Ω
External Trigger Output Rise Time	–	2.7 ns	–	–
External Trigger Output Fall Time	–	2.9 ns	–	–

2.2.2. Physical Specifications

Table 2: Physical Specifications

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

2.2.3. Environmental Specifications

Table 3: Environmental Specifications

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

3. Software Overview

This device is PXI Express compatible.

4. Signal Connections

Table 4: Signal Connections

Connector	Description
External Trigger	SMB Connector
Thunderbolt™ Ports	Type C (Cables that support Thunderbolt™ 5 shall be used.)

5. Safety Guidelines

Caution

The DE140130 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.



Caution

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



Caution

To ensure the specified EMC performance, the length of any cable attached to the front connectors shall not exceed 3 m (10 ft.).

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