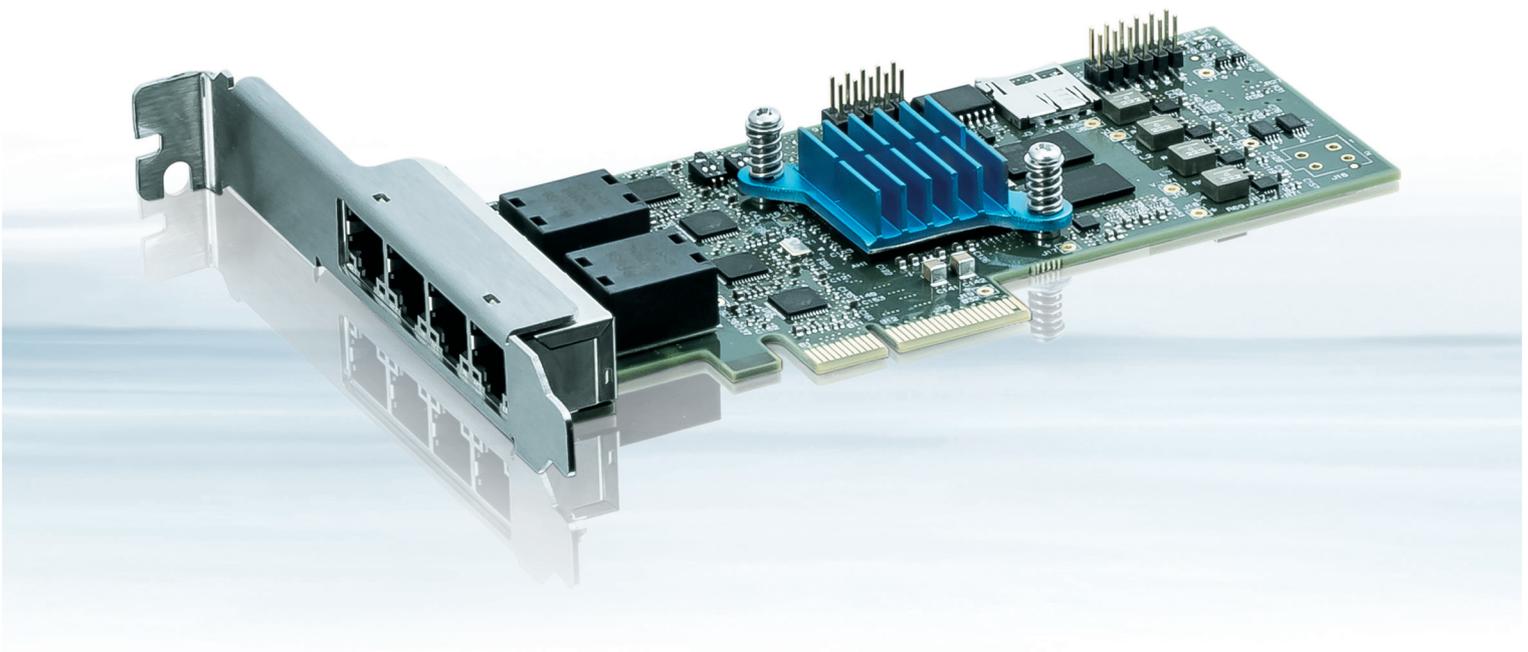


PCIE-0400-TSN



TIME SENSITIVE NETWORKING (TSN) SUPPORTED KONTRON ETHERNET NETWORK INTERFACE CARD WITH 4 PORTS

- ▶ PCIe Network Interface Card with integrated TSN switch
- ▶ Connects directly to a redundant TSN ring-, line- or star network
- ▶ IEEE-802.1 TSN compliant
- ▶ Industrial grade, half size, low profile

PCIE-0400-TSN

TSN NETWORK INTERFACE CARD ACCORDING TO IEEE-802.1 TSN

Time Sensitive Networking

Time Sensitive Networking (TSN) is a set of international standards, based on Ethernet, which leads into a standardized Industrial Ethernet for both the needs of a classical IT environment and the operational fieldbus area.

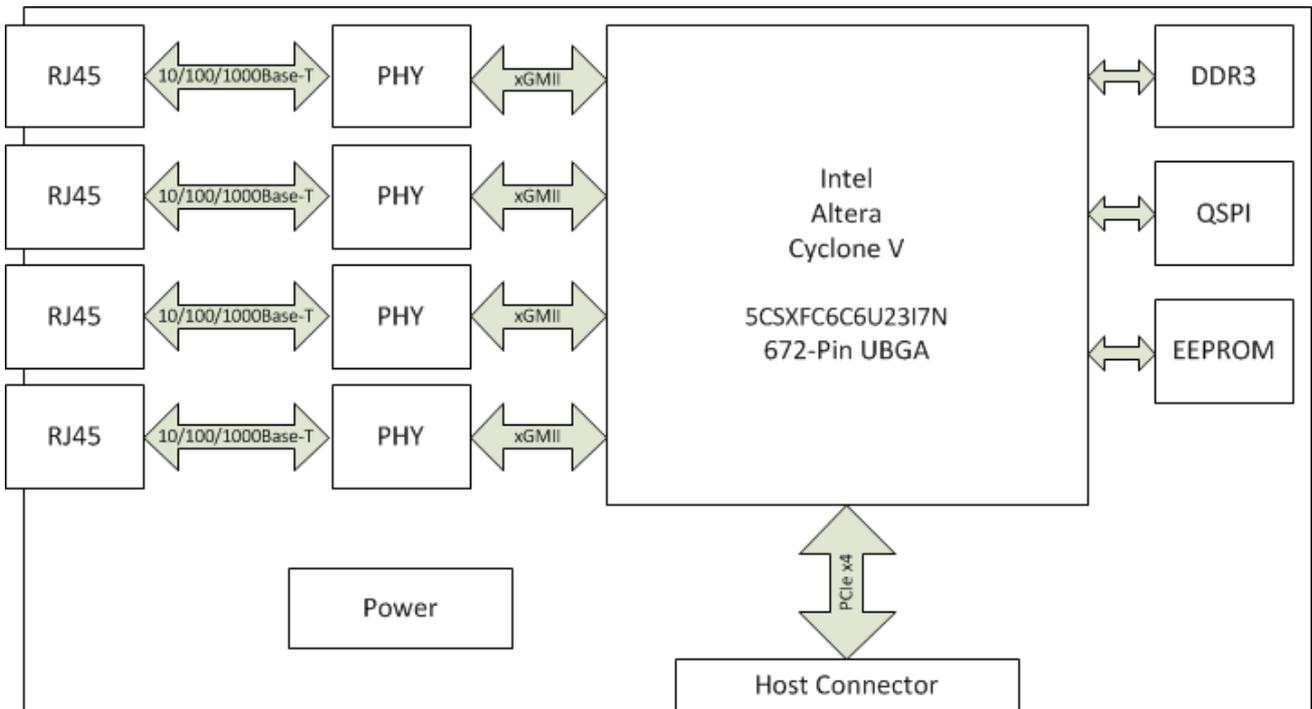
Under the given challenges of IIoT and Industrie 4.0 it is essential that the process data information from the production field (edge) into the local server landscape (fog) to the cloud will be implemented smoothly. Today's challenges are tied to the interfaces from the production floor, which is typically dominated by a scattered landscape of real time capable fieldbus networks, into the IT level. Realized by gateways, these interfaces create enhanced complexity, cost and management overhead.

The benefits of TSN are obvious and range from a simplified network infrastructure, lower product costs to even introducing virtual networks and server infrastructure.

The Kontron PCIe-0400-TSN is a modular Gigabit Ethernet Interface card with Time Sensitive Networking support in a PCIe half size, low profile format that will be used to connect to time sensitive (deterministic) and redundant networks according to IEEE-802.1 TSN.

Based on standard Ethernet according to IEEE-802.3, the dual or quad network interfaces with switching function can be used to build deterministic control applications in converged networks from the production floor to the IT level.

► BLOCK DIAGRAM



▶ TECHNICAL INFORMATION

BOARD SIZE	Half size, low profile Standard and low profile front brackets
INTERFACES	4 port 10/100/1000 Ethernet, RJ45 Host Interface PCIe Gen 1 x4 LEDs for Link, Speed, activity
BRACKET OPTIONS	Standard and low profile, 2 and 4 ports
MOUNTING	PCIe Interface card
SWITCH OPERATION	Cut through, StoreAndForward
PROCESSOR	Intel® Cyclone V, field upgradeable
POWER	<10 W
EMC	EN55022 class B
CERTIFICATIONS	CE
ALTITUDE	Up to 10.000 ft (3.000 m)
SHOCK, ACCORDING TO EN 60068-2-27	15 G 11 ms duration (half sine) (tbc)
VIBRATION, ACCORDING TO EN 60068-2-6	10-500 Hz: 1G/3 axis (tbc)
OPERATING TEMPERATURE	-40 °C to +85 °C (tbc)
HUMIDITY	10 % - 90 % @ 39 °C, non condensing
MTBF	> 50.000 h (tbc)
SOFTWARE SUPPORT	Linux Kernel device drivers, TSN Software stacks
VERIFIED OS	Linux
RoHS COMPLIANT	Yes
COOLING	Fanless passive cooling
SUPPORTED TSN STANDARDS IEEE-802.1 TSN	<ul style="list-style-type: none"> - 802.1 as(rev): timing and synchronization - 802.1 Qbv: traffic scheduling - 802.1 Qbu: frame preemption - 802.1 Qcc: Stream Reservation Protocol enhancements - 802.1 CB, Qci, ...: N/A – will be provided per update

▶ ORDERING INFORMATION

ARTICLE	DESCRIPTION
PCIE-0400-TSN	4 port Gigabit Ethernet Network Interface card PCIe half size, low profile Supporting IEEE-802.1 TSN in redundant ring, star and line topology -40 °C to +85 °C Operating Temperature

▶ GLOBAL HEADQUARTERS

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