

What's new in industrial communications?

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Selecting industrial communications standards

Greater factory connectivity and control is ushering in what has been named the fourth industrial revolution. Optimizing overall factory communications is necessary to meet the variety of requirements from systems of all sizes.

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EtherCAT slave and multi-protocol industrial Ethernet reference design

Implementing a cost-optimized high EMC immunity EtherCAT slave (dual ports) with SPI-interface to the application processor. The design supports multi-protocol industrial Ethernet and field-busses using the AMIC110 industrial communications processor.

[Learn more](#)



Highest efficiency and power density with GaN

Our GaN devices with 2.2-MHz integrated gate driver offers double the power density and optimized thermal performance for industrial applications.

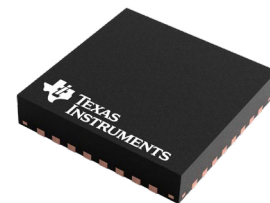
[Learn more](#)



Send signals faster & farther with single-pair Ethernet

TI's new 10BASE-T1L PHY, achieves long-distance connectivity up to 1.7 km at 10 Mbps without the need for additional network gateways. The DP83TD510E enables a cost-effective solution to achieve real-time Ethernet communications for more efficient and better connected smart factories.

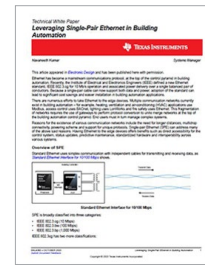
[Learn more](#)



Leveraging single-pair Ethernet in building automation

Ethernet has become a mainstream communications protocol at the top of the control pyramid in building automation. Learn how single-pair Ethernet (SPE) can address needs such as longer distances, multidrop connectivity and support for unique protocols.

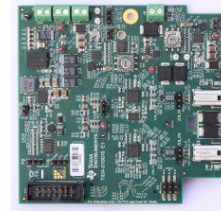
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Daisy-chained power and data over single-pair Ethernet (T1) reference design

This reference design shows the transfer of 220-W power and 100-Mbit/s data over SPE. Communication systems in daisy-chain topology need significantly less hardware and wiring than conventional systems in star-topology.

[Learn more](#)



The first buck converter with 20mV_{RMS} output noise

The 17 V, 3-A TPS62913 buck converter provides 20mVrms noise and <10mVrms ripple without a post-regulator LDO, saving cost, design time, and PCB area, while increasing overall power supply efficiency.

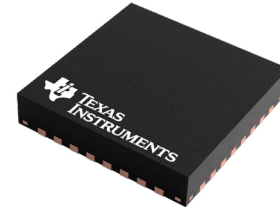
[Learn more](#)



Achieve low latency, deterministic Ethernet

With low round-trip latency of 210 ns and deterministic latency variation of ± 2 ns, the DP83826E enables designers to reduce system response time or add extra nodes in daisy-chained networks without increasing system size or cost.

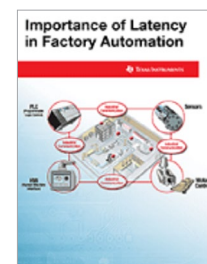
[Learn more](#)



Importance of latency in factory automation

Latency through the Ethernet physical layer is a critical parameter in Ethernet networks. Examine how the DP83867 can control cycle times for factory automation applications.

[Read more](#)



Optimize Ethernet performance in time-sensitive networks

With a temperature rating of -40°C to 125°C for gigabit fiber operation and robust ESD immunity, the DP83869HM helps improve Ethernet system reliability in harsh, industrial environments. The device also features low latency for TSNs.

[Learn more](#)

