

When Motion Matters, Choose the Right Network for Optimum Performance

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Today's high-performance machines depend on networked automation products. Ethernet has become the clear choice for simple, robust and flexible networks.

But not all Ethernet networks are created equal. Some work well enough for general [automation applications](#) but fall short when high-performance [motion control](#) is required. And some are open protocols in name only, locking you into a single vendor for one of the most important performance elements in your system. To achieve the next level of machine throughput, we've chosen EtherCAT® as the network protocol for our Kollmorgen Automation Suite™. This truly open, industry-standard protocol delivers the highest motion performance while supporting your machine's full range of automation requirements.

Delivering high-performance motion to make your machine more productive

- EtherCAT is high speed and deterministic. Fast, on-the-fly processing ensures that each frame passes from the master through all the slaves and back to the master with minimal delay. By combining incoming and outgoing data for multiple devices in a single frame, EtherCAT optimizes performance across large systems of components such as drives and I/O devices to ensure time-critical events are executed with precision.
- EtherCAT provides [precise synchronization](#). The EtherCAT standard enables the use of distributed clocks to synchronize multiple independent devices – creating scalable systems without sacrificing motion performance. Accurate multi-dimensional motion trajectories can be executed even in systems with a very high number of axes.

Typical Performance

Process Data	Update Time
256 distributed digital I/O	11 μ s = 0,01 ms
1000 distributed digital I/O	30 μ s
200 analog I/O (16 bit)	50 μ s \leftrightarrow 20 kHz
100 servo axes (8 bytes input and output data each)	100 μ s
1 fieldbus master-gateway (1486 bytes input and output data each)	150 μ s

An open industry standard for lower cost, increased flexibility and long-term availability

- EtherCAT is supported by a variety of manufacturers and vendors. You won't be locked into a unique architecture or a single supplier. Choose from the many products and services available on the EtherCAT Technology Group website at <http://ethercat.org/>.

- EtherCAT is a lower cost solution. By using standard cabling and communication devices developed for the PC market, EtherCAT keeps costs down. Components are readily available, setup is plug-and-play, and standardization allows you to use many special-purpose Ethernet connectivity products as part of your EtherCAT network.

Typical EtherCAT Devices[EtherCAT AKD™ Servo Drive](#)**EtherCAT Networking Cables**

EtherCAT I/O Bus Coupler



EtherCAT is the network that offers the highest motion bandwidth. We know – we’ve relentlessly tested them all. Learn more about [Kollmorgen Automation Suite](#) and how EtherCAT networking delivers the results you need to truly differentiate your machine.

ABOUT KOLLMORGEN

[Kollmorgen](#) is a leading provider of motion systems and components for machine builders around the globe, with over 70 years of motion control design and application expertise.

Through world-class knowledge in motion, industry-leading quality and deep expertise in linking and integrating standard and custom products, Kollmorgen delivers breakthrough solutions unmatched in performance, reliability and ease-of-use, giving machine builders an irrefutable marketplace advantage.

For more information visit www.kollmorgen.com, email support@kollmorgen.com or call 1-540-633-3545.