

EtherCAT Interface System: Zero Hardware Motion Control



Overview

Soft Servo Systems offers a variety of PC-based CNC and general motion control (GMC) products for OEM machine builders. Each product is available with a choice of several servo and I/O communications hardware platforms, including the popular and proven EtherCAT interface system.

The EtherCAT interface system is a fast, vendor-independent, Ethernet-based realtime open network for servo and I/O communications that works with CANopen over EtherCAT (CoE) servo drives and I/O devices.

With this system, RJ45 Ethernet cables are plugged directly into the Ethernet port on the PC, and servo drives are connected in a simple, single-line daisy-chain – no hardware is required. Up to 32 servo drives (plus additional I/O stations) can be integrated in one network.

The EtherCAT interface system is fast, with an interpolation rate as fast as 0.5 ms. Its simplified configuration and standard cabling, as well as the elimination of adapter cards, switches and hubs, make this a very economical system, both in terms of initial cost and in terms of maintenance.

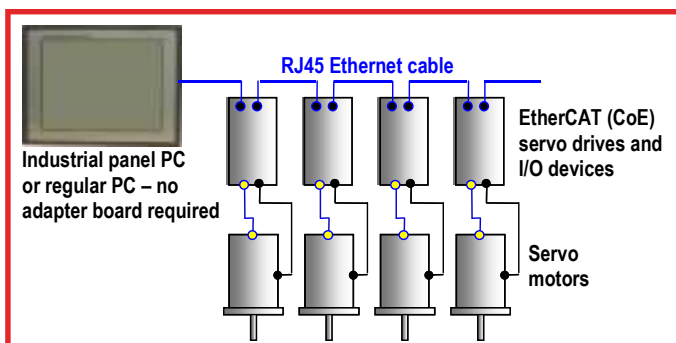
EtherCAT Features

- Extremely fast – control of up to 32 servo axes with a cycle time as fast as 0.5 ms
- Simple wiring – single-line daisy chain without even a terminator
- Normal, off-the-shelf Ethernet cabling
- Easy to configure, diagnose and maintain
- Less expensive, due to simplified configuration, no plug in cards, no switches/hubs, and standard cabling
- Well proven technology
- Offers redundancy against cable or node failures (with second Ethernet port)
- Servo drives from different manufacturers can be connected in the same network

EtherCAT Communications

EtherCAT (Ethernet Control Automation Technology) is an industrial Ethernet fieldbus network that is real-time down to the I/O level – no delays in gateways, no underlying sub-systems.

This interface system is based on 100 Mbps Ethernet.



Hardware Connections in the EtherCAT Interface System