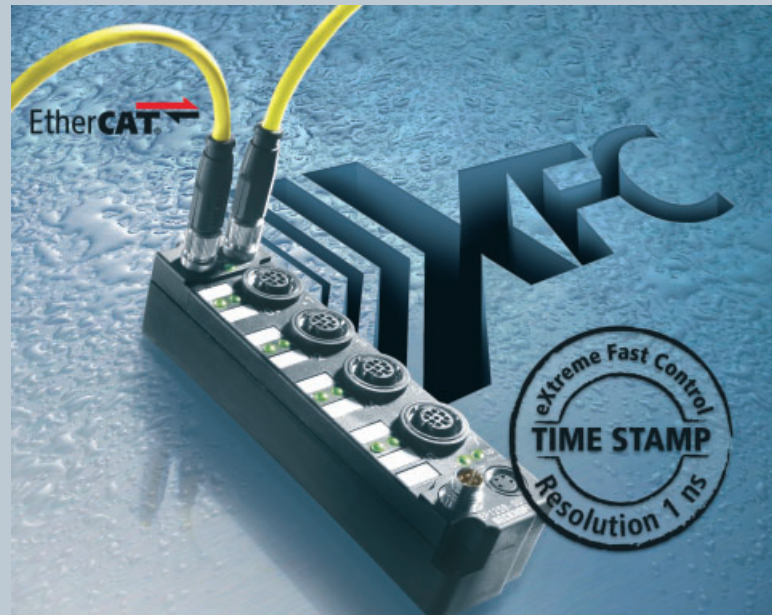


With the EP1258 EtherCAT Box, XFC is now also available in a robust and compact IP 67 housing for installation outside of control cabinets. The XFC box detects digital input signals with a highly precise temporal resolution of one nanosecond (ns) directly on the machine. This allows reaction times to be shortened – independent of the control cycle – and very fast events to be detected and processed further without requiring special hardware. This leads to improved quality and increased productivity of the machine.

EP1258 EtherCAT Box in IP 67:
high-precision signal acquisition
independent of the control cycle time

IP 67 box for XFC

The EP1258 EtherCAT Box with time stamp function enables the detection of binary signals with an impressive resolution on the order of a nanosecond.



The XFC technology (eXtreme Fast Control) from Beckhoff makes an extremely fast, high-precision control architecture possible. The EP1258 EtherCAT Box supports XFC in compliance with the time stamp method, i.e. the binary input signals are assigned a time stamp that states the time of the last change of state with a resolution of 1 ns. Using this technology, the signal curves can be precisely reproduced in terms of time and placed in relationship to distributed clocks in the EtherCAT system. The machine-wide, parallel hard wiring of digital inputs or encoder signals for synchronization purposes can usually be eliminated using this technology. The reactions, which are equally spaced in terms of time, are thus independent of the cycle time of the controller, so that even in the case of a short PLC cycle, signal acquisition and processing is possible in the nanosecond range.

As an EtherCAT slave, the EP1258 XFC box can be integrated directly in 100BASE-TX EtherCAT networks. It features eight digital inputs, of which two are designed for applications with a time stamp. The IP 67 module is optionally available with an M8 or M12 screw-type sensor connection.

There are a wide range of possible application areas for the EtherCAT Box with time stamp, extending from the packaging industry to assembly and handling machines as well as conveying equipment. The compact IP 67 design allows installation directly on the machines without an extra control cabinet, saving space and costs.

XFC: exact time measurement and exact timing with time stamp

XFC features various technologies which, besides the pure cycle time, improve the timing accuracy and increase the resolution. In the system time (distributed clocks) of the EtherCAT system, which is available everywhere, the time stamp method delivers significantly more precise information on the temporal relationship of the process data. Time stamps can be used both for inputs (what happened and when?) and outputs (when should a reaction take place?). They deliver:

- | exact time measurement of positive and negative edges of local digital inputs,
- | exact timing of local output signals, independent of the control cycle,
- | time stamp data with a resolution of 1 ns and an accuracy of < 100 ns.

EtherCAT Box www.beckhoff.com/EtherCAT-Box
EtherCAT Box EP1258 www.beckhoff.com/EP1258