FOUR TIMES BETTER PERFORMANCE FOR THE BECKHOFF XTS SYSTEM WITH THE HARTING IX INDUSTRIAL®

HARTING®

Pushing Performance
Since 1945

THE COMPANY:
Beckhoff

SECTOR:
Automation

PRODUCTS IN USE:
HARTING ix Industrial®

BECKHOFF

THE CHALLENGE

With the XTS linear transport system, Beckhoff cleverly combines the advantages of linear and rotary drives and creates completely new possibilities for material transport in automation applications. The three main components are the static linear motor, a parallel guide rail and the passive mover itself.

When the movers move along the track and follow their scheduled movement pattern, such as unlocking, clamping, releasing, braking, etc., a computer must continually calculate the switching and current supply to the responsible motor modules. For this to happen, a total of three computer cards can be combined in the XTS system, each of which previously had four RJ45 sockets as ports. One mover can be controlled per port, which results in a maximum possible quantity of twelve movers.

The challenge:

Beckhoff's goal for the latest generations of the XTS system was to increase the number of movers, but without having to change the compact dimensions of the system.

THE SOLUTION

The ix Industrial® interface from HARTING can replace the outdated RJ45 interfaces of the computer cards in the latest generations of the XTS system. It is now at least 70% smaller in the device, significantly more robust and equipped with a stable metal locking mechanism. Power transmission via PoE/PoE+ is just as secure as the reliable hold to the PCB provided by multiple THR shield contacts. Standardised according to IEC 61076-3-124, the ix interface is an open standard and therefore meets the requirement profile of the XTS system for a standardised solution. In the case of the XTS system, reliable shielding and excellent data transmission rates were essential, which the ix Industrial® connector fulfils through a clever shielding concept.

Two 100 Mbit Ethernet connections are possible for each HARTING ix Industrial® connector. A solution like this is not possible with an RJ45 connector. In this way, a total of eight instead of four ports could be installed on the same PCB and two instead of one Ethernet channel could be run per port.

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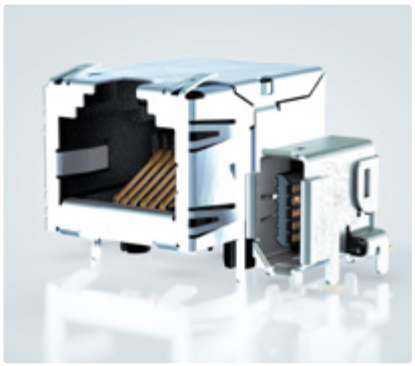
THE RESULT

48 instead of 12 ports on three computer cards and thus the possibility to use XTS strands instead of 12 per unit, a performance increase of 400%. This illustrates the enormous potential of miniaturised and powerful Ethernet interfaces for IIoT and I4.0 applications.



ix Industrial®

The 70% smaller device socket of the ix Industrial® saves valuable space and allows more ports in the same area compared to the familiar RJ45.

The linear motor that moves in a circle

The XTS linear transport system enables the individualised tranport of products while maintaining a continual flow of materials. The small construction volume and a closed transport circuit can increase the efficiency and significantly reduce the size of a machine.

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