

A single pair is all it takes to measure

TR Electronic shows working samples of SPE absolute rotary encoders.

As part of the first joint presentation of the Single Pair Ethernet System Alliance e.V. during the Hannover Messe Industrie, TR was able to prove that the latest transmission technology for Industrial Ethernet can also be used for sensor technology with complex information.

The absolute multiturn encoder on display, from the latest 582 series, reliably transmitted its position measurement values and other status information to the master via the two-wire Ethernet standard, which was shown by another SPE Alliance e.V. partner. The same pair of wires was also used to supply the encoder electronics.

In the 40-year history of the medium-sized company in Trossingen, Germany, connection to the diverse world of control technology has always been high on the list of priorities, in addition to reliable and precise position detection. It is no wonder that TR's think tank has always served an extensive range of state-of-the-art interfaces and thus control systems. So it is only logical that TR, with the support of Single Pair Ethernet, is once again technically ahead of the game.

The shown sample of the absolute encoder CEV582 fresh from development transmitted the position information of 15 bit within the revolution and 4096 absolute resolved revolutions via two-wire Ethernet. The switch used provided power to the encoder over the same wire. The PoDL ("Power over Datanline") implementation used by the SPE Alliance e.V. allows up to 50 W per output; 3 to 4 W, as typically required by a TR encoder for operation, can thus be managed without any problems.

SPE is basically transparent with regard to the transmission protocol. The example at the HMI worked with Modbus TCP; of course, the Industrial Ethernet protocols such as PROFINET and Ethernet/IP are also the focus of TR Electronic's development activities.

Single Pair Ethernet expands the range of Industrial Ethernet systems supported by TR Electronic with the innovative possibility of simultaneously supplying linear sensors and encoders and retrieving the data via just two conductors.



Rotary absolute encoders with SinglePairEthernet by TR Electronic

Product information:

<https://www.tr-electronic.com/f/TR-V-PR-GB-0042>