

TURCK

Your Global Automation Partner

PROFINET System Redundancy and IO-Link



Products are linked with further information.

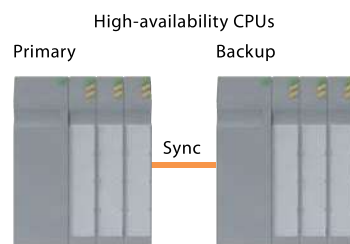
High-Availability – PROFINET System Redundancy and IO-Link

Measuring, controlling, monitoring, indicating – the digital way

The PROFINET extension for system redundancy now makes the benefits of Industrial Ethernet also available for the process industry. Turck goes one step further and additionally integrates IO-Link in the world of high-availability systems.

This means that nothing now stands in the way of implementing the end-to-end digital linking of smart field devices, such as position indicators, valve manifolds, sensors or I/O hubs. In terms of installation time, IO-Link is highly efficient and straightforward since data and power supply are transferred via a single unshielded standard cable.

Use of the profile for system redundancy enables PROFINET field devices to communicate with high-availability controller systems



PROFINET in a ring topology

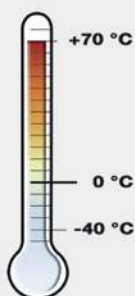
Standard signals are efficiently processed via IO-Link IO hubs from the TBIL-M and TBIL-S series



The range of IO-Link devices is enormous – RFID transceivers, pressure, temperature and level sensors are just some examples

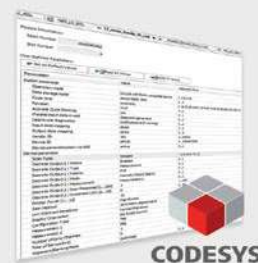


TBEN-S2-4IOL
IO-Link master
4 ports in IP67/IP69K



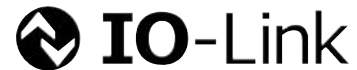
Harsh environmental conditions

Besides the fully potted module electronics, the extended temperature range from -40...+70 °C, as well as the high protection classes IP65, IP67 and IP69K, help to create the robust overall concept. This increases the range of possible applications in industrial environments.



Simple configuration with SIDI

Simple IO-Link Device Integration enables IO-Link devices to be configured directly from the engineering tool, such as the TIA Portal, PCS7 or CODESYS. At system start the parameterization is carried out automatically. This saves time and enables IO-Link masters and devices to be exchanged without the need for a configuration.



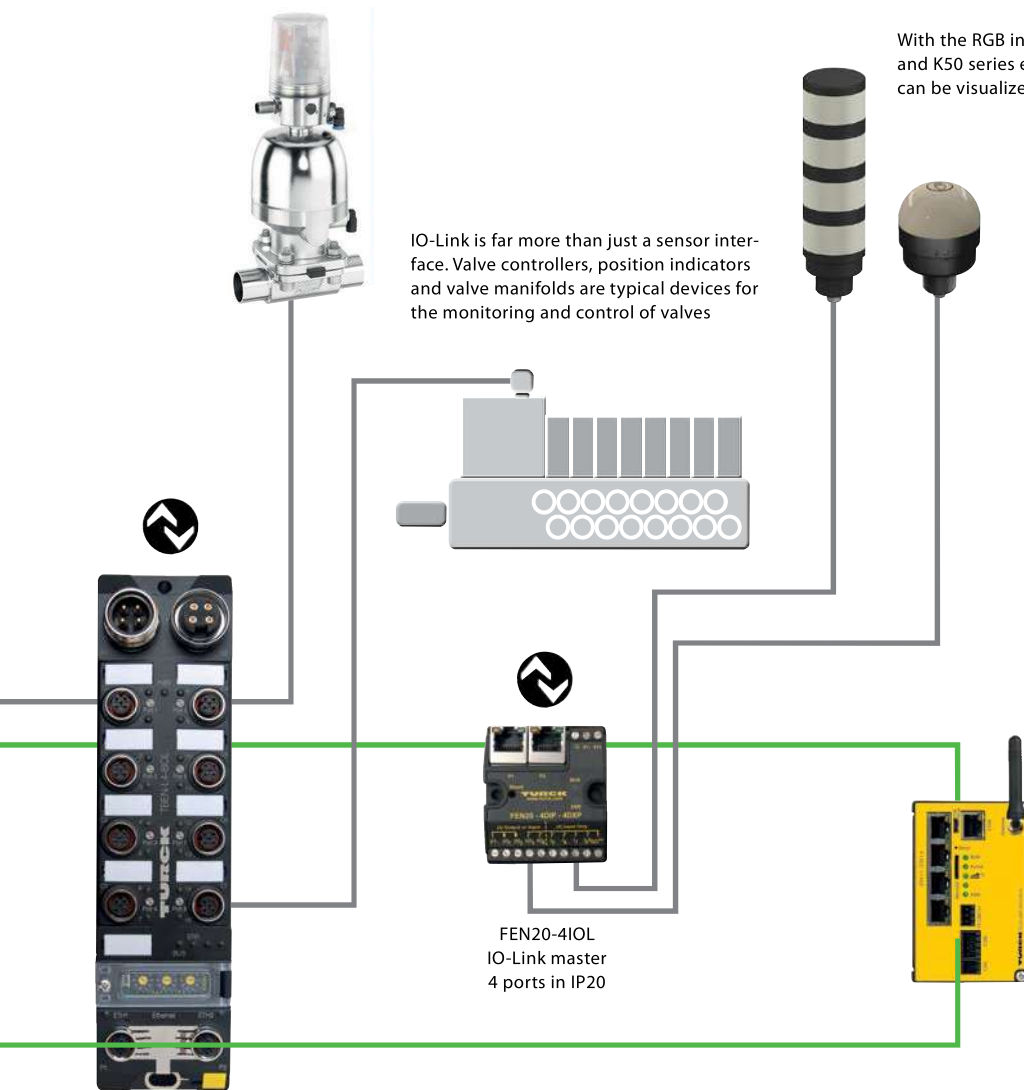
With the RGB indicators of the TL50 and K50 series even complex states can be visualized

IO-Link is far more than just a sensor interface. Valve controllers, position indicators and valve manifolds are typical devices for the monitoring and control of valves

Besides controller communication via PROFINET, Turck also offers interfaces and solutions on all system levels to link SCADA and cloud systems



Turck's cloud gateways of the TCG20 series collect data from the field and make it available via different interfaces



TBEN-L-8IOL
IO-Link master
8 ports in IP67/IP69K

FEN20-4IOL
IO-Link master
4 ports in IP20

Turck's IO-Link masters in IP67/IP69K and IP20 are the link between PROFINET and IO-Link – with 4 or 8 IO-Link master ports, these devices offer outstanding performance, particularly due to their good PROFINET integration, enhanced diagnostics and high degree of robustness



Conformance Class B PA

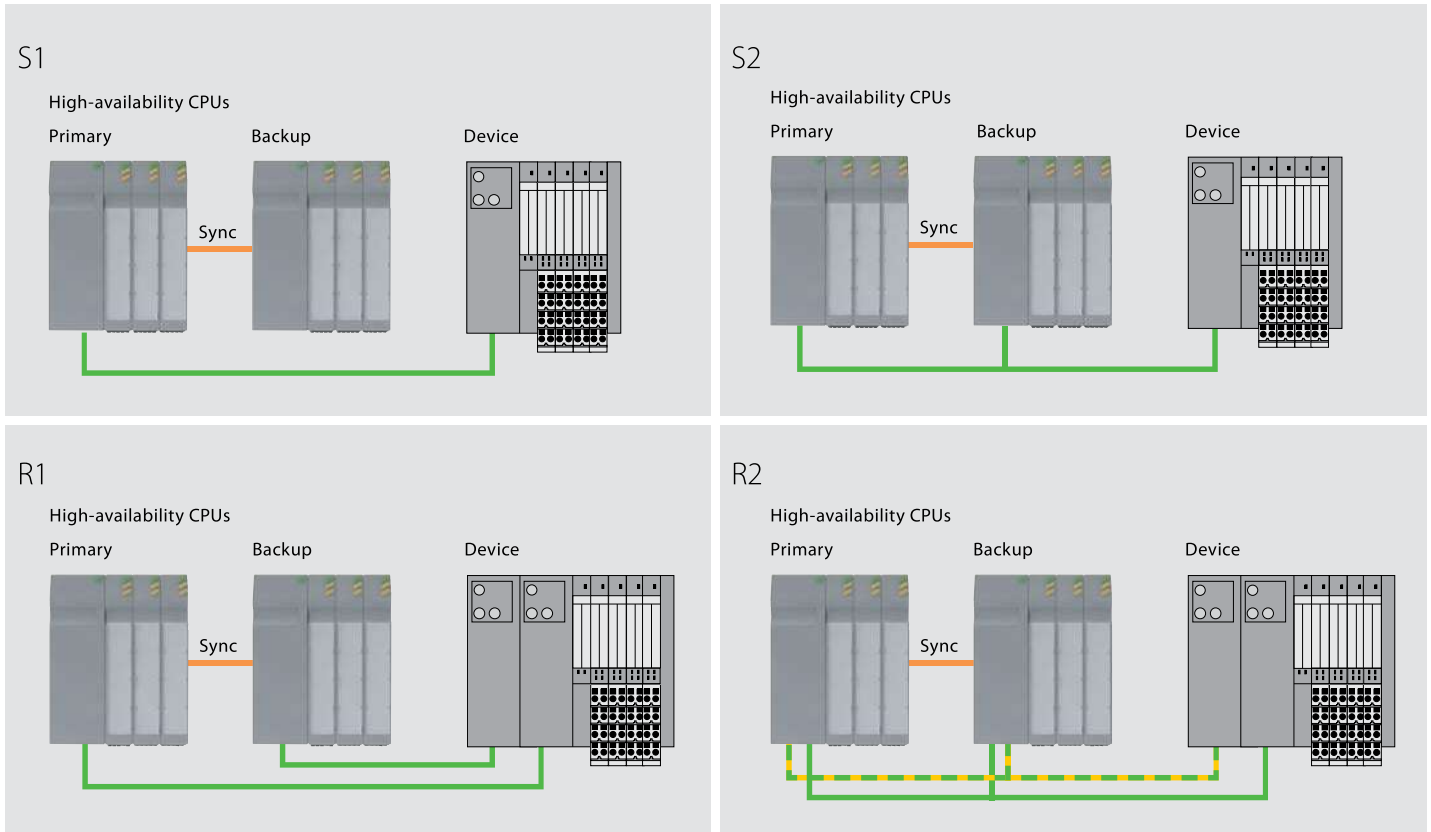
Turck's field devices stand out on account of their exceptional integration in PROFINET. Besides the S2 system redundancy, the devices support topology detection, media redundancy (MRP) and netload class 3. This enables a configuration-free exchange of devices and ensures reliable operation in ring topologies.



Monitoring API

All Turck modules with Industrial Ethernet support read access to device data in parallel with the PROFINET communication. SCADA, control or cloud systems can query device data from the field without increasing the load on the controller. Condition monitoring and asset management can thus be implemented without any obstacles.

PROFINET System Redundancy



S1
Describes the normal Profinet communication without redundancy.

R1
Describes the physical redundancy on the level of the controllers and field devices.

S2
This is the most frequently used form of system redundancy. It describes the physical redundancy on the controller level and a logical redundancy on the level of the field devices through communication relations to the primary controller and backup controller.

R2
This is the most complex form of system redundancy. It describes both the logical as well as the physical redundancy on the controller level and field device level.

