Driving standardization.
Eliminating complexity.
Maximizing performance.

Ethernet IO Modules
with IO-Link Master

Your automation, our passion.

PEPPERL+FUCHS

Ethernet IO Modules from Pepperl+Fuchs: Efficient, Innovative, and Durable

Pepperl+Fuchs' new Ethernet IO modules offer a number of innovative features. With a versatile multi-protocol capability, they provide optimum efficiency for standardizing manufacturing facilities. IO-Link and comprehensive diagnostics are important for maintaining and troubleshooting your machines. These innovative, high-performance communication modules can help optimize your installations.

Multi-Protocol Solution, Standardized Plant Design

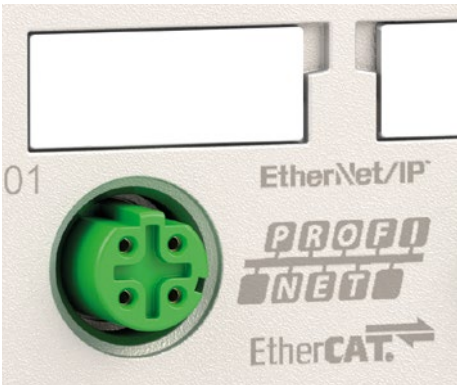
These new modules are interfaces to industrial fieldbus systems. They enable direct Ethernet communications from a PLC in the central control panel to the devices on the factory floor. The multi-protocol capability of the modules offers a key advantage over many other products on the market. One single module supports a variety of Ethernet communication protocols: PROFINET, EtherNet/IP, and EtherCAT. This reduces the number of components needed which lowers costs and enables standardization in plant design.

Innovative Connection Technology, Improved Performance

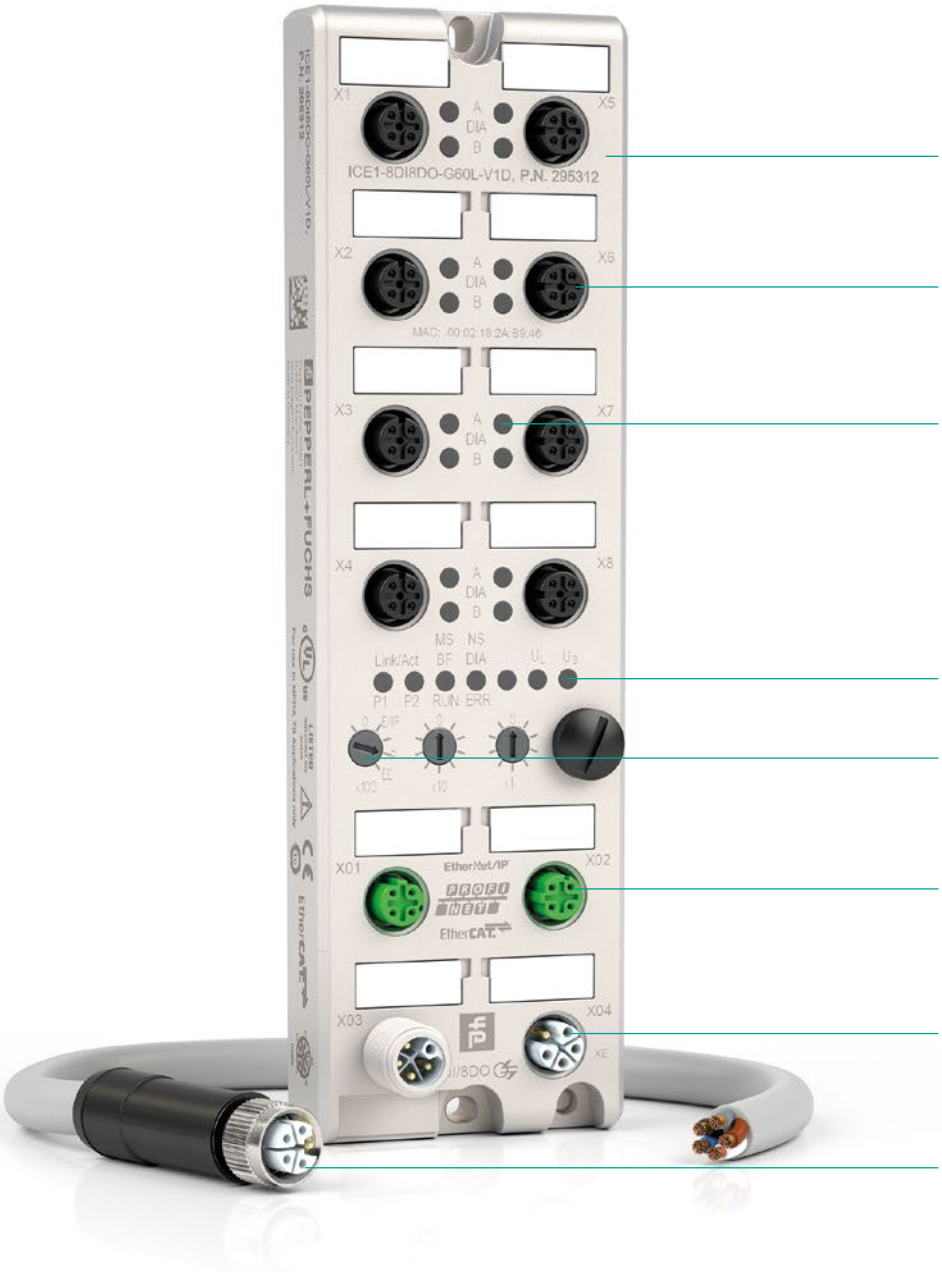
The innovative L-coded M12 connector has a higher current rating of up to 2 x 16 A, providing a 70 % performance increase compared to 7/8" mini style connectors. As a result, fewer power cables are needed, higher peak loads can be met, and more modules can be daisy-chained together. Another benefit is the general standardization of the compact M12 connection. This is a key advantage for plant operators who value maximum efficiency and uniform system design.

Highlights

- All standard Ethernet communication protocols are supported in one single module for optimal machine standardization
- Innovative M12 power connector for reduced installation costs thanks to higher current capability of 2 x 16 A for sensors and actuators
- Integrated IO-Link master for continuous diagnostics and parameterization from the control system to the sensor level
- Integrated, decentralized control function allows self-sufficient functionality independent of the PLC
- Comprehensive diagnostics available through web server for more transparency and increased process reliability




Multi-protocol capability paired with the innovative connection concept facilitates standardization in plant design.



Robust, fully encapsulated metal housing

Sensor and actuator connection via 16 DI, 8 DIDO, or 8 IO-Link sensors/actuators

Channel-specific diagnostics and status LEDs

LEDs for communication, diagnostics, and power supply

Rotary switches for setting the communication protocols (PROFINET, EtherNet/IP, EtherCAT)

Ethernet connection

Power supply up to 2 x 16 A for sensors and actuators

L-coded M12 power connector

Rugged Design, Extreme Durability

The rugged design of these modules ensures durability in harsh, industrial environments. The fully encapsulated metal housing is extremely resistant to mechanical damage and environmental factors. It is dust-tight and can withstand both water jets and immersion in water, in accordance with IP65/IP67 standards. The modules also operate in a wide range of temperatures, from –20°C to +70°C, and they are resistant to mechanical vibration (15 g) and shock (50 g).

Easy Installation, Quick Commissioning

The compact housing allows these modules to be easily integrated into existing applications. They can be mounted directly on the machine or alongside conveyors. It is easy to replace competitor products with these modules by using universal mounting adapters. All wiring is done by using M12 connectors and simplified by color-coded inserts. Installation errors can be avoided by easily distinguishing data, communication, and power. Communication protocols can be set automatically or manually using rotary switches.

Decentralized Intelligence for Efficient Processes

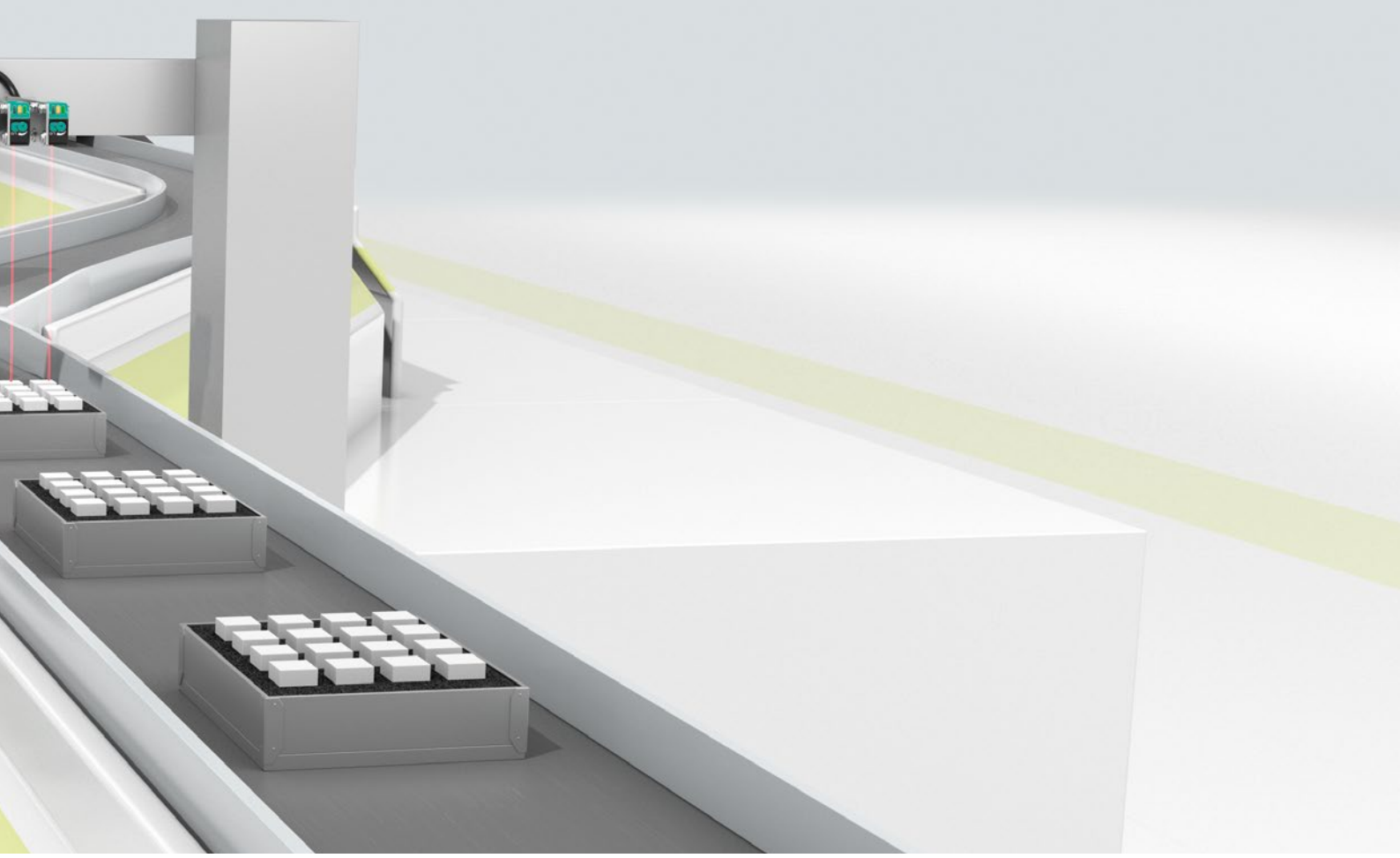
Integrated, decentralized control function allows modules to be programmed independent of the PLC – simplifying programming and optimizing processes.

Increased Productivity with Local Control

With decentralized intelligence integrated into the fieldbus modules, smaller tasks can be taken on by the modules without having to go through the control panel. This reduces or eliminates the extensive programming necessary in the PLC.

The result is quick reaction times due to reduced burden on the PLC. With local control, power can even be disrupted in the main control cabinet without affecting operability. This increases productivity and enhances process efficiency.

More information and technical data is available at:
www.pepperl-fuchs.com/fieldbusmodules



Enabling High-Speed Applications

With local control and decentralized operations, fieldbus communication and software components are not required in the main control panel – only diagnostic data are transmitted upstream. This reduces the burden on the PLC while increasing diagnostic functionality.

The benefit of this can be seen in a conveyor system, where parts are sorted by correct position and size and, if necessary, removed. This process requires extremely quick reaction times which are achieved by directly connecting inputs and outputs into the module. Quick reaction times are possible because additional time needed for communication is no longer required, and time-sensitive dependencies on other processes are eliminated.

Quick Diagnostics, Maximum Transparency

The modules maintain maximum process transparency with their comprehensive diagnostic functions. Diagnostic parameters can be monitored directly from the module through a web interface or communicated back to the PLC. An integrated web server allows the user to access the device directly through a web browser, making it possible to view important information and change network parameters such as IP addresses and subnet masks. LEDs are available on the modules, providing continuous status information and enabling channel-specific diagnosis. This increases productivity by allowing faults to be detected and fixed more efficiently.

Versatile and Future-Proof: Ethernet IO Module with IO-Link Master

Easy configuration, extended parameterization, and improved diagnostics – this generation of Ethernet IO modules opens up new possibilities for future-proof automation.

Sensorik4.0®: Factories of the Future with IO-Link

To handle applications of the future, sensors need to do more than just deliver process data to the PLC. In smart-device manufacturing, sensors must now be able to communicate with other devices and higher-level information systems. Sensorik4.0® is our next generation of interconnected sensor solutions that bring Industry 4.0 to life. IO-Link is a simple, flexible, and secure open communication technology that enables continuous communication at the sensor level.

Pepperl+Fuchs' integrated Ethernet IO-Link masters make the concept of Sensorik4.0® a reality. IO-Link sensors and actuators can be easily connected across all technologies. This creates a whole new range of possibilities for users, ranging from parameterization to diagnostics and maintenance. Pepperl+Fuchs' Ethernet IO modules are taking the next step toward the digital factory of the future.

Highlights

- Diagnostics and parameterization down to the sensor-actuator level
- Simplified sensor replacement by automatic transfer of pre-configured parameters
- Eight IO-Link channels for sensors (inputs) and actuators (outputs)
- Simple wiring with unshielded standard cables
- Supports IO-Link standard IEC 61131-9

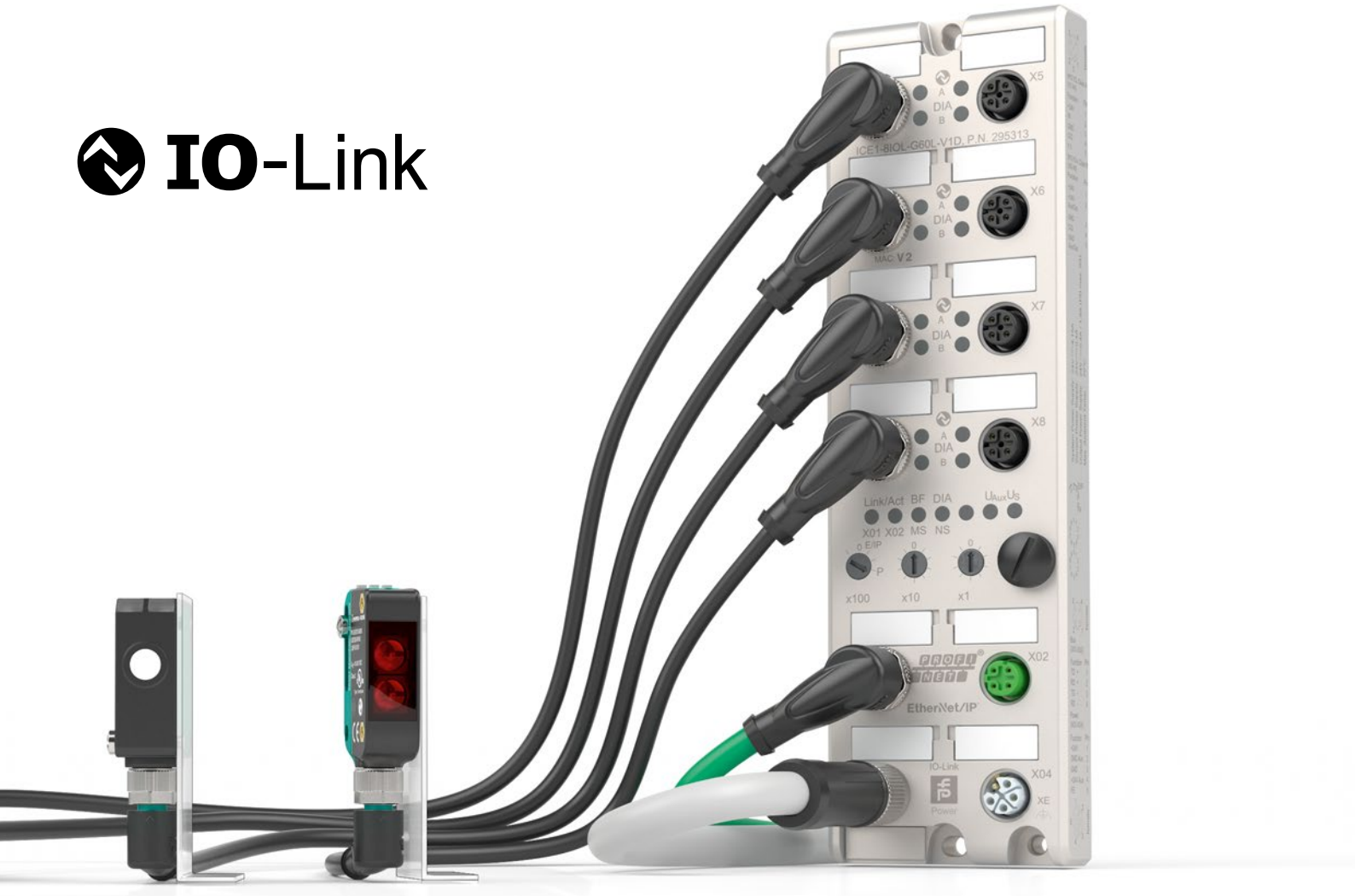
Ethernet IO Module with IO-Link: Configuration, Diagnostics, and Monitoring of Sensors

Pepperl+Fuchs' eight-port IO-Link master enables direct connection of up to eight IO-Link devices. There are four channels for sensors (inputs) and four channels for actuators (outputs).

IO-Link diagnostics reduce downtime by providing rapid fault repairs and status information through extensive diagnostic options. Channel-specific diagnostics and status LEDs are available on all modules. In addition, remote diagnostics can be retrieved from the integrated web server.

More information about IO-Link sensors from Pepperl+Fuchs can be found at:
www.pepperl-fuchs.com/IO-Link

IO-Link



Your automation, our passion.

Explosion Protection

- Intrinsically Safe Barriers
- Signal Conditioners
- Fieldbus Infrastructure
- Remote I/O Systems
- HART Interface Solutions
- Surge Protection
- Wireless Solutions
- Level Measurement
- Purge and Pressurization Systems
- Industrial Monitors and HMI Solutions
- Electrical Explosion Protection Equipment
- Solutions for Explosion Protection

Industrial Sensors

- Proximity Sensors
- Photoelectric Sensors
- Industrial Vision
- Ultrasonic Sensors
- Rotary Encoders
- Positioning Systems
- Inclination and Acceleration Sensors
- Fieldbus Modules
- AS-Interface
- Identification Systems
- Displays and Signal Processing
- Connectivity

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Printed in Germany · Part. No. 300123 04/17 01