LioN-X®

eXcellent Performance.
Smart-flexible-secure.

The new, innovative LioN-X portfolio, based on the successful LioN-Power product family, combines IO-Link master with completely new features such as OPC UA, Security and up to 2A output current per port.

+ Versatile integration options thanks to four implemented fieldbus protocols as well as different IIoT protocols.

+ Simple configuration of various IO-Link devices using the IODD interpreter in the LioN Management Suite (LMS) V2.0, Belden's configuration tool.

+ Innovative security functions — ACHILLES-tested, Syslog available for collecting, storing and processing log messages.

Key Features

- The LioN-X range includes various IO-Link masters and is continually being expanded.
- Output current up to 2A per port
- Parallel communication via fieldbus (PROFINET, EtherNet/IP, EtherCAT, Modbus TCP) and simultaneously via the IIoT protocols OPC UA, MQTT, REST and CoAP
- Min. cycle time ~1 ms
- Compact and robust housing design (IP67, IP69K)
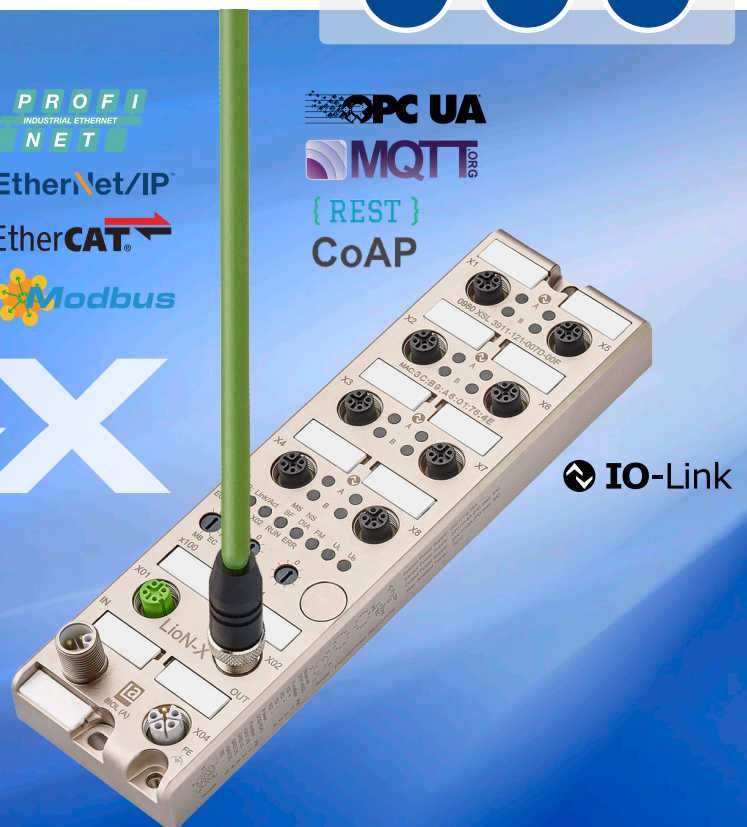- Cost-effective LioN-Xlight single protocol variants available

-40°C +70°C

IP 65   IP 67   IP 69K

PROFINET
INDUSTRIAL ETHERNET
EtherNet/IP
EtherCAT
Modbus

OPC UA
MQTT.ORG
{ REST }
CoAP

IO-Link

LioN-X

LMS
LioN-Management Suite

SECURITY

The new LioN-X from Lumberg Automation offers a wide range of integration options in both common control environments and cloud applications. Industry 4.0 is now becoming a reality.

Be certain.
Belden.

LioN-X® — Benefits At A Glance

LioN-X from Lumberg Automation is distinguished by a high level of flexibility, fast configuration and data transfer and data security — all in a robust housing design.
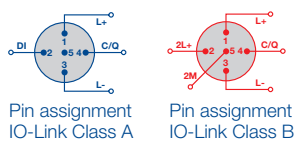
M12 ports configurable as digital input, digital output or IO-Link

Output current up to 2A per port

Simple configuration of the connected IO-Link devices thanks to the LioN Management Suite and the IODD interpreter

Cloud connection can be established via IIoT protocols (OPC UA, MQTT, CoAP, REST)

Options available include variants with four or eight IO-Link ports, mixed module with four Class A and four Class B ports and variants as digital I/O modules*
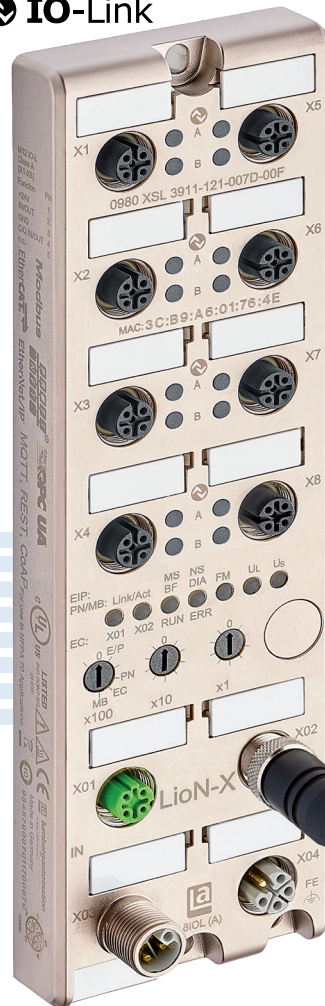
Pin assignment IO-Link Class A

Pin assignment IO-Link Class B

Expanded temperature range (-40°C to +70°C)

Welding spark-resistant metal housing in IP67, IP69K
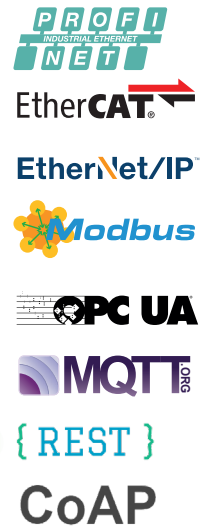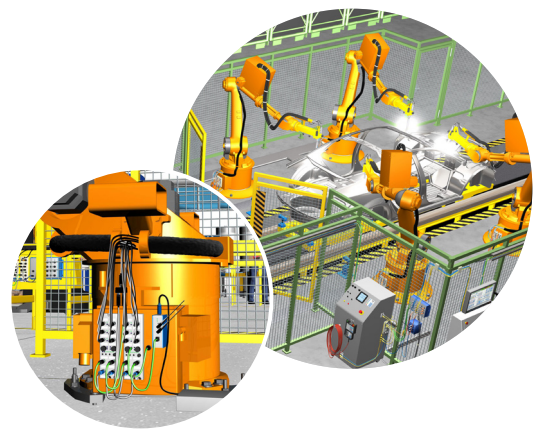
Web server available

LioN-X® IO-Link Master

The LioN-X system is suitable for almost all industrial applications, especially for those that involve harsh environmental conditions such as robotics, material handling and mechanical engineering, as well as for transportation, wastewater treatment and wind energy.

LioN-X® and LioN-Xlight®

LioN-X — our range of solutions for high-performance applications (e.g. up to 2A per port output current).
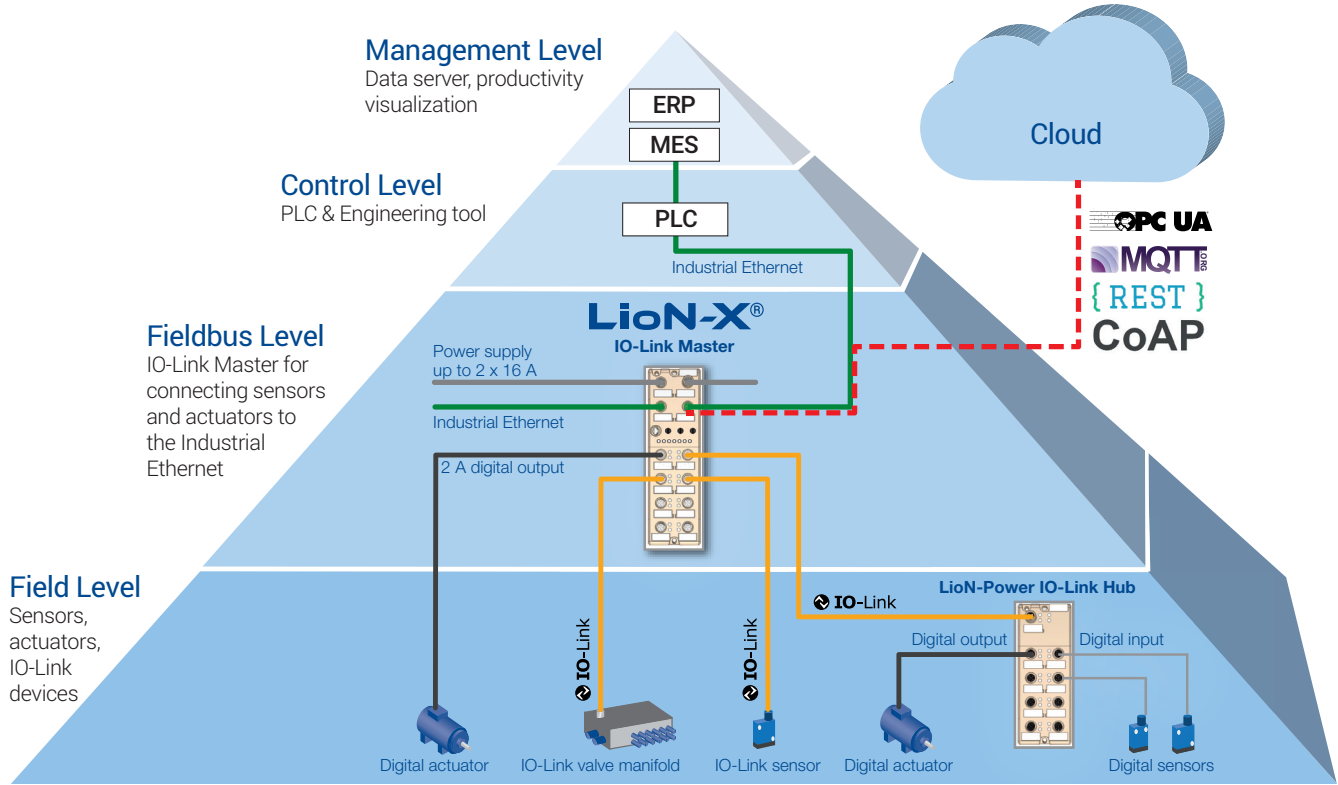
With the introduction of the LioN-Xlight, the LioN-X product range now also includes a new, highly cost-effective variant that does not come with additional features that are not strictly necessary, such as security.

Many different module variants are available in the proven eight-port housing design:

LioN-Xlight®		LioN-X®	
Version	Item no.	Version	Item no.
8 x IO-Link Class A with PROFINET	935701001	8 x IO-Link Class A multiprotocol	935700001
8 x IO-Link Class A with EtherNet/IP	935701002	4 x IO-Link Class A + 4 x IO-Link Class B*	
8 x IO-Link Class A with EtherCAT	935701003		
8 x IO-Link Class A with ModbusTCP	935701004		
4 x IO-Link Class A + 8 x DI with PROFINET	935702001		
4 x IO-Link Class A + 8 x DI with EtherNet/IP	935702002		
4 x IO-Link Class A + 8 x DI with EtherCAT	935702003		
4 x IO-Link Class A + 8 x DI with ModbusTCP	935702004		

Edge and Cloud Computing with LioN-X®

Smart integration into the most common industrial automation environments

Management Level
Data server, productivity visualization

ERP

MES

Control Level
PLC & Engineering tool

PLC

Industrial Ethernet

Fieldbus Level
IO-Link Master for connecting sensors and actuators to the Industrial Ethernet

LioN-X®
IO-Link Master

Power supply up to 2 x 16 A

Industrial Ethernet

2 A digital output

Cloud

OPC UA
MQTT
{ REST }
CoAP

LioN-Power IO-Link Hub

⊘ IO-Link

Digital output   Digital input

Field Level
Sensors, actuators, IO-Link devices

⊘ IO-Link   ⊘ IO-Link

Digital actuator   IO-Link valve manifold   IO-Link sensor   Digital actuator   Digital sensors

Why LioN-X®?

Multiprotocol:

The trend toward ever-smaller batch sizes and the fulfillment of individual customer requests increasingly requires a highly flexible and efficiently automated production environment. To achieve this, the new LioN-X modules enable simple connection of digital I/O signals and IO-Link devices to various fieldbuses and IIoT applications. In addition to PROFINET and EtherNet/ IP, EtherCAT and Modbus TCP there are connection options via OPC UA, MQTT, REST and COAP to enable a connection with the cloud.

Choose LioN-X and take advantage of the high flexibility of communications protocols in a single module, without the additional cost!

Speed and intuitive configuration:

The optimization of production processes is a challenge that the entire industry faces on a daily basis, and the speed of automated production plays a key role in this. The new LioN-X IO-Link Master generation keeps the internal latency times so low that cycle times of ~ 1 ms can now be achieved, allowing IO-Link data to be forwarded to the controller (PLC) as quickly as possible. The initial configuration of the connected IO-Link devices can be performed simply by uploading an IODD using the LioN Management Suite V2.0 configuration tool.

Take advantage of the speed of LioN-X to make your production processes faster and more efficient. Download the LioN Management Suite free of charge from the Belden website to immediately begin the parameterization of your IO-Link devices.

Security:

The increasingly far reach of global networking does not stop when it comes to automation environments. This makes it all the more important to prepare automation networks for connection to the IIoT environment with appropriate safety features in order to be able to perform remote maintenance or diagnostics, for example. It is essential to prevent the manipulation of data and the unauthorized use of system functions. LioN-X is well prepared for this: It is equipped with Syslog for collecting, storing and processing log messages on board and has been tested and certified by ACHILLES.

Minimize unauthorized remote maintenance access and attacks on your network with the ACHILLES-tested LioN-X.

SECURITY

Multi-PROTOCOL

LioN-X vs. LioN-Xlight: An Overview

Function	LioN-Xlight® IO-Link Master Digital I/O modules*	LioN-X® IO-Link Master Digital I/O modules*
IO-Link Master versions	8 x IO-Link Class A 4 x IO-Link Class A plus 8 x DI	8 x IO-Link Class A 4 x IO-Link Class A plus 4 x IO-Link Class B*
Number of ports	8	8
Galvanic isolation	✖	✔ **
IO-Link specification	V1.1.3 ready	V1.1.3 ready
Fieldbus interface	Single protocol (PROFINET, EtherNet/IP, EtherCAT or Modbus TCP)	Multiprotocol (PROFINET, EtherNet/IP, EtherCAT and Modbus TCP)
IoT protocol	REST (JSON)	REST (JSON), OPC UA, MQTT, CoAP
DO on pin 2	✖	max. 2A
DO on pin 4	max. 500 mA	max. 2A
max. Current	8 A	16 A
Web server	✔ (limited functionality, text-based html)	✔
LioN Management Suite support	✔	✔
Device description files	✔	✔
Current and voltage monitoring	✖	✔
Temperature range	-20°C to +60°C	-40°C to +70°C
Rotary coding switches	✖	✔
Default IP address	✔	✖
Security (ACHILLES-tested, Syslog)	✖	✔

*Coming soon **Available for some LioN-X modules

Accessories

Number		Item number	Type	Function
1	LMS LioN-Management Suite	-	LioN Management Suite	Configuration tool for LioN-X for parameterization of any IO-Link device
2		30088	RST 5-RKT 5-228/5 M	Sensor/actuator cable
3		934849076	RKT 5L-949/5 M	Power supply cable
4		12121	0985 342 104/5 M	Ethernet cable

LioN Management Suite

LioN Management Suite, Belden's free software tool, enables safe and efficient automatic firmware updates on multiple LioN-X devices in your network. Once connected, the LioN Management Suite recognizes the connected devices and transfers the new firmware file to any number of devices in parallel. The software tool eliminates the time-consuming process of connecting individual devices that is common with many other manufacturers. In addition, the LioN Management Suite can also assist in the initial commissioning of a system. This is because the new, integrated IODD interpreter enables simple and fast configuration of the IO-Link devices connected to the LioN-X

regardless of the device manufacturer. By uploading the corresponding IODD file from the IODDfinder database, all parameters of the connected IO-Link device can be accessed in a standardized form in order to configure the correct device settings — suitable for any system.

Download the LioN Management Suite for free: belden.com/lion-x