# BELDEN

## LioN-X®
### eXcellent Performance. Smart-flexible-secure.

# LioN-X

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

The new, innovative LioN-X portfolio, based on the successful LioN-Power product family, has completely new features such as OPC UA, Security and up to 2A output current per port.
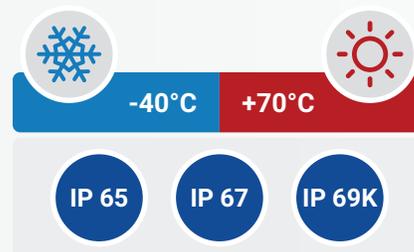
- **Versatile integration options** thanks to four implemented fieldbus protocols as well as different IIoT protocols.

- **Simple configuration** of various IO-Link devices using the IODD interpreter in Belden's configuration tool LioN-Management Suite (LMS) or the IODD interpreter on the embedded webserver.

- **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, CC-Link IE field basic) 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

- IODD interpreter available on LioN-X webserver to easily configure any kind of connected IO-Link device

IO-Link  EtherCAT®  CC-Link

PROFINET INDUSTRIAL ETHERNET  OPC UA  CoAP  { REST }

EtherNet/IP™  Modbus  MQTT ORG

LMS LioN-Management Suite

-40°C  +70°C

IP 65  IP 67  IP 69K

# 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.
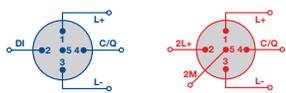
M12 ports configurable as digital input, digital output or IO-Link

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

Pin assignment IO-Link Class A

Pin assignment IO-Link Class B

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

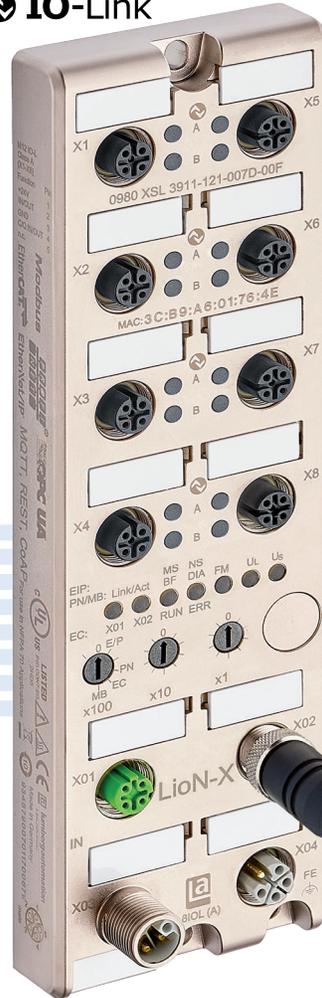Welding spark-resistant metal housing in IP67, IP69K

Web server available

## LioN-X® and LioN-Xlight®

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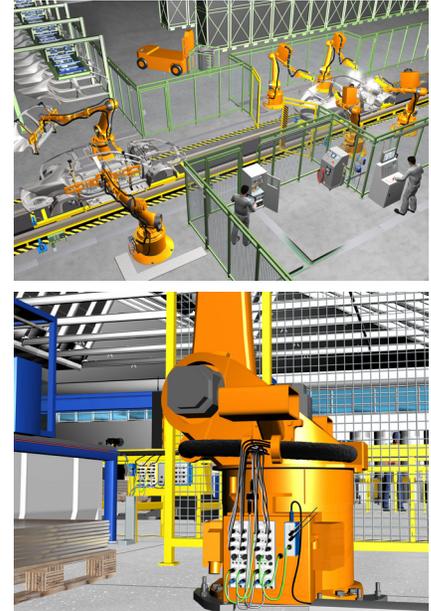
With the introduction of the LioN-Xlight, the LioN-X product range now also includes a new, highly cost-effective variant that does not come with additional features that are not strictly necessary, such as security.

**IO-Link**

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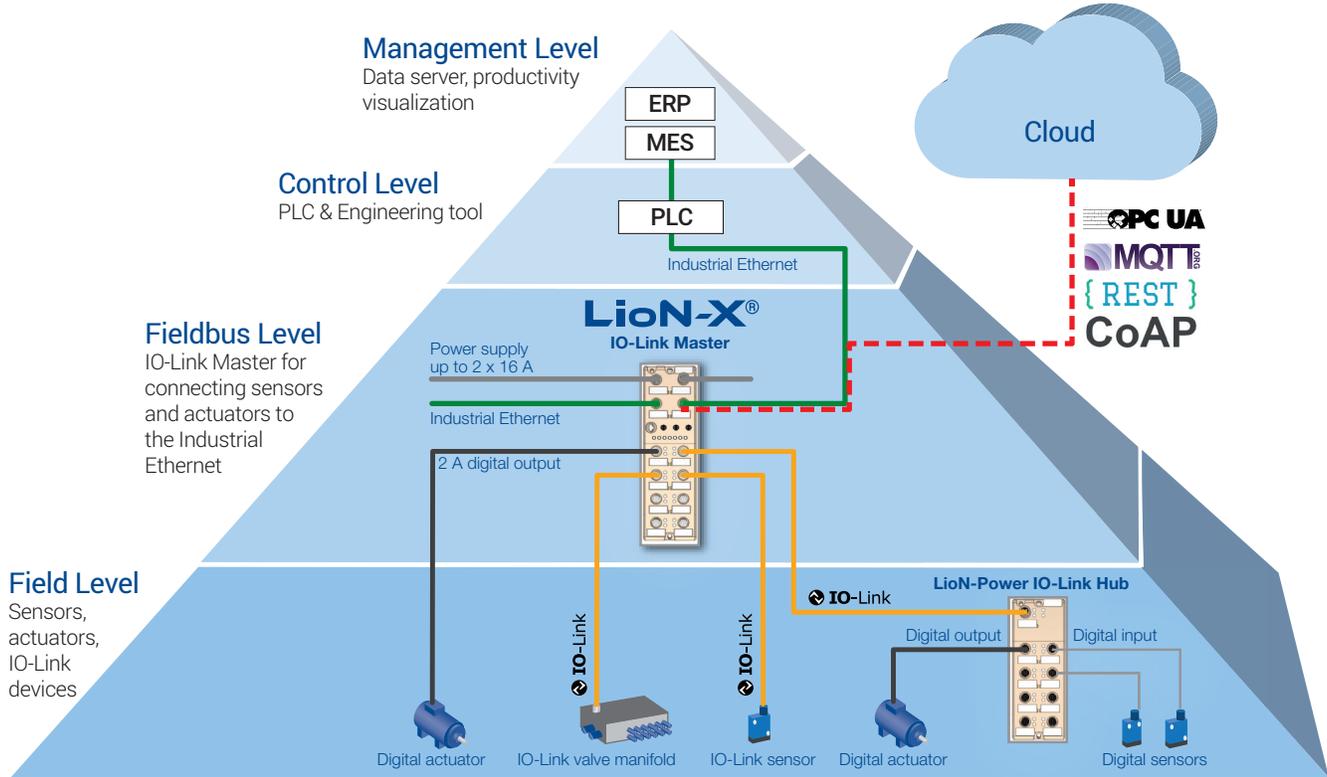
**Many different module variants are available in the proven eight-port housing design:**

| 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 | 8xIO-Link Class A with CC-Link IE Field Basic | 935701005 |
| 8 x IO-Link Class A with ModbusTCP | 935701004 | 4xIO-Link Class A, 8DI with CC-Link IE Field Basic | 935702005 |
| 4 x IO-Link Class A + 8 x DI with PROFINET | 935702001 | 8xIO-Link Class A with Multiprotocol incl. CC-Link | 935700002 |
| 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 | | |

*Coming soon

# 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

Cloud

OPC UA
MQTT
{ REST }
CoAP

**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

**Field Level**
Sensors, actuators, IO-Link devices

IO-Link

LioN-Power IO-Link Hub

Digital output    Digital input

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 EtherNet/ IP, EtherCAT EtherCAT, Modbus TCP and CC-Link IE field basic 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.

**Multi-PROTOCOL**

**SECURITY**

# LioN-X vs. LioN-Xlight: An Overview

| Function | LioN-Xlight® IO-Link Master | LioN-X® IO-Link Master |
|---|---|---|
| IO-Link Master versions | 8 x IO-Link Class A<br>4 x IO-Link Class A plus 8 x DI | 8 x IO-Link Class A<br>4 x IO-Link Class A plus 4 x IO-Link |
| Number of ports | 8 | 8 |
| Galvanic isolation | S | ✓ ** |
| IO-Link specification | V1.1.3 ready | V1.1.3 ready |
| Fieldbus interface | Single protocol (PROFINET, EtherNet/IP, EtherCAT, CC-Link or Modbus TCP) | Multiprotocol (PROFINET, EtherNet/IP, EtherCAT, CC-Link and Modbus TCP) |
| IoT protocol | REST (JSON) | REST (JSON), OPC UA, MQTT, CoAP |
| DO on pin 2 | S | 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 | S | ✓ |
| Temperature range | -20°C to +60°C | -40°C to +70°C |
| Rotary coding switches | S | ✓ |
| Default IP address | ✓ | S |
| Security (ACHILLES-tested, Syslog) | S | ✓ |

## 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