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**Lumberg Automation
LioN-Link Ethernet/IP Bus
Coupler (0940 ESL 611)**

New bus coupler for LioN-Link fieldbus system provides easy, flexible interface options across existing EtherNet/IP protocols for real-time data and diagnostics access in harsh industrial settings.



LioN-Link's standard wiring components make updates and repairs simple with readily available replacement parts for universal input/output (I/O) modules, which enables numerous configuration options and long-distance connections.

- Ease of implementation – standardized wiring components work with most types of connectors and cables for added flexibility.
- Seamless integration – this single I/O module supports diverse field wiring designs and can be used in interfaces following CanOpen, DeviceNet, Profibus and Profinet protocols.
- Time savings and speed – with a variety of configuration options available, and no special cables or connectors required, the procurement process is simpler and faster.

With the growing popularity of EtherNet/IP in manufacturing – particularly in North America – network engineers, system integrators and machine builders will find the new Lumberg Automation LioN-Link Ethernet/IP Bus Coupler a welcome addition to the field.

The overall LioN-Link system provides simplified connection options between the entire fieldbus system and the fieldbus independent I/O modules. These space-saving, lightweight modules provide a single I/O solution for a wide range of industrial applications. Software is integrated into each Bushead (Bus coupler) allowing communications with the web server, as well as access to real-time insights and extensive diagnostics across the entire manufacturing process. The system also provides great flexibility, for example, I/O modules can be extended to 100 meters, which is twice the distance of competing products.

Applications

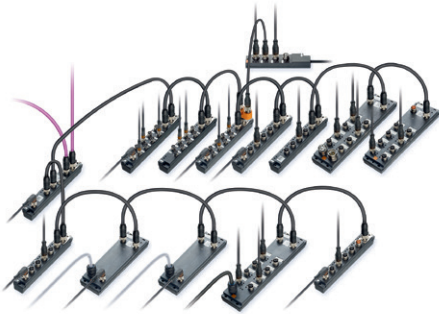
The new LioN-Link EtherNet/IP Bus Coupler (0940 ESL 611) provides a simple communications solution between the fieldbus system based on industrial Ethernet and the independent I/O modules of the LioN-Link system. It is designed to withstand mechanical vibration and shock, and resist corrosion. By replacing existing connectors with this new bus coupler, machine builders benefit from real-time, robust data and the ability to quickly identify and correct mistakes or issues in the field. The bus coupler will also be particularly relevant to automotive manufacturers and automation companies – two industrial segments increasingly using EtherNet/IP.

Your Benefits

The bus coupler modules are the first to provide a much-needed interface between the LioN-Link modular fieldbus system and the EtherNet/IP protocol. Depending on the bus coupler, the I/O module is distributed to the field through two lines. Each line can support up to 15 devices and extend up to 100 meters. The LioN-Link modules use simple, standard components, such as actuator/sensor cord sets and single- or double-ended options for the I/Os and the power supply. With the LioN-Link bus coupler, networks following the EtherNet/IP protocol can benefit from the system's ability to safely transmit digital and analog data between sensors and actuators, even in the harshest industrial environments. The modules also meet CE, Underwriters Laboratories and Open DeviceNet Vendors Association (ODVA) certifications.

**A new product to
serve your needs.
Be certain.**

LioN-Link Ethernet/IP bus Coupler enables universal integration, long-distance connections and access to real-time data.



LioN-Link Ethernet/IP Bus Coupler

Each LioN-Link EtherNet/IP Bus Coupler – node – (0940 ESL 611) connects up to 30 I/O modules distributed to two lines, with a maximum of 15 I/O modules per line. From the practice we know about Ethernet/IP networks with thousands of nodes. The point-to-point connection between these bus couplers and the I/O modules does not require any termination at the end of the lines. Configuration of the product also is detected automatically – no physical addressing of the modules is necessary.

Its built-in software provides ongoing communication with the web server, ensuring real-time information and insights into the manufacturing process to support quality control.


Benefits at a Glance

- Flexible configuration options: two lines per bus coupler, up to 100 meters user-defined extension per line and up to 15 devices per line
- Integrated web server allows monitoring, configuration and diagnostics of the LioN-Link system through a standard TCP/IP connection
- Meets IP67 protection degree rating
- Light weight and compact dimensions
- Resistant against mechanical vibration and shock, and chemical corrosion
- Uses standard M12-connectors for network and power supply
- Color coding of connectors allows an easy assignment to their function
- Plug-and-play commissioning
- Internal cycle time of 2 ms
- Powers the electronics of the connected I/O modules and the sensors through the internal bus cables; no additional cables required





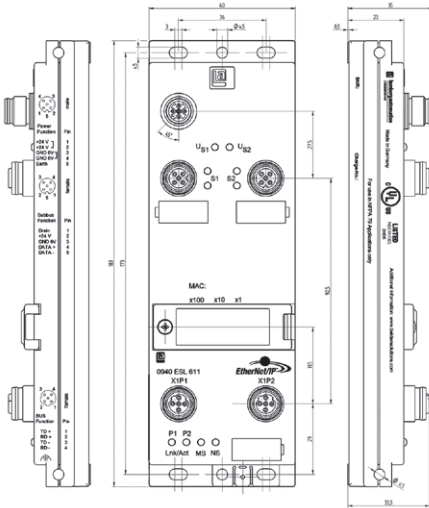
Technical Information

| | |
|------------------------------------|---|
| Product Description | LioN-Link Ethernet/IP Bushead |
| Type | 0940 ESL 611 |
| |  |
| Description | LioN-Link Ethernet/IP BusHead, IP67 bus coupler module, M12 LioN-Link connection, 5-poles; M12 power supply connection, 5-poles; M12 LAN connection, 4-poles; D-coded, integrated 3-port switch, web server |
| Technical Data | |
| Protection Class | IP67 |
| Environmental Temperature | -10 °C to +60 °C |
| Weight | 220 g |
| Bus System | |
| ID Nummer | Vendor ID: 21, Device ID 0x07 |
| Transfer Rate | 100 Mbit/s full duplex |
| System/Sensors Power Supply | |
| Rated Voltage | 24 V DC |
| Voltage Range | 19.2 to 28.8 V |
| Power Consumption | typ. 100 mA |




Diagnostic Indication

| LED | Indicator | Condition |
|--------------------------|--|---|
| P1 LNK/ACT P2 LNK/ACT | Green Yellow flashing Off | Connection to an Ethernet device Ethernet data exchange No connection |
| MS | Green Green flashing Red flashing Red/green flashing Off | Device ready for operation Device not or wrong configured Firmware update Self-test is running Device is off |
| NS | Green Green flashing Red Red flashing Off | Connection to master exists IP address exists, but no master connection IP address is used by a different device Connection has timed-out Device is off |
| S1 | Green Red Red/green alternating flashing | Line 1 active, data exchange with I/O-modules Incorrect configuration or modules permuted Restart of line 1 |
| S2 | Green Red Red/green alternating flashing | Line 2 active, data exchange with I/O-modules Incorrect configuration or modules permuted Restart of line 2 |
| US 1 | Green Off | System-/sensors power supply line 1 available System-/sensors power supply line 1 missing |
| US 2 | Green Off | System-/sensors power supply line 2 available System-/sensors power supply line 2 missing |

Technical Information



Pin Assignment

| LAN Connection M12, D-coded | LioN-Link Connection M12 | Power Supply M12 |
|--|--|---|
|  <ul style="list-style-type: none"> 1 = TD+ 2 = RD+ 3 = TD- 4 = RD- |  <ul style="list-style-type: none"> 1 = Drain 2 = 24 V Sensor/System 3 = 0 V Sensor/System 4 = Data + 5 = Data - |  <ul style="list-style-type: none"> 1 = +24 V 2 = +24 V 3 = 0 V 4 = 0 V 5 = Earth |

Belden Connectivity Center

Nowadays it is more important than ever to continuously increase the efficiency of production processes. Safe, cost-effective connectivity solutions for your machinery and plant play an important role in achieving this. Customized solutions tailored to your individual requirements enable you to substantially reduce your total cost of ownership. Thanks to the Belden Connectivity Center, the only one of its kind in the market, we are your worldwide partner when it comes to implementing such solutions, flexibly and rapidly, whether you need customized connectors and cable assemblies, or active and passive I/O modules for fieldbus or Ethernet networks – always in line with our motto "listen, understand, implement and deliver." You will benefit both from the expertise of our knowledgeable specialists and from our extensive experience as a leading supplier of high-quality automation components. Let us utilize your challenges for our mutual success.

Always Stay Ahead with Belden

In a highly competitive environment, it is crucial to have reliable partners who are able to add value to your business. When it comes to signal transmissions, Belden is the No. 1 solutions provider. We understand your business and want to know your specific challenges and targets to see how effective signal transmission solutions can push you ahead of the competition. By combining the strengths of our five leading brands, Belden, GarrettCom, Hirschmann, Lumberg Automation and Tofino Security, we are able to offer the solution you need. Today, it may be a single cable, a switch or a connector, thus solving a specific issue; tomorrow, it can be a complex range of integrated applications, systems and solutions.

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