



MVK Pro and IMPACT67 Pro

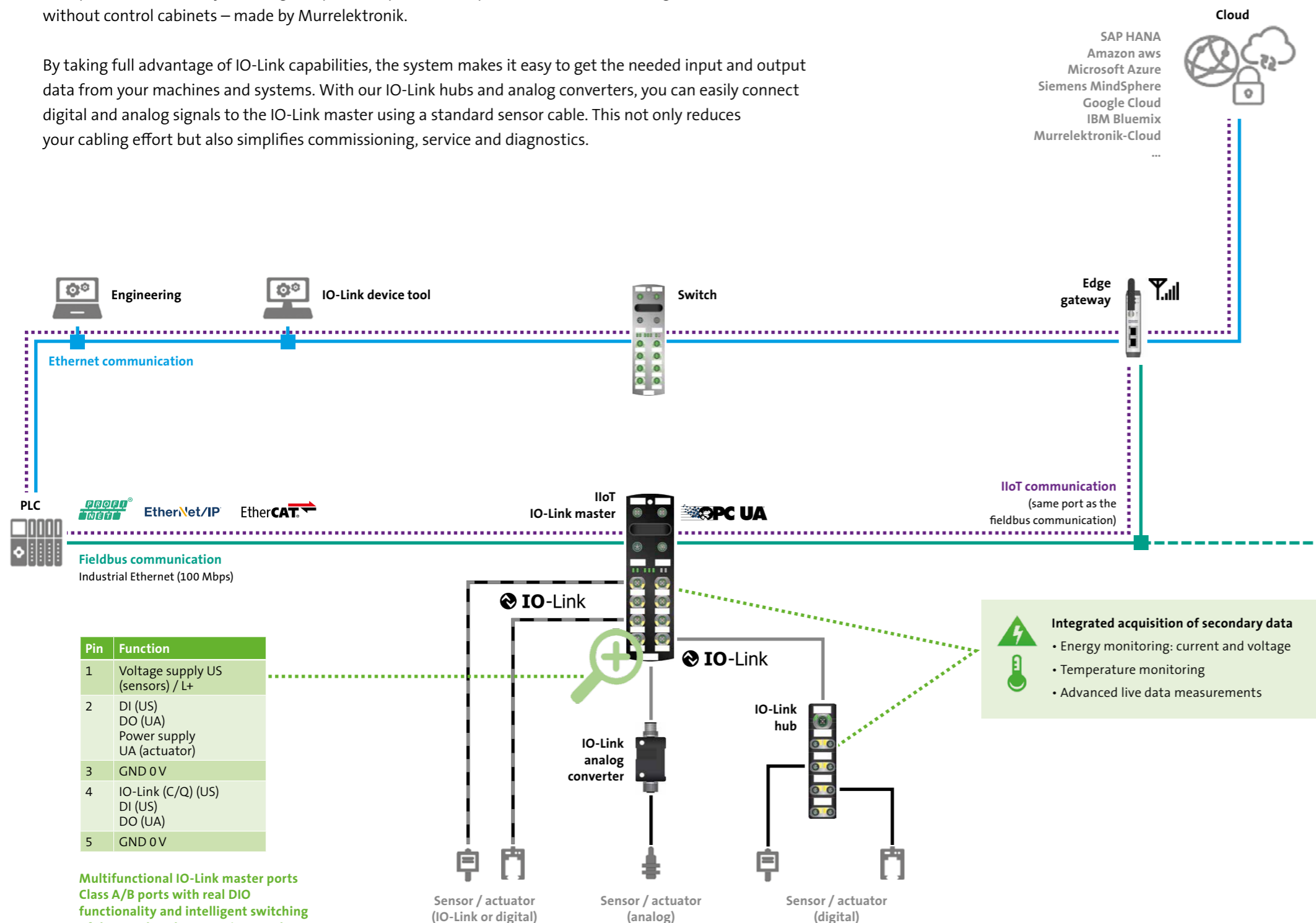
The IO-Link system by Murrelektronik

 **MURR**
ELEKTRONIK
stay connected

EFFICIENT AND ECONOMICAL INSTALLATION CONCEPTS USING IO-LINK

MVK Pro and IMPACT67 Pro are the latest addition to Murrelektronik's IP67 rated I/O system. Available for PROFINET, Ethernet/IP and EtherCAT protocols, each is equipped with eight IO-Link master ports. The L-coded M12 ports allow for daisy-chaining and provide up to 2 x 16 A power. Benefit from intelligent automation without control cabinets – made by Murrelektronik.

By taking full advantage of IO-Link capabilities, the system makes it easy to get the needed input and output data from your machines and systems. With our IO-Link hubs and analog converters, you can easily connect digital and analog signals to the IO-Link master using a standard sensor cable. This not only reduces your cabling effort but also simplifies commissioning, service and diagnostics.



The benefits:

- True multifunctional IO-Link master ports:
Use as digital in-/output or IO-Link Class A/B.
- More power in less space thanks to L-coded M12 Power ports (with up to 2 x 16 A current capacity).
- Support of the most common industrial protocols allows an vendor-agnostic data exchange.
- Optimized for IIoT* applications – the new IO-Link master modules offer an integrated OPC UA server.
- New, multifunctional IO-Link hubs with up to 16 DIO channels.
- IO-Link analog converters for most common signals: current, voltage and temperature measurements via PTC resistors or thermocouples.
- Fast and easy changeover to IO-Link technology via preconfigured Plug & Play models.
- Detailed fault detection (in the event of a malfunction) with real time power and data monitoring.
- IODD on board: Fast integration of IO-Link devices.

*Industrial Internet of Things

MVK PRO AND IMPACT67 PRO

IP67 rated fieldbus modules are an important component in decentralized installations. They replace complexly wired and expensive terminal boxes. MVK Pro and IMPACT67 Pro, Murrelektronik's compact IO-Link master modules with eight multifunctional master ports are the most intelligent way to connect IO-Link devices. Combine these modules with our selection of IO-Link hubs and analog converters to increase your flexibility while minimizing hardware costs.

In addition to pure process data (I/Os), the new Pro modules also provide secondary extended diagnostic data (voltage, current and temperature values) for both the respective ports and the entire module. This allows anomalies to be detected and the actual process to be optimized via data analysis. With the help of OPC UA, this can be done completely without a controller using a standard protocol.

The most flexible port ever – IO-Link Class A/B master port

- 8x multifunctional IO-Link Class A/B master ports with true DIO functionality – one module for everything: 16 DI, 16 DIO, 16 DO, 8 IOL or any combination.
- Intelligent supply voltage switching at pin 2 and 4.
- Up to 4 A per port (up to 2 A each at pin 2 and 4).

Handle maximum performance

- 2x M12 L-coded for daisy-chainable installations.
- 4* and 5 pole options for any installation concept.
- Up to 2x 16 A.

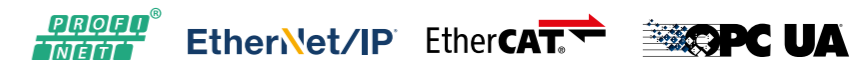
Rugged housing

- Robust, fully potted housings (plastic – IMPACT67 Pro, metal – MVK Pro).
- IP65, IP67.
- Made for harsh industrial environments.



Global deployment – guaranteed

- 2x M12 D-coded, 100 Mbps.
- PROFINET, EtherNet/IP, EtherCAT.
- Rotary coding switch (for configuration).
- Automated, network-wide firmware updates via Murrelektronik's AutoUpdateX tool.
- IO-Link master with OPC UA server – from the sensor to the cloud.



The new user-friendly standard

- Real time power and data monitoring: current, voltage, temperature and min/max values, etc.
- Quick and easy configuration with the integrated Murrelektronik webserver.
- IODD on board from Murrelektronik and extended channel diagnostics.



* 4-pole option only available for PROFINET

* UL in progress

IO-LINK-HUBS

With Murrelektronik's IO-Link hubs, you can easily connect multiple digital sensors and actuators to a single IO-Link master port using a standard sensor cordset.

In combination with Murrelektronik's IO-Link masters, MVK Pro and IMPACT67 Pro, the IO-Link hubs help to minimize downtimes in machines and systems. Individual channel diagnostics are automatically transmitted to the control system. No configuration required. If an error occurs, only the affected channel of the hub is switched off. The new, multifunctional DIO models with up to 16 channels give you maximum flexibility.



- Up to 16 multifunctional DIO channels for universal use.
- Up to 2 A per output.
- M12 and M8 models.
- Maximum channel specific error detection (simple and detailed) in the event of faults.
- Extended channel diagnostics.
- Real time power data monitoring.
- Supports the Common Profile Identification and Diagnosis (I&D).
- Fast, uncomplicated changeover to IO-Link via preconfigured plug & play models – in addition to configurable hubs.
- Module ID option for tool change applications.
- Supports COM3 – the fastest IO-Link data transfer rate.
- Firmware updates can be performed through IO-Link's (standardized) BLOB transfer.
- Proven, fully potted and robust plastic housing (IP65 and IP67 rated).



- Makes any conventional analog sensor or actuator IO-Link-capable.
- Interference free, measured value transmission thanks to digital communication with standard, unshielded M12 cables.
- Fast and precise conversion with high 16-bit resolution.
- On hand model reduction thanks to multi-analog converters: Multi-AI-I/U, Multi-AO-I/U, Multi-RTD and Multi-Thermocouple.
- Quick and easy changeover to IO-Link via preconfigured plug & play models.
- Extensive diagnostic options via IO-Link and LED indicators.
- NEW: Single-wire IO-Link analog converter for direct connection of analog 3-wire sensors – without ground bridge in the connector.
- NEW: Analog converter for temperature measurements of resistors (RTD/PT) and thermocouples.

IO-LINK ANALOG CONVERTER

With Murrelektronik's IO-Link analog converters, you can easily connect analog sensors and actuators to IO-Link masters.

While many sensors and actuators are designed for use in IO-Link applications, classic analog sensors and actuators still have to be integrated into installation concepts. The fastest, easiest and most cost-effective way to integrate the benefits of IO-Link into conventional analog sensors are Murrelektronik's IO-Link analog converters. They convert the analog signal to the IO-Link protocol making it possible to connect a wide range of different types of analog devices to an IO-Link master.

Murrelektronik offers a wide portfolio of IO-Link analog converters. The product line has been expanded to include IO-Link devices for temperature, resistance and single-wire measurement to work with even more applications. Multifunctionality, plug & play, precision and speed are the distinguishing features of these products.

THE NEW IO-LINK MASTER STANDARD

Global, control-independent deployment

- The new MVK Pro and IMPACT67 Pro IO-Link master modules support the leading industrial fieldbus protocols (PROFINET, Ethernet/IP and EtherCAT).
- With a wide range of functions, the new master modules are designed for applications that requires maximum performance and absolute reliability.

The most flexible port ever – IO-Link Class A/B master port

- The innovative IO-Link master ports A/B from Murrelektronik are absolute all-rounders: Whether IO-Link, DI, DO, DIO or any combination – the function can be configured at each pin (2 and 4).
- Intelligent switching of the supply voltage means that the correct voltage supply is always used: Actuator supply for DOs and sensor supply for DIs.
- IO-Link devices with high power requirements can be supplied directly from the module without cross-feeding – thanks to the additional supply of up to 2 A at each IO-Link port.

Maximum power in the smallest space – M12 Power (L-coded)

- The compact M12 power cables (L-coded) for the masters are particularly powerful (up to 16 A per pin).
- Daisy chaining the power supply across several modules simplifies installation and reduces cable runs.



EQUIPPED FOR THE FUTURE

OPC UA – the platform-independent IIoT standard

- Optimized for IIoT applications, the new IO-Link-master modules offer an integrated OPC UA server in accordance with the OPC UA for IO-Link Companion specification.
- Simple, seamless integration of sensor data into ERP and MES systems (sensor-to-cloud functionality).
- Access from OPC UA clients to a wide variety of data, e.g. configuration data, status information, identification and diagnostic data.

Data analytics – real time power and data monitoring

- In addition to pure process data (I/Os), the new Pro modules also provide secondary extended diagnostic data (voltage, current and temperature values) for the respective ports and the entire module.
- With the acquisition and provision of time-stamped live data (min/max values, unforeseen events), anomalies can be detected and the actual processes can be optimized via data analysis.
- In the event of a malfunction, rapid, detailed fault detection and prediction can be carried out via OPC-UA standardized protocols without a controller.

Simple and fast configuration in the web server

- An integrated web server provides extensive information, diagnostics and configuration options.
- The web server also provides all current live data (e.g. current, voltage and temperature values) and diagnostics.
- Functional tests can be carried out even before commissioning with the help of the built-in force mode – completely without a connected controller.



THE PERFECT TEAM:

IO-LINK-MASTER, HUBS AND CONVERTERS

BY MURRELEKTRONIK

Easy configuration with IODD on board

- IODD on board simplifies the integration of IO-Link devices into installation systems.
- IODD data sets are integrated directly into the MVK Pro and IMPACT67 Pro's GSDML (PROFINET configuration file). This allows the IO-Link devices to be configured quickly and easily in the PLC.
- When an IO-Link-capable sensor or actuator is connected, the modules access these device description files directly without manual parameterization or special tools.
- The advantage: fast integration, short commissioning times and maximum flexibility.

PROFINET diagnostics made simple – Extended Channel Diagnosis

- Together with Murrelektronik's MVK Pro and IMPACT67 Pro IO-Link masters, the MVP8 and MVP12 IO-Link hubs help minimize downtime in machines and plants.
- All diagnostic information (e.g. short circuit) is encoded in plain text via the GSDML file.
- If an error occurs, the master modules convert the IO-Link events that the hub supplies into corresponding PROFINET diagnostics.
- Diagnostics are automatically transmitted to the controller in detail down to the individual channel and without additional configuration.
- This eliminates the need for tedious programming of the IO-Link event codes. This saves time and eliminates the risk of incorrect programming.

Quick and easy changeover to IO-Link – Plug & Play models

- With preconfigured IO-Link hubs and IO-Link analog converters from Murrelektronik, the switch to IO-Link can be made in no time at all without additional configuration.
- Commissioning and integration is quick, uncomplicated and simple thanks to the preconfiguration.
- No need to familiarize yourself with manuals, configurations, etc.
- Plug & Play: ready to use right away.



IO-LINK MASTER



MVK PRO		
Description	Product name	Art.-No.
Compact module, metal housing, PROFINET, 8DIO 8IOL (8x M12), 2x M12 Power (4-pole, L-coded), IP65/67	MVK Pro MPNIO DIO8 IOL8 M12L 4P	54600
Compact module, metal housing, PROFINET, 8DIO 8IOL (M12), 2x M12 Power (5-pole, L-coded), IP65/67	MVK Pro MPNIO DIO8 IOL8 M12L 5P	54610
Compact module, metal housing, EtherNet/IP, 8DIO 8IOL (M12), 2x M12 Power (5-pole, L-coded), IP65/67	MVK Pro ME DIO8 IOL8 M12L 5P	54611
Compact module, metal housing, EtherCAT, 8DIO 8IOL (M12), 2x M12 Power (5-pole, L-coded), IP65/67	MVK Pro MEC DIO8 IOL8 M12L 5P	54612

IMPACT67 PRO		
Description	Product name	Art.-No.
Compact module, plastic housing, PROFINET, 8DIO 8IOL (8x M12), 2x M12 Power (4-pole, L-coded), IP65/67	IMPACT67 Pro PN DIO8 IOL8 M12L 4P	54620
Compact module, plastic housing, PROFINET, 8DIO 8IOL (M12), M12 Power (5-pole, L-coded), IP65/67	IMPACT67 Pro PN DIO8 IOL8 M12L 5P	54630
Compact module, plastic housing, EtherNet/IP, 8DIO 8IOL (M12), M12 Power (5-pole, L-coded), IP65/67	IMPACT67 Pro E DIO8 IOL8 M12L 5P	54631
Compact module, plastic housing, EtherCAT, 8DIO 8IOL (M12), M12 Power (5-pole, L-coded), IP65/67	IMPACT67 Pro EC DIO8 IOL8 M12L 5P	54632

IO-LINK HUBS



MVP8		
Description	Product name	Art.-No.
IO-Link hub, plastic housing (30 mm), IO-Link V1.1 Class A (M12) COM3, 8DIO (M8 3-pole), Plug & Play version (fixed parameters), IP65/67	MVP8-P3 DIO8 8xM8-3 IOLA12 B0	59507
IO-Link hub, plastic housing (30 mm), IO-Link V1.1 Class A (M12) COM3, 8DIO (M8 3-pole), extended parameter range, IP65/67	MVP8-P3 DIO8 8xM8-3 IOLA12 E0	59607
IO-Link hub, plastic housing (30 mm), IO-Link V1.1 Class B (M12) COM3, 4DIO 4DIO (M8 3-pole), two galvanically separated potential groups, Plug & Play version (fixed parameters), IP65/67	MVP8-P3 DIO4 DIO4 8xM8-3 IOLB12 B0	59504
IO-Link hub, plastic housing (30 mm), IO-Link V1.1 Class B (M12) COM3, 4DIO 4DIO (M8 3-pole), two galvanically separated potential groups, extended parameter range, IP65/67	MVP8-P3 DIO4 DIO4 8xM8-3 IOLB12 E0	59604

MVP12		
Description	Product name	Art.-No.
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class A (M12) COM3, 16DI (M12), Plug & Play version (fixed parameters), IP65/67	MVP12-P6 DI16 8xM12A IOLA12 B0	59710
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class A (M12) COM3, 16DI (M12), extended parameter range, IP65/67	MVP12-P6 DI16 8xM12A IOLA12 E0	59810
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class A (M12) COM3, 16DIO (M12), Plug & Play version (fixed parameters), IP65/67	MVP12-P6 DIO16 8xM12A IOLA12 B0	59719
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class A (M12) COM3, 16DIO (M12), extended parameter range, IP65/67	MVP12-P6 DIO16 8xM12A IOLA12 E0	59819
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class B (M12) COM3, 8DIO 8DIO (M12), two galvanically separated potential groups, Plug & Play version (fixed parameters), IP65/67	MVP12-P6 DIO8 DIO8 8xM12A IOLB12 B0	59718
IO-Link hub, plastic housing (60 mm), IO-Link V1.1 Class B (M12) COM3, 8DIO 8DIO (M12), two galvanically separated potential groups, extended parameter range, IP65/67	MVP12-P6 DIO8 DIO8 8xM12A IOLB12 E0	59818

IO-LINK ANALOG CONVERTER



Analog Input		
Description	Product name	Art.-No.
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI I 0...20 mA (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AI I 0 ... 20mA, M12	5000-00501-1100000
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI I 4...20 mA (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AI I 4 ... 20 mA, M12	5000-00501-1110000
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI U 0...10 V (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AI U 0 ... 10 V, M12	5000-00501-1200000
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI U -10...+10 V (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AI U -10 ... +10V, M12	5000-00501-1210000
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI Multi (I/U) (M12), extended parameter range, IP65/67	IO-Link / analog converter AI Multi U / I, M12	5000-00501-1300001
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI Multi-Single-Wire (I/U) (M12), extended parameter range, IP65/67	IO-Link / analog converter AI Multi U / I, M12, Single-Wire	5000-01501-1300001
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI Multi-PT/RTD (M12), extended parameter range, IP65/67	IO-Link / analog converter AI Multi PT/RTD, M12	5000-00501-1500001
IO-Link analog converter, plastic housing, IO-Link V1.1 Class A (M12), AI Multi thermocoupler (M12), extended parameter range, IP65/67	IO-Link / analog converter AI Multi thermocoupler, M12	5000-00501-1400001

Analog Output		
Description	Product name	Art.-No.
IO-Link analog converter, plastic housing, AO I 0...20 mA (M12), IO-Link V1.1 Class A (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AO I 0...20mA, M12	5000-00501-2100000
IO-Link analog converter, plastic housing, AO I 4...20 mA (M12), IO-Link V1.1 Class A (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AO I 4 ... 20mA, M12	5000-00501-2110000
IO-Link analog converter, plastic housing, AO U 0...10 V (M12), IO-Link V1.1 Class A (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AO U 0 ... 10V, M12	5000-00501-2200000
IO-Link analog converter, plastic housing, AO U -10...+10 V (M12), IO-Link V1.1 Class A (M12), Plug & Play version (fixed parameters), IP65/67	IO-Link / analog converter AI U -10 ... +10V, M12	5000-00501-1210000
IO-Link analog converter, plastic housing, AO Multi (I/U) (M12), IO-Link V1.1 Class A (M12), extended parameter range, IP65/67	IO-Link / analog converter AO Multi U / I, M12	5000-00501-2300001



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