

**IO-LINK**

WE SPEAK YOUR LANGUAGE.

# LONG TERM RELATIONSHIP

Finding the  
right partner  
for your  
**IO-Link projects.**



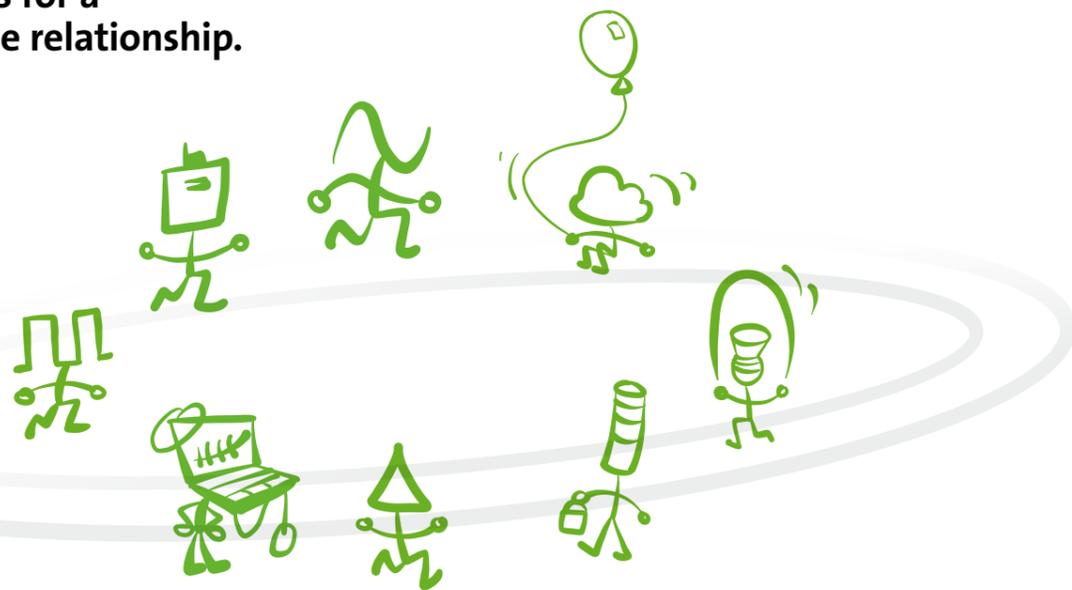
**MURR**  
**ELEKTRONIK**

*stay connected*



# A COMMON LANGUAGE

is the basis for a sustainable relationship.



Murrelektronik is represented in over **50 countries** – with over **3000 employees**, **5 production sites** and **logistics centers** we offer a high quality of service, availability and fast delivery.



## The language of machines

Perfect communication from the sensor to the cloud – this is what we ensure as the **No. 1 partner** in developing and manufacturing **decentralized automation technology**. With proven expertise and new technologies, we connect the control level with the sensor-actuator level. Transparent, efficient and uncomplicated.

## The language of people

For **more than 40 years**, we have listened to you, understood your needs, implemented your wishes and developed them further. That's how we can draw on your experience and our expertise to develop solutions that give you a **real advantage**. Because a **long-term partnership** is important to us.

## We speak your language

As a standard, **IO-Link** is the **common language** across manufacturers for flexible solutions that can be used worldwide. And with us, you can turn it into your **language of success**: Whether as a first entry into **digitalization**, **universal installation system** or future-proof **IIoT concept** – the Murrelektronik **IO-Link system** is always the best choice and as flexible as the language itself. Let's talk about it!

# LET'S MEET

Getting to know each other the easy way.



Creating connections has always been our passion. Our new IO-Link system therefore not only networks everything with everything else inside the machine, but also has a particularly good connection to higher-level control systems and the cloud.

## Why IO-Link?

### Easy installation

Thanks to consistently plugged connections and without the separate routing of analog cables, sensors and actuators can be easily connected and universally exchanged.

Thanks to IO-Link's point-to-point connection, no further addressing is required.

### Facilitates service and maintenance

IO-Link opens up continuous diagnostic options right down to the sensor/actuator. This means that error sources or components that need to be replaced can be quickly located.

Thanks to process data monitoring, IO-Link enables predictive maintenance and if necessary, device exchange. Device exchange takes place without reconfiguration – because all configurations are stored in the master!

### Fewer costs

IO-Link enables standardized machine concepts and lowers costs. This is because the required variety of sensors and actuators can be reduced to a few, configurable devices – with expanded functionality at the same time. In addition, there is a reduced variety of parts due to configurable masters and hubs with multi-functional ports. In addition, IO-Link puts an end to expensive shielded cordsets and analog signals. IO-Link offers interference-free, digital signal transmission and relies on cost-effective, unshielded M8/M12 cordsets.



## Why Murrelektronik?

- Easy changeover to IO-Link technology thanks to a complete plug & play system
- One system for all signal types: digital, analog, IO-Link
- Designed for IIoT applications and data analytics
- Simplifies the standardization of machine concepts

Thanks to our many years of experience in the field of decentralized installation technology, we are able to develop the right concept for our customers while providing active support during planning and commissioning.

# MATCH-MAKER

**We get along with everyone and anyone.**

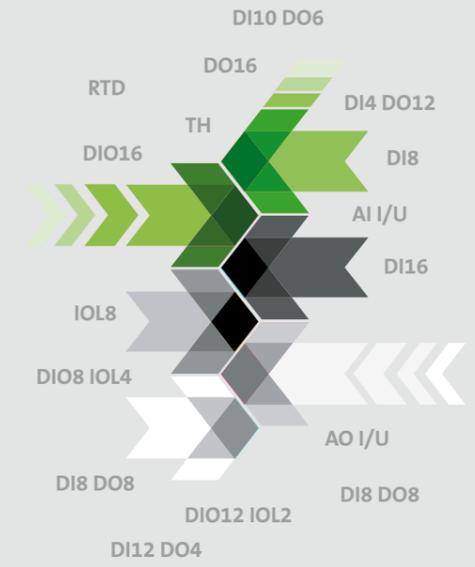
When products from different manufacturers meet in automation, communication often becomes a challenge. This is where our IO-Link masters are at home. These independent workhorses network everything with everything else, ensuring transparency from the sensor to the cloud.



## One system for all

The IO-Link system from Murrelektronik speaks the language of your sensors. Whether digital, analog, or IO-Link signals are involved, the perfectly matched components offer simple plug & play solutions for every signal.

Preconfigured devices such as hubs, converters and lights make it easy to switch to IO-Link installations. They work immediately – without having to be configured.



## Local, global – everywhere!

In order to realize different grounding options, the L-coded connector for the supply voltage is either 4-pole or 5-pole. This means that grounding can be performed via a grounding strap for the 4-pole model or via the cordset for the 5-pole model (4+FE) – to meet your specifications.

The modules also have all the important local approvals.

This combination makes it the ideal tool for global use.



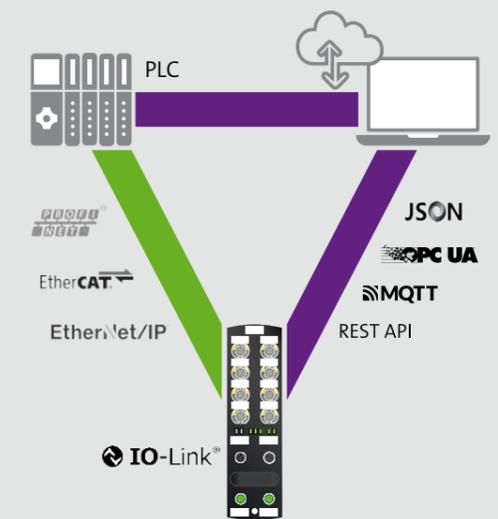
EtherNet/IP™

EtherCAT® PROFIBUS® NET

## Optimized for IIoT

The new Pro-Master modules already have the “Standardized Master Interface (SMI)” integrated and thus allow manufacturer-independent and harmonized access via IIoT protocols such as OPC UA, JSON REST API and MQTT.

Configuration, process and diagnostic data can thus be used independently of the fieldbus protocol. This gives you complete freedom and data transparency – independent of the system!

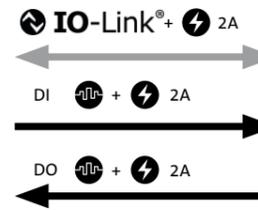
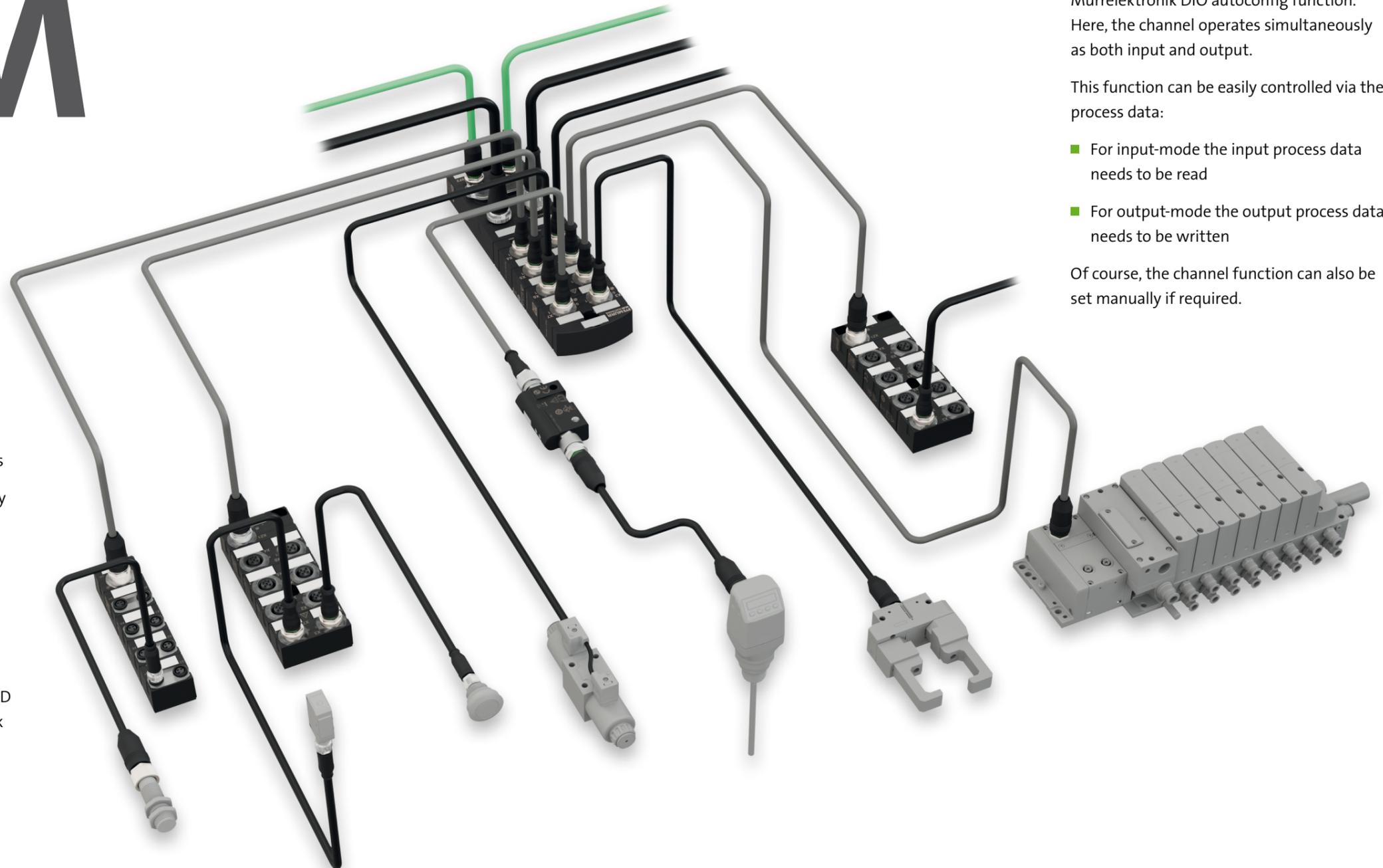


# DREAM TEAM

## Fully coordinated.

The perfect harmony of IO-Link master and the associated hubs and converters brings many advantages:

- All eight IO-Link master ports are expandable with IO-Link devices, hubs and analog converters
- Up to 128 additional I/O signals at only one IP address
- The master ports provide up to 4 A current. That's why even power-intensive components can be connected with only one standard M12 cordset
- Hubs and converters are available as preconfigured plug & play models or as multifunctional, freely configurable models – for maximum flexibility with minimum parts on hand
- Out-of-the-box commissioning through integrated IODD files (only for PROFINET) – powered by Murrelektronik IODDonBoard



## One for all cases

At each of the 8 master ports the channel function (pin 2 and pin 4) can be freely configured.

## DIO – Autoconfig

Our IO-Link masters and hubs offer the Murrelektronik DIO autoconfig function. Here, the channel operates simultaneously as both input and output.

This function can be easily controlled via the process data:

- For input-mode the input process data needs to be read
- For output-mode the output process data needs to be written

Of course, the channel function can also be set manually if required.

## IO-Link Master

- 8x multifunctional IO-Link master ports (synchronized), with intelligent supply voltage switching and power management for setting current values
- Provides additional data for preventive diagnostics via integrated sensors for energy and condition monitoring
- IIoT connectivity via OPC UA, JSON over REST API and JSON over MQTT
- L-coded M12 power supply connectors with up to 2x 16 A – output currents up to 2 A per pin / 4 A per port



## IO-Link Power Supply

- Moves power from the control cabinet to the field – with up to 93.8% efficiency
- Integrated IO-Link interface enables extensive and transparent communication as well as remote configuration and monitoring
- L-coded M12 power supply voltage output. Two integrated channels with up to 10 A for 24 V DC and load circuit monitoring (MICO).

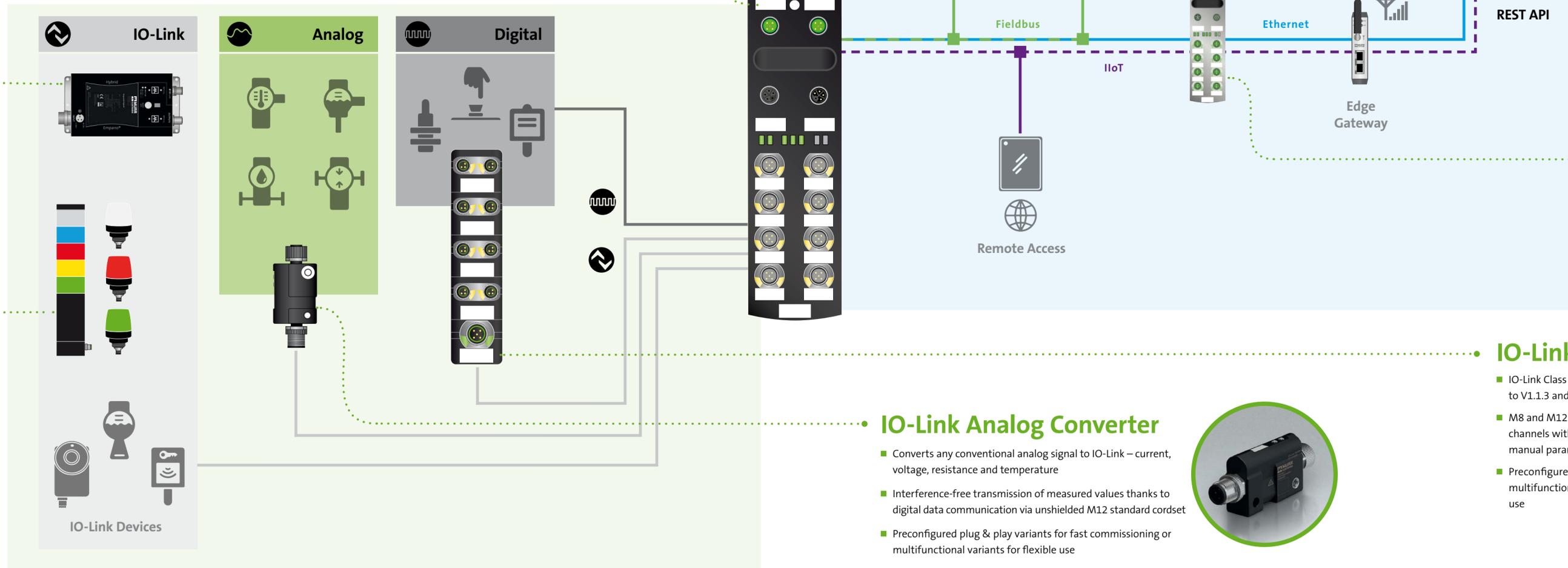


## IO-Link Stack Lights

- LED stack lights for signaling process states (five colors / multicolor)
- Integrated IO-Link interface enables simple connection with an M12 standard cordset
- Plug & Play models for fast commissioning and control via the process data



The Murrelektronik IO-Link system is an open interface ensuring seamless communication from the sensors to the cloud!



## IIoT Protocols

- Using the IIoT protocols OPC UA, JSON REST API and MQTT, the IO-Link masters and connected devices can be parameterized in a completely standardized, fieldbus-independent manner and thus across systems
- Fieldbus and IIoT communication run in parallel over one cable



## Ethernet Switches

- IP67 Fast Ethernet and Gigabit Ethernet switches as managed and PROFINET managed variants – with integrated web server
- DHCP, SNMP (v1, v2c, v3), RSTP, STP, LLDP, NTP, RMON, SSH (CLI) Syslog, Port Mirroring, VLAN (QoS), IEEE 802.1q
- L-coded M12 power supply voltage connections

## IO-Link Analog Converter

- Converts any conventional analog signal to IO-Link – current, voltage, resistance and temperature
- Interference-free transmission of measured values thanks to digital data communication via unshielded M12 standard cordset
- Preconfigured plug & play variants for fast commissioning or multifunctional variants for flexible use



## IO-Link Hubs

- IO-Link Class A or Class B with electrical isolation – COM3, according to V1.1.3 and Common Profile Identification & Diagnosis (I&D)
- M8 and M12 I/O variants with up to 16x multifunctional DIO channels with automatic signal detection (input or output) or manual parameterization – up to 2A per output
- Preconfigured plug & play variants for fast commissioning or multifunctional variants with extended parameter range for flexible use



# ON CLOUD NO 9

The direct path to the cloud and back.



## Power management

With the help of our new power management function, the currents per pin can be set/limited and adapted to the connected user. If short circuits occur at the port, the set value is maintained and the port is not overloaded.

## Cross-system configuration

The new Pro-Master modules already have the “**Standardized Master Interface (SMI)**” integrated and allow manufacturer-independent and harmonized access via the IIoT protocols OPC UA, JSON REST API and MQTT. In this way, the master modules and connected devices can be configured across systems and independent of fieldbus.

## Parallel access

The new Pro modules require only one cable for control communication (fieldbus) and IIoT communication – because communication runs in parallel. This allows you to ensure remote access to the devices at any time and any place.

## Data monitoring

To enable process optimization, all data generated in the field (process data, parameter, information and diagnostic data) can be monitored and logged very easily, standardized and transparently via IIoT protocols. In addition, machine data can be linked to live energy data measured by the master and evaluated via data analysis procedures.



## Energy monitoring

In addition to standard fieldbus diagnostics, the new Pro modules also provide extended energy measurement data (current, voltage and current temperature) for each port and the module.

The measurement data can be used to detect process deviations (e.g. higher energy consumption, voltage drops, current peaks, etc.) at an early stage, which enables preventive diagnostics.

## Data visualization

All new IO-Link master modules are supplied with an integrated web server that offers configuration options in addition to visualizing information, diagnostics and measured values.

## IO-Link Master



Art. No.	54600	54610	54611	54612
Description	MVK Pro MPNIO DIO8 IOL8 M12L 4P	MVK Pro MPNIO DIO8 IOL8 M12L 5P	MVK Pro ME DIO8 IOL8 M12L 5P	MVK Pro MEC DIO8 IOL8 M12L 5P
Protection	IP67			
Housing	Metal, zinc die-cast			
Fieldbus connection	2x M12, 4-pole, D-coded			
Fieldbus protocol	PROFINET		EtherNet/IP	EtherCAT
Supply connection	2x M12 Power, L-coded, 2x max. 16 A			
	4-pole		5-pole	
I/O ports	8x M12, 5-pole, A-coded			
IO-Link functions	8x Class A/B (Common Ground), ports synchronized to internal controller, min. 400 µs cycle-time, developed acc. to IO-Link V1.1.3, standardized master interface			
Channel functions	Pin 2: DIO8/UA8 – DI, DO, UA (configurable) – max. 2 A, with switching of the supply voltage Pin 4: DIO8/IOL8 – DI, DO, IOL (configurable) – max. 2 A, with switching of the supply voltage Power Management: Maximum current adjustable per pin – 0.5 ... 2 A			
IIoT functions	OPC UA, JSON REST API, JSON MQTT, integrated sensors (current, voltage, temperature), web interface			



Art. No.	54620	54630	54631	54632
Description	IMPACT67 Pro PN DIO8 IOL8 M12L 4P	IMPACT67 Pro PN DIO8 IOL8 M12L 5P	IMPACT67 Pro E DIO8 IOL8 M12L 5P	IMPACT67 Pro EC DIO8 IOL8 M12L 5P
Protection	IP67			
Housing	Plastic			
Fieldbus connection	2x M12, 4-pole, D-coded			
Fieldbus protocol	PROFINET		EtherNet/IP	EtherCAT
Supply connection	2x M12 Power, L-coded, 2x max. 16 A			
	4-pole		5-pole	
I/O ports	8x M12, 5-pole, A-coded			
IO-Link functions	8x Class A/B (Common Ground), ports synchronized to internal controller, min. 400 µs cycle-time, developed acc. to IO-Link V1.1.3, standardized master interface			
Channel functions	Pin 2: DIO8/UA8 – DI, DO, UA (configurable) – max. 2 A, with switching of the supply voltage Pin 4: DIO8/IOL8 – DI, DO, IOL (configurable) – max. 2 A, with switching of the supply voltage Power Management: Maximum current adjustable per pin – 0.5 ... 2 A			
IIoT functions	OPC UA, JSON REST API, JSON MQTT, integrated sensors (current, voltage, temperature), web interface			

## IO-Link Hubs M12



Art. No.	59719	59819	59718	59818	59710	59810
Description	MVP12-P6 DIO16 8xM12A IOLA12 B0	MVP12-P6 DIO16 8xM12A IOLA12 E0	MVP12-P6 DIO8 DIO8 8xM12A IOLB12 B0	MVP12-P6 DIO8 DIO8 8xM12A IOLB12 E0	MVP12-P6 DI16 8xM12A IOLA12 B0	MVP12-P6 DI16 8xM12A IOLA12 E0
Protection	IP68					
Housing	Plastic, 50 mm					
IO-Link connection	1x M12, IO-Link Class A, COM3		1x M12, IO-Link Class B, galv. separated, COM3		1x M12, IO-Link Class A, COM3	
IO-Link functions	Developed acc. to IO-Link V.1.1.3, Common Profile Identification & Diagnosis, BLOB-Transfer					
Supply connection	via L+ (US)		via L+ (US) and P24 (UA)		via L+ (US)	
I/O ports	8x M12, 5-pole, A-coded					
I/O functions	X0 ... X7: DIO16 (US)		X0...X3: DIO8 (P24/UA) X4...X7: DIO8 (L+/US)		X0 ... X7: DI16 (US)	
Channel functions	Pin 2: DIO – usable/configurable as DIO, DI, DO Pin 4: DIO – usable/configurable as DIO, DI, DO				Pin 2: DI Pin 4: DI	
Firmware functions	... B0 = preconfigured (fixed) parameters (Plug & Play) ... E0 = extended parameter range					

## IO-Link Hubs M8



Art. No.	59507	59607	59504	59604
Description	MVP8-P3 DIO8 8xM8-3 IOLA12 B0	MVP8-P3 DIO8 8xM8-3 IOLA12 E0	MVP8-P3 DIO4 DIO4 8x M8-3 IOLB12 B0	MVP8-P3 DIO4 DIO4 8x M8-3 IOLB12 E0
Protection	IP68			
Housing	Plastic, 30 mm			
IO-Link connection	1x M12, IO-Link Class A, COM3		1x M12, IO-Link Class B, galv. separated, COM3	
IO-Link functions	Developed acc. to IO-Link V.1.1.3, Common Profile Identification & Diagnosis, BLOB-Transfer			
Supply connection	via L+ (US)		via L+ (US) und P24 (UA)	
I/O ports	8x M8, 3-pole			
I/O functions	X0 ... X7: DIO8 (US)		X0...X3: DIO4 (P24/UA) X4...X7: DIO4 (L+/US)	
Channel functions	– Pin 4: DIO – usable/configurable as DIO, DI, DO			
Firmware functions	... B0 = preconfigured (fixed) parameters (Plug & Play) ... E0 = extended parameter range			

## IO-Link Analog Converter



Analog Converter	Art. No.
IO-Link / analog converter, analog current input (AI I 0 ... 20 mA), M12	5000-00501-1100000
IO-Link / analog converter, analog current input (AI I 4 ... 20 mA), M12	5000-00501-1110000
IO-Link / analog converter, analog voltage input (AI U 0 ... 10 V), M12	5000-00501-1200000
IO-Link / analog converter, analog voltage input (AI U -10 ... 10 V), M12	5000-00501-1210000
IO-Link / analog converter, analog multi-input (AI multi I/U), M12	5000-00501-1300001
IO-Link / analog converter, analog multi-input (AI multi I/U, Single Wire), M12	5000-01501-1300001
IO-Link / analog converter, analog multi temperature input (AI Multi PT/RTD), M12	5000-00501-1500001
IO-Link / analog converter, analog multi temperature input (AI Multi TH), M12	5000-00501-1400001
IO-Link / analog converter, analog current output (AO I 0 ... 20 mA), M12	5000-00501-2100000
IO-Link / analog converter, analog current output (AO I 4 ... 20 mA), M12	5000-00501-2110000
IO-Link / analog converter, analog voltage output (AO U 0 ... 10 V), M12	5000-00501-2200000
IO-Link / analog converter, analog voltage output (AO U -10 ... 10 V), M12	5000-00501-1210000
IO-Link / analog converter, analog multi output (AO Multi I/U), M12	5000-00501-2300001

## IO-Link Signal Lights



Signal lights	Art. No.
Modlight70 Pro, connecting element with IO-Link, M12 connection (bottom)	4000-76070-1300015
Modlight70 Pro, connecting element with IO-Link, M12 connection (side)	4000-76070-1400015
Modlight70 Pro, buzzer module	4000-76070-1100004
Modlight70 Pro, LED module, red	4000-76070-1011000
Modlight70 Pro, LED module, yellow	4000-76070-1012000
Modlight70 Pro, LED module, green	4000-76070-1013000
Modlight70 Pro, LED module, blue	4000-76070-1014000
Modlight70 Pro, LED module, clear	4000-76070-1015000
Comlight56, LED signal light with IO-Link, multi color RGB 7-color, M12	4000-76056-0000001
Comlight56, LED signal light with IO-Link, multi color RGB 7-color, buzzer, M12	4000-76056-0000002
Comlight56, LED signal light with IO-Link, multi color RGB 7-color, capacitive touch sensor, M12	4000-76056-0000003
Comlight56, LED signal light with IO-Link, multi color RGB 7-color, buzzer, capacitive touch sensor, M12	4000-76056-0000004

## IO-Link Power Supplies



Power supplies	Art. No.
Emparro67 Hybrid power supply with IO-Link interface, 1-phase, 2-channels, IN (7/8" 3-pole): 100-240 VAC, OUT (M12 Power, 5-pole, L-coded): 24 VDC/max. 10 A (1-8 / channel)	85678
Emparro67 Hybrid power supply with IO-Link interface, 1-phase, 2-channels, IN (7/8" 3-pole): 100-240 VAC, OUT (M12 Power, 5-pole, L-coded): 24 VDC/max. 10 A (1-8 / channel), PELV	85688

## Industrial Ethernet Switches



Switches	Art. No.
Xelity 10 TX IP67 M FE 4P, 10x M12 D-coded, 2x M12 Power, 4-pole, L-coded, Managed Switch	58840
Xelity 10 TX IP67 M FE PN 4P, 10x M12 D-coded, 2x M12 Power, 4-pole, L-coded, PROFINET, Managed Switch	58841
Xelity 8+2 TX IP67 M GE 4P, 8x M12 D-coded, 2x M12 X-coded, 2x M12 Power, 4-pole, L-coded, Managed Switch	58842
Xelity 8+2 TX IP67 M GE PN 4P, 8x M12 D-coded, 2x M12 X-coded, 2x M12 Power, 4-pole, L-coded, PROFINET Managed Switch	58843
Xelity 10 TX IP67 M FE 5P, 10x M12 D-coded, 2x M12 Power, 5-pole, L-coded, Managed Switch	58850
Xelity 10 TX IP67 M FE PN 5P, 10x M12 D-coded, 2x M12 Power, 5-pole, L-coded, PROFINET Managed Switch	58851
Xelity 10 TX IP67 M FE PN 5P, 10x M12 D-coded, 2x M12 Power, 5-pole, L-coded, PROFINET Managed Switch	58851
Xelity 8+2 TX IP67 M GE 5P, 8x M12 D-coded, 2x M12 X-coded, 2x M12 Power, 5-pole, L-coded, Managed Switch	58852
Xelity 8+2 TX IP67 M GE PN 5P, 8x M12 D-coded, 2x M12 X-coded, 2x M12 Power, 5-pole, L-coded, PROFINET Managed Switch	58853



### Connection Technology

The transmission of data, signals and power in the IO-Link System can be realized with only three different connector types:

- A-coded for signals
- D-coded for ethernet communication
- L-coded for power supply

Find these cordsets next to almost limitless other variants of cable types, colors and connector designs in our online shop.



*stay connected*

[www.murrelektronik.com](http://www.murrelektronik.com)

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Our company embraces social responsibility in all aspects of our business activities. Our brochures are printed using environmentally friendly production techniques and products.