

The image features three Balluff industrial networking components against a background of a white-to-grey gradient with a faint, glowing geometric network pattern. In the upper left, a white multi-pin connector is shown at an angle. In the center, a dark grey Balluff terminal block is angled towards the viewer, featuring several circular ports labeled X01, X02, X03, X04, and X07, along with 'CLASS A' and 'CLASS B' markings. To the right, a silver and black Balluff device, possibly a power supply or interface unit, is shown vertically. It has a small digital display at the top, a 'POWER' label, and multiple ports labeled X01 through X08. The Balluff logo is visible on both the central and right-hand devices.

BALLUFF

The new networking portfolio.

Discover the future of networking.

Four product lines to cover different applications.

Black Line



Silver Line



Washdown Line






Safe Line



Coming soon

Feature sets.

	 ENTRY	 STANDARD	 ADVANCED
Multi-protocol	✓	✓	✓
Single-protocol		✓	
M12 L-coded	✓	✓	✓
7/8"		✓	
Intuitive Web User Interface	✓	✓	✓
Daisy chaining	✓	✓	✓
Total current / Max. output current per port	4A / 0.5A	7/8": 9A / 2A M12: 16A / 2A	16A / 4A
MQTT	✓ (no parsing)	✓	✓
Common platform for hard- and software	✓	✓	✓
REST API	✓	✓	✓
Port class type A	✓	✓	✓
Port class type B			✓
Additional IIoT features in development			✓

An entire world of solutions.

ENTRY



STANDARD



ADVANCED



Black Line

Silver Line

Washdown Line

Safe Line

M12

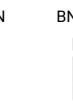


Coming soon

7/8"



M12



7/8"



new



new



Black Line

Black line. The first choice for automation.

Choose IO-Link. Choose Black line.

With three different performance classes the Black line masters offer the full range of networking solutions. No matter if you're looking for a solution that offers an entry into the world of IO-Link or the full range of functions – the Black line has something in store for you.



Black line.

Main features and benefits.



Seamless integration.

Thanks to interfaces like IO-Link, Ethernet protocols and IIoT interfaces, you can seamlessly integrate devices into your OT and IT infrastructure.



Scalable.

IO-Link offers the possibility to easily scale up your automation based on your needs.



Cost effective.

Save time and money in cabling and installing new devices.



Tailored to your needs.

Choose between three performance classes to find the module, that best fits your needs.

Advanced IO-Link Master. Black line.

Designed to solve demanding applications. Seamlessly connect IO-Link devices, high-power Outputs and leverage advanced IIoT features.



- 1 Common Platform with enhanced performance and memory
- 2 Multi-protocol with PNT, EIP, ECT, Modbus TCP and auto detect function
- 3 Power Concept with M12 L-coded with 16A max.
- 4 Variants with IO-Link Ports Class A & Class B
- 5 IIoT Support with REST API, MQTT (parsing)
- 6 Flexible Network configuration
- 7 Usability via Web UI
- 8 Maximum Current output up to 4 A per Pin
- 9 Robust , IP67, -25°C to +70°C

Standard IO-Link Master. Black line.



Offers the power to scale up your automation and solve applications, that require more flexibility.



- 1 Common Platform with enhanced performance and memory
- 2 Multi-protocol with PNT, EIP, ECT, Modbus TCP and auto detect function
- 3 Power Concept with M12 L-coded with 16A max. or 7/8" with 9A max.
- 4 Variants with IO-Link Ports Class A
- 5 IIoT Support with REST API, MQTT (parsing)
- 6 Flexible Network configuration
- 7 Usability via Web UI
- 8 High Current output up to 2 A per Pin
- 9 Robust , IP67, -25°C to +70°C

Entry IO-Link Master. Black line.



Designed to effortlessly integrate IO-Link devices into your automation system and solve standard IO-Link applications.



- 1 Common Platform with enhanced performance and memory
- 2 Multi-protocol with PNT, EIP, ECT, Modbus TCP and auto detect function
- 3 Power Concept with M12 L-coded with max. 4A per module
- 4 Variants with IO-Link Ports Class A
- 5 IIoT Support with REST API, MQTT
- 6 Usability via Web UI
- 7 Simplified wiring by M12 Power Daisy Chaining
- 8 Robust , IP67, -25°C to +70°C

The right solution for any task.



Entry



Standard



Advanced

	Entry	Standard	Advanced
Collect IO-Link signals	✓	✓	✓
Transfer data to IT systems	✓	✓	✓
Control actuators up to 2A	○	✓	✓
Control actuators up to 4A	✗	✗	✓
Control high-power outputs	✗	✗	✓

Masters

BNI00KH
BNI00KJ
BNI00L3
BNI00L1


Performance class				
Type Code	BNI XG5-508-0B5-R067	BNI XG5-538-0B5-R067	BNI XG3-508-0B5-R067	BNI XG1-505-0A5-R067
Industrial Protocols	Multi-protocol	Multi-protocol	Multi-protocol	Multi-protocol
IT-Protocols	REST API, MQTT (parsing)	REST API, MQTT (parsing)	REST API, MQTT (parsing)	REST API, MQTT
Power Plug	M12 L-coded	M12 L-coded	M12 L-coded	M12 L-coded
Digital I/O	8x IO-Link ports Class A 16x DI or 16x DO, PNP	4x IO-Link ports Class A 4x IO-Link ports Class B 12x DI or 12x DO, PNP	8x IO-Link ports Class A 16x DI or 16x DO, PNP	8x IO-Link ports Class A 16x DI or 8x DO, PNP
Housing	Plastic	Plastic	Plastic	Plastic
Display	No	No	No	No

Advanced IO-Link Hubs. Black line.



- 1 Fast communication thanks to COM3 communication standard
- 2 Maximum Current output up to 16 A
- 3 Stand-alone: Independent and fast operation possible due to integrated logic functions
- 4 Condition Monitoring functions included to monitor vibration, internal temperature and more
- 5 Power Concept with M12 L-coded with 16 A max.
- 6 Robust , IP67, -25°C to +60°C
- 7 Scalable: Extension port enables easy scale-up of network structures

Hubs

BNI00L5
BNI00L4
BNI0091
BNI0090


Performance class				
Digital inputs	16x PNP/NPN, Type 1, Type 3	16x PNP/NPN, Type 1, Type 3	16x PNP, Type 3	16x PNP, Type 3
Digital outputs	16x PNP	16x PNP	16x PNP	-
Configurable inputs / outputs	yes	yes	yes	no
Current sum UA, actuator	16 A	4 A	9 A	-
Current sum US, sensor	2 A	2 A	9 A	3.5 A
Process data IN	12 Bytes	12 Bytes	6 Bytes	4 Bytes
Process data OUT	2 Bytes	2 Bytes	2 Bytes	-
Condition Monitoring	Monitoring of internal temperature, vibration and inclination; installation aid	Monitoring of internal temperature, vibration and inclination; installation aid	-	-



Silver Line

Silver line. To cover a broad range of applications.

Two performance classes. Numerous possibilities.

With a broad range of E/A modules, the silver line offers everything you need to cover not only standard IO-Link applications, but also specific needs, like safety over IO-Link. The IO-Link masters in zinc-die cast are not only robust, they can also come with a display for better usability. Choose between the Standard and Advanced performance to find the perfect fit for your application.



Silver line.

Main features and benefits.



Cover any application.
Draw from the full range of E/A modules to also cover more specific applications.



Comfortable usability.
With an integrated display, a lot of IO-Link masters in the Silver Line offer the possibility to configure devices on-site.



Seamless integration.
Thanks to interfaces like IO-Link, Ethernet protocols and IIoT interfaces you can seamlessly integrate devices into your OT and IT infrastructure.



Cost effective.
Save time and money in cabling and installing new devices.

Advanced IO-Link Master. Silver line.

Designed to solve demanding applications. Seamlessly connect IO-Link devices, high-power Outputs and leverage advanced IIoT features.



- 1 Common Platform with enhanced performance and memory
- 2 Multi-protocol with PNT, EIP, ECT
- 3 Power Concept with M12 L-coded with 16A max.
- 4 Variants with IO-Link Ports Class A & Class B
- 5 IIoT Support with REST API, MQTT (parsing)
- 6 Flexible Network configuration
- 7 Usability via built-in Display & Web UI
- 8 Maximum Current output up to 4 A per Pin
- 9 Robust , IP67, -5°C* to +70°C

* -25°C w/o display functionality



Standard IO-Link Master. Silver line.

Offers the power to scale up your automation and solve applications, that require more flexibility.



- 1 Common Platform with higher performance
- 2 Multi-protocol with PNT, EIP, ECT
- 3 Power Concept with 7/8" with 9A max.
- 4 Variants with IO-Link Ports Class A
- 5 Flexible Network configuration
- 6 Usability via Web UI
- 7 High Current output up to 2 A per Pin
- 8 Robust , IP67, -5°C* to +70°C
- 9 IIoT Support with REST API, MQTT (parsing)

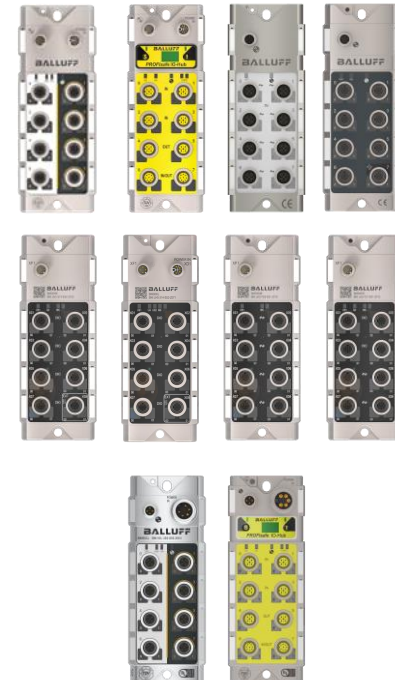
* -25°C w/o display functionality

Silver line.

Scale up your automation solution with the E/A modules.

Combine the Silver line IO-Link masters with a range of E/A modules in order to

- Reduce shielded cable management
- Connect safety devices to your application via safety over IO-Link
- Safely switch off actuators
- Expand your automation by integrating more sensors and actuators

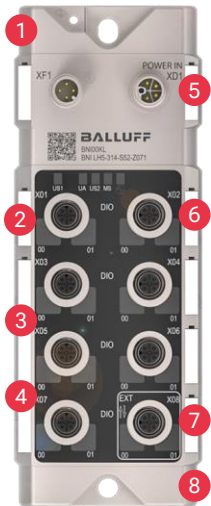


Masters

BNI00K6
BNI00K7
BNI00HL
BNI006A


Performance class				
Type Code	BNI XG5-508-1B5-Z067	BNI XG5-538-1B5-Z067	BNI PG3-508-0C5-Z015	BNI EIP-508-105-Z015
Industrial Protocols	Multi-protocol	Multi-protocol	Single protocol (Profinet)	Single protocol (EtherNet/IP)
IT-Protocols	REST API, MQTT (parsing), OPC UA*	REST API, MQTT (parsing), OPC UA*	REST API, MQTT	REST API, MQTT
Power Plug	M12 L-coded	M12 L-coded	7/8"	7/8"
Digital I/O	8x IO-Link ports Class A 16x DI or 16x DO, PNP	4x IO-Link ports Class A 4x IO-Link ports Class B 12x DI or 12x DO, PNP	8x IO-Link ports Class A 16x DI or 16x DO, PNP	8x IO-Link ports Class A 16x DI or 16x DO, PNP
Housing	Metal	Metal	Metal	Metal
Display	Yes	Yes	No	Yes

Advanced IO-Link Hubs. Silver line.



- 1 Fast communication thanks to COM3 communication standard
- 2 Maximum Current output up to 16 A
- 3 Stand-alone: Independent and fast operation possible due to integrated logic functions
- 4 Condition Monitoring functions included to monitor vibration, internal temperature and more
- 5 Power Concept with M12 L-coded with 16 A max.
- 6 Robust , IP67, -25°C to +60°C
- 7 Scalable: Extension port enables easy scale-up of network structures
- 8 Versatile: Variants with analog inputs available

Hubs

BNI00KK
BNI00KL
BNI00KM
BNI00KN


Performance class				
Digital inputs	16x PNP/NPN, Type 1, Type 3	16x PNP/NPN, Type 1, Type 3	-	4x PNP, Type 1, Type 3
Digital outputs	16x PNP	16x PNP	-	4x PNP
Analog inputs	-	-	8x Analog, voltage/analog, current	4x Analog, voltage/analog, current
Configurable inputs / outputs	yes	yes	-	yes
Current sum UA, actuator	4 A	16 A	-	4 A
Current sum US, sensor	2 A	2 A	4 A	4 A
Process data IN / OUT	12 Bytes / 2 Bytes	12 Bytes / 2 Bytes	23 Bytes / -	17 Bytes / 1 Byte
Condition Monitoring	Monitoring of internal temperature, vibration and Inclination; installation aid	Monitoring of internal temperature, vibration and inclination; installation aid	Monitoring of internal temperature, vibration and Inclination; installation aid	Monitoring of internal temperature, vibration and inclination; installation aid



Washdown Line

Washdown line. For IP69K environments.

Powerful and robust.

Thanks to an IP69K housing design for washdown applications these IO-Link network modules are ideal wherever regular cleaning cycles are performed. Different units allow you to meet your specific demands and requirements.



Washdown line.

Main features and benefits.



Robust
IP69K housing to cover all
washdown applications.



Resistant
Against a range of cleaning
agents, acids,
temperatures, water and
more. Ecolab certified.



Cost effective
Save time and money in
cabeling and installing new
devices.

IO-Link Master. Washdown line.

Designed to solve applications in harsh IP69K environments.



- 1 New Platform enhanced performance and memory
- 2 Power Concept with M12 L-coded with 16A max.
- 3 Flexible Network configuration
- 4 Maximum Current output up to 4 A per Pin
- 5 Robust , IP69K, -25°C to +70°C

* -25°C w/o display functionality

Smart sensor integration for automated cleaning in beverage production

The challenge

Automated cleaning in beverage production that meets the hygiene standards.

The solution

- Integration of smart sensors that track vibration, temperature, streamlining maintenance schedules
- Seamless sensor-to-network communication via robust networking masters and E/A modules of the Washdown line, enabling a data-enriched production environment



Masters

BNI00EK

BNI00HZ



Type Code	BNI PNT-508-055-P067	BNI XG5-538-1B5-Z067
Industrial Protocols	Single protocol (Profinet)	Single protocol (Ethernet/IP)
IT-Protocols	REST API	REST API
Power Plug	M12 L-coded	M12 L-coded
Digital I/O	8x IO-Link ports Class A 16x DI or 16x DO, PNP	8x IO-Link ports Class A 16x DI or 16x DO, PNP
Housing	Plastic	Plastic
Display	No	No
Special characteristics	Washdown Plus Washdown	Washdown

BALLUFF

Coming
soon

Safe Line

Safe line. For functional safety.

IO-Link safety.

With IO-Link safety, the safe line offers a new state-of-the-art technology. Leverage the full potential of IO-Link, also in functional safety. Seamlessly integrate standard IO-Link-devices as well as devices with IO-Link safety into your automation with the IO-Link safety master from Balluff.



IO-Link safety.

Main features and benefits.



Safe.
state of the art in
functional safety and
cyber security.



Cost-effective.
quick and easy
commissioning, fast
fault diagnosis, simple
replacement.



Standardized.
can be used
internationally, fulfils
all necessary laws and
regulations.

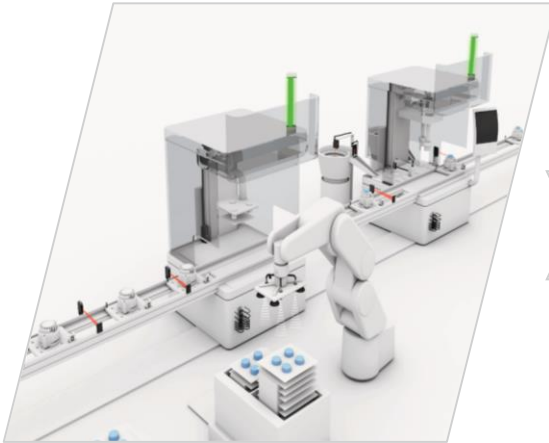


Flexible.
compatible with a wide
range of safety and
standard components,
efficient system
expansion.

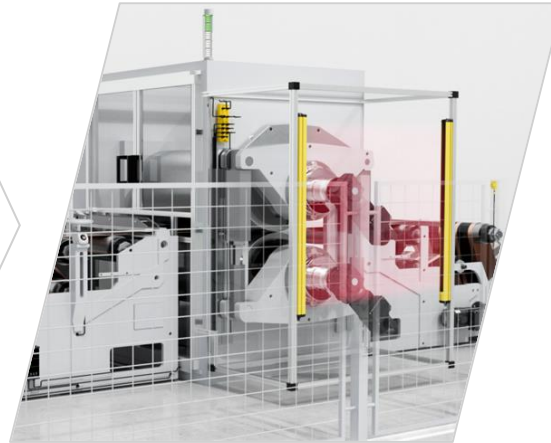


Simple to use.
simple and intuitive
operating concept via
web server, NFC and
the Balluff Engineering
Tool.

Is this the right product for you?



Application
Do you already use IO-Link?



Safety required
Do you want to add a functional safety part to this application? Or do you want to decentralize your application?



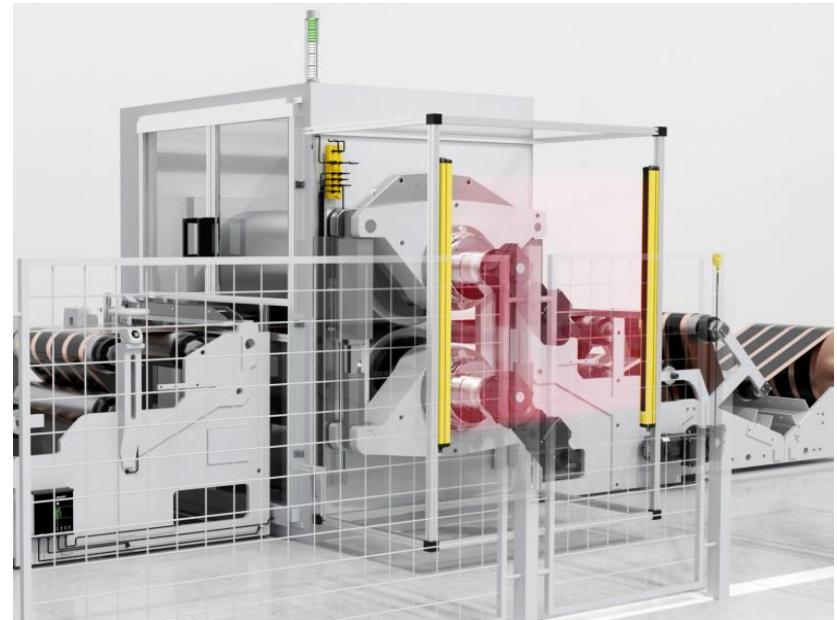
The right product
Then the IO-Link safety module is the right product for you.

Key Application

SAFE application in automotive production for vehicle assembly lines, body shop lines and battery production.

Your Benefits:

- State of the art for the realization of safe applications.
- Safe design / self-monitoring and diagnostics.
- Mission time > 20 years
- Easy commissioning thanks to IO-Link Safety.
- Suitable for harsh environments and direct on-machine mounting.



BALLUFF

 *innovating automation*

www.balluff.com