

NC Series IO-Link Masters and I/O Modules

Complete Pneumatic
Automation Solutions



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Breakthrough Engineering for a Better World

Norgren is part of global engineering organisation IMI plc. IMI is at the forefront of delivering the solutions we need in a changing world and is focused on **creating tremendous value by solving key industry problems in attractive markets and employing the best.**

Norgren has a proud history of creating innovative engineering solutions in precise motion control and fluid technology, and we collaborate with our customers across more than 50 countries in critical areas such as Factory Automation, Material Handling, Rail, Energy, Process Control, Life Science and Commercial Vehicles.

From improving speed, productivity, reliability and efficiency of equipment, to generating significant energy and cost savings, or lowering total cost of ownership across many industries, Norgren's high-quality solutions are designed to help customers pursue progress, achieve new goals and overcome problems.

With market-leading industry expertise, we offer the capability, resources, engineering intelligence and global support infrastructure to tackle the largest project demands.

Our world-class portfolio of fluid and motion control products include Norgren, Buschjost, FAS, Herion, Kloehn, Maxseal and Thompson Valves. Supplied either individually or combined into powerful customised solutions to meet customer needs.

Breakthrough engineering you can count on.



Complete Connectivity

The requirements for modern Industrial Automation applications are becoming increasingly complex; it is therefore essential to select the best possible solution for each application.

IO-Link is revolutionising Industrial Automation by offering a standardised and seamless communication interface for all IO-Link devices, with simple installation and a complete range of diagnostics functionality.

IO-Link is a globally standardised (IEC 61131-9) communication system for connecting sensors and many other components, without any complex wiring, to a control system. A serial, bi-directional point-to-point communication

between any compatible I/O system and field devices, which can be integrated into virtually any fieldbus or automation system. Put simply, IO-Link knows what is going on in your automation system.

IO-Link offers the perfect solution for manufacturers seeking remote diagnosis, simplified installation, automated parameter settings and an overall cost effective solution.

- » Communication standard IEC61131-9
- » Standardised, open and fieldbus independent technology
- » Connects intelligent sensors and field devices to the PLC
- » Uses advantages of available I/O interfaces
- » Enables efficient production and cost savings thanks to minimised downtime
- » Enables predictive and planned maintenance

Norgren, the right partner for your IO-Link needs

With established manufacturing and technical facilities globally, we have the capability to cope with the most demanding international projects. With a sales and service network in over 50 countries, we have the reach and capability to ensure continuity of supply and local support where it is needed.

Norgren offers a complete IO-Link system solution, which includes a wide range of IO-Link enabled devices, IO-Link Masters and I/O Modules (Hubs).

Alongside reliable, high performance and quality IO-Link products; Norgren offers insight, technical excellence, and a collaborative approach, to help our customers forge a brighter future of possibility.

NC Series – Optimising Your System

Norgren’s NC series includes IO-Link Masters, I/O Modules (Hubs) and a wide range of cables and connectors. The IO-Link Masters for field applications are gateways for the connection of up to eight IO-Link devices to the higher-level industrial Ethernet communication system. The master transmits machine data, process parameters and diagnostic data to the controller over various networks, making the data accessible for immediate action or long-term analysis via an industrial information system (PLC, HMI, etc.)

The product range includes interfaces to PROFINET or EtherNet/IP.

All the features of the NC series ensure maximum flexibility, together with reduced cabling and installation time, and the building blocks for a complete connected solution.

- » **Connected** - PROFINET, EtherNet/IP.
- » **Expandable** - I/O Modules (Hubs) can be easily added – acting as an IO-Link device.
- » **Easy Installation** - cables are premade, plug and socket, making it all plug and play.
- » **Simple Design** - standard building blocks make system design modular and simple. Electrical design is simplified as I/O Modules can be configured depending on the input and output requirement.
- » **Diagnostics** - pinpoint faults in the whole network quickly and precisely.

IO-Link Master

Robust housing

LED's for communication, diagnostics and power supply

PROFINET or EtherNet/IP industrial Ethernet communication

Port specific diagnostics and status LED's

Power In and Out - daisy chain connections up to 16 Amps

4 x Class A ports – 4 or 5 pin Cable

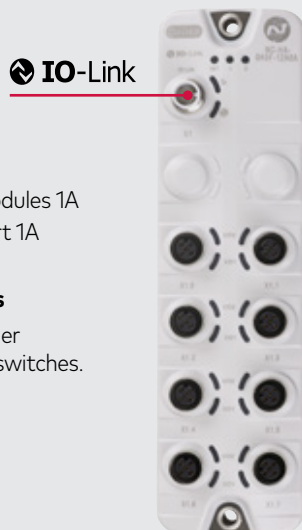
- All IO-Link input devices and standard digital input and output devices can be connected
- Typically low power up to 450ma
- Powered from the same supply as the rest of the module
- Can be configured as inputs (dual) or single output

4 x Class B ports – 5 Pin Cable – with two 24 VDC supplies

- All IO-Link input devices and standard digital input and output devices can be connected
- IO-Link output devices such as valve islands need to be connected to a B port due to the additional auxiliary supply that is available on pins 2 and 5 - typically up to 2 Amps
- The second supply provides for redundancy in the power network. Running one supply through the contacts of a safety relay means the energy for the outputs can be cut off when a E-Stop is pressed, while leaving the Master powered to provide diagnostics information.

I/O Modules – two options

I/O Module without auxiliary power - power is supplied via the connected Ethernet Master IO-Link port

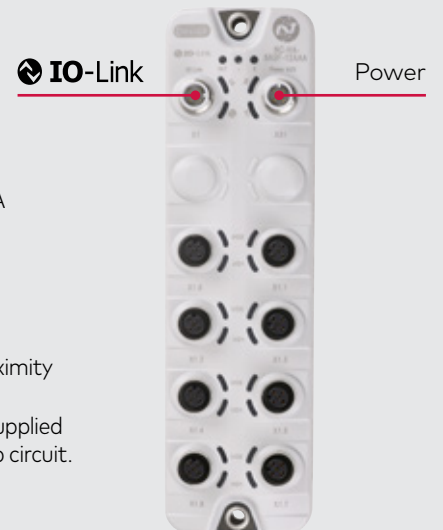


Max. current per modules 1A
Max. current per port 1A

Typical Applications

Connection of cylinder switches, proximity switches.

I/O Module with auxiliary power - power is supplied via the connected Ethernet Master IO-Link port plus an additional auxiliary power supply to support solenoid valve outputs



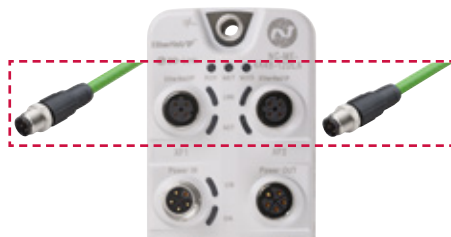
Max. current per M12 connector: 1.8A
Max. current per group of four: 1.8A
Max. current per module: 3.6A

Typical Applications

Connection of cylinder switches, proximity switches and solenoid valve outputs.
Auxiliary supply for outputs can be supplied via safety contacts as part of E-Stop circuit.

Cable types – A-Coded, D-Coded and L-Coded

Ethernet
M12 D-code



Power
M12 L-code



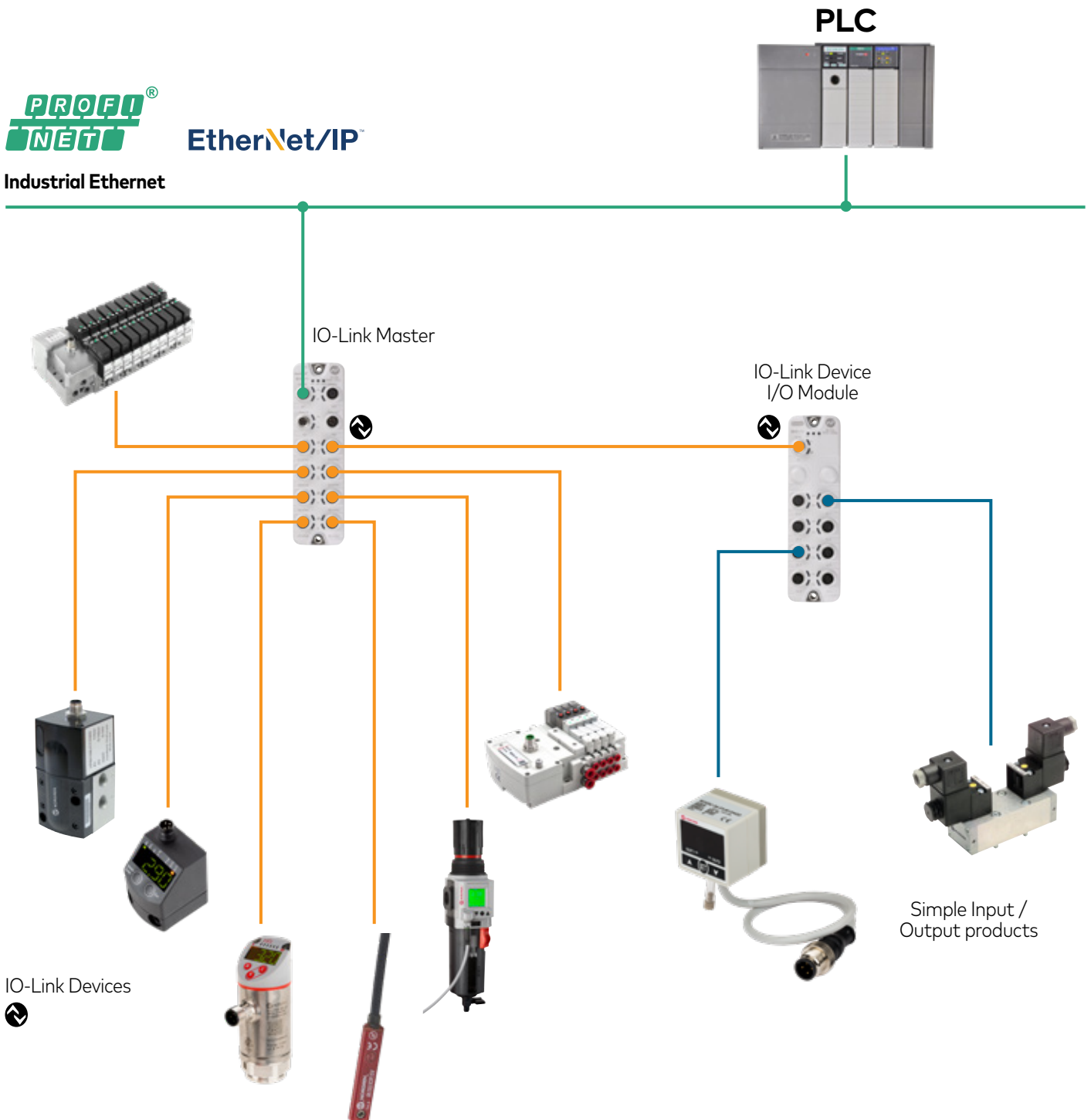
Inputs and Outputs
M12 A-code – IO-Link Devices



Complete Pneumatic Automation Solutions

Norgren offers a complete IO-Link system solution, which includes a wide range of IO-Link enabled devices, IO-Link Masters and I/O Modules (Hubs), enabling us to provide a complete connectivity package for industrial applications.

Example system layout



IO-Link Configuration Tool

The Norgren IO-Link Configuration Tool provides easy and fast parameter setting for Norgren masters. The free version provides automatic identification (download of IODD files) of all IO-Link devices and viewing of all device parameters.



It also includes a real time and historical trend view and data export of device process data, making it easy to check how the device is performing. Parameter sets can be saved and loaded. Upgrade to the full version to be able to write device parameter data.

Features

- » Graphic visualisation of the process values
- » Faster set-up time
- » Optimised device replacement process
- » Paperless recording of parameter sets
- » Online and offline parameter setting
- » Supports all IO-Link devices



Norgren operates four global centres of technical excellence and a sales and service network in 50 countries, as well as manufacturing capability in Brazil, China, Czech Republic, Germany, India, Mexico UK and the USA.

For information on all Norgren companies visit

www.norgren.com

Supported by distributors worldwide.

For further information, scan this QR code or visit www.norgren.com



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Incorporating



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