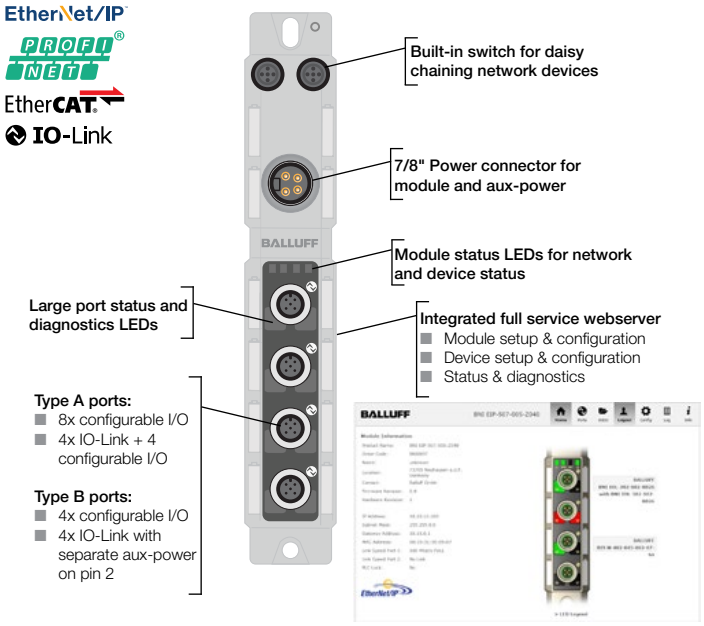
# Machine Mount IO-Link Mini-Masters for Industrial Ethernet
## Compact IO-Link masters for resilient distributed modular controls architecture

Balluff's new 4-port slim design IO-Link masters can connect a multitude of smart devices over IO-Link to build a truly distributed machine mount controls architecture for today's automation.

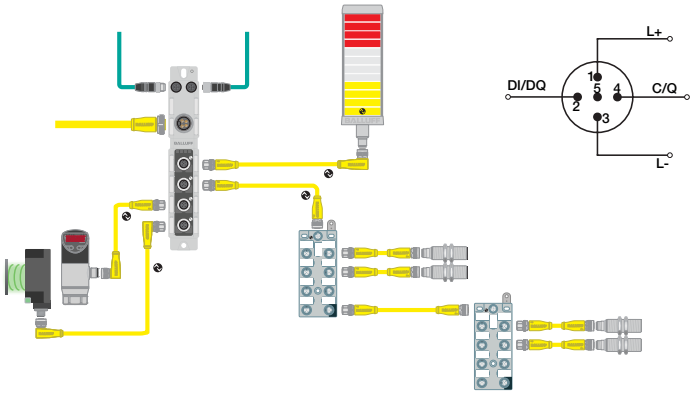
With their Robust IP67 housing, these industrial Ethernet based IO-Link masters can be mounted directly on the machine closer to the sensors and actuators—keeping short cable runs and adding enhanced diagnostics. EtherNet/IP, PROFINET and EtherCAT version of the masters are available.

These masters are feature-packed and ready for IIoT and Industry 4.0 application realization.

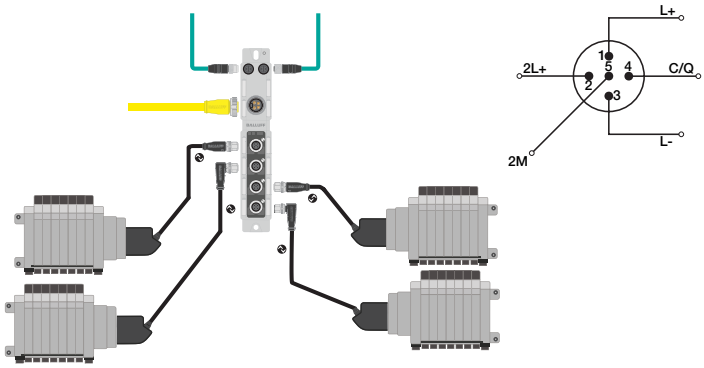
- Full service webserver for EtherNet/IP and PROFINET IO-Link masters enable remote diagnostics and configuration of the master as well as attached IO-Link devices.
- With SNMP on-board, the IO-Link master and all IO-Link devices are discoverable for network management systems for critical data gathering. This is made possible with the virtual IP address allocation feature of the master device.
- Ease of maintenance with parameter server data on the IO-Link master allows storing IO-Link device parameters for each port, so that when devices need to be changed the parameters can be automatically downloaded making smart devices plug-n-play.




**Balluff offers two different versions of the IO-Link mini-masters: Type A ports and Type B ports.**




**Port Class A (Type A):** the 4 IO-Link ports on the master are designated as Type A ports and can host either two channels of configurable I/O or one channel as IO-Link and another channel as I/O. As per the IO-Link consortium, the pin out for Type A port is shown.




**Port Class B (Type B):** the 4 IO-Link ports on the master are designated as Type B ports where pin 2 and pin 5 are used to provide (galvanically isolated) aux-power for the devices such as IO-Link valves that require additional or separate power depending on the application.

The Balluff Type A IO-Link mini-master can host up to 120 configurable discrete I/O when connected to Balluff IO-Link I/O hubs with an expansion port. Balluff offers add-on instructions and function blocks to promote ease of IO-Link into the existing controls architecture.

| Order Code | Max. inputs | Max. outputs | IO-Link ports | Port class | Description |
|---|---|---|---|---|---|
| **BNI009T** | 8 | 8 | 4 | A | EtherNet/IP IO-Link Master with Type A ports |
| **BNI00AA** | 4 | 4 | 4 | B | EtherNet/IP IO-Link Master with Type B ports |
| **BNI0092** | 8 | 8 | 4 | A | PROFINET IO-Link Master with Type A ports |
| **BNI00A9** | 4 | 4 | 4 | B | PROFINET IO-Link Master with Type B ports |
| **BNI009U** | 8 | 8 | 4 | A | EtherCAT IO-Link Master with Type A ports |
| **BNI00AC** | 4 | 4 | 4 | B | EtherCAT IO-Link Master with Type B ports |

| Technical Information | |
|---|---|
| Network connection | M12 D-Coded |
| Sensor/IO-Link connection | M12 A-Coded |
| Power connection EtherNet/IP | 7/8" 4-pole |
| Power connection PROFINET, EtherCAT | 7/8" 5-pole |
| Power input | 18V..30.2V DC 9A max |
| Max. input current per channel | 1.6A |
| Max. output current per channel | 2A |
| Max. output current per module | 9A |
| Protection per IEC 60529 | IP67 |
| Approval/Conformity | CE, UL, cUL |