



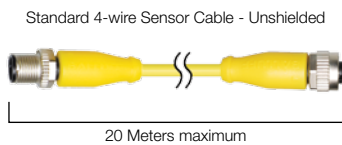
What is IO-Link

The fundamentals of IO-Link: operation, components and technology

Technology:	Standardized (IEC 61131-9) Serial Communication Protocol	Typical System
Area of Application:	IO-Link is used to bi-directionally communicate from field devices like sensors and actuators to the controller in order to provide configuration, diagnostics and process data from the devices beyond the switching states.	
How It Works:	Utilizing a standard sensor cable, the IO-Link slave device speaks point to point with an IO-Link master. The IO-Link master then combines the data with other IO-Link slave devices and communicates over an industrial network or backplane to the controller.	

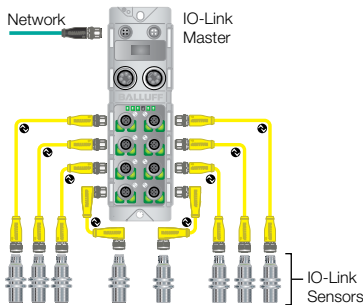
Three Gotcha's

Cable Type & Length



Cable runs between master and slave can be up to 20 meters in length and typically utilize standard automation cables. Most cables, but not all, are M12 A-coded, unshielded, 4-conductor DC sensor cables.

Star Architecture



Since IO-Link utilizes a point-to-point serial communication, Star Topology is the only device architecture that can be constructed.

Port Class A vs Port Class B Devices

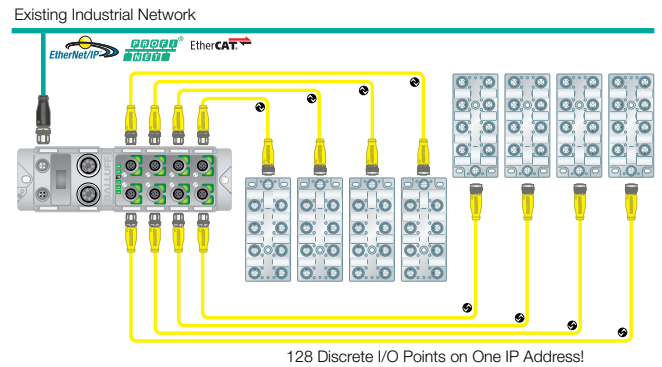


Pin	Port Class A	Port Class B
1	V+	Device V+
2	Vendor Defined	Aux V+
3	Common	Device Com
4	IO-Link or I/O	IO-Link or I/O
5	---	Aux Com

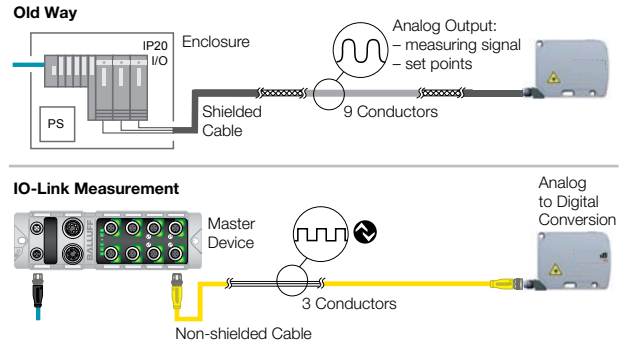
While most devices utilize IO-Link port Class A, output devices like valves are now being offered as IO-Link port Class B. Be sure to know if the master and/or slaves are Class A or Class B type ports. Most Balluff devices are IO-Link port Class A.

Common Applications

Standard Sensor Inputs and Discrete I/O



Measurement and Analog I/O



Smart Devices with Diagnostics

