

I/O Link Quick Start Guide



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Overview

The I/O-Link load cells provide high-precision weight/force measurement with digital communication capabilities. They connect directly to an I/O-Link Master without requiring additional electronics. The purpose of this document is to provide the steps needed to connect an Interface I/O Link load cell/sensor to an I/O Link Master. This document is intended such that there is an expectation of basic knowledge of I/O Link connectivity, setup, configuration of the Master, and usage of the IODD file.

Installation

** If desired, the I/O Link functionality can be pre-tested prior to the device installation. This would be by utilizing the appropriate cables and connection to an I/O Link Master. A IODD (Input Output Device Description) file is required/included that is a requisite for a successful connection test.

1. Mount the load cell securely to a flat/stable surface using the mounting holes, following the load cell mounting instructions from the manufacturer.
2. Connect the weighing platform or structure to the load cell.
3. Connect the M12 cable from the I/O-Link Master to the load cell.
4. Configure the I/O-Link Master port for the load cell.

Configuration

The load cell may be configured via I/O-Link using parameters. Refer to the Load Cell IODD file for a complete list.

To configure an I/O-Link load cell for connection to a Master, follow these steps:

Physical Connection

1. Connect the load cell to an I/O-Link Master port using a standard M12 cable.
2. Ensure proper power supply to both the I/O-Link Master and the load cell.

I/O-Link Master Configuration

1. Access the I/O-Link Master's configuration tool, typically through a web interface or dedicated software.
2. Assign the load cell to a specific I/O-Link port on the Master.
3. Set the communication parameters for the port, such as:
 - I/O-Link protocol version (usually V1.1)

- Cycle time
- Process data length

Load Cell Configuration

1. Upload the load cell's IODD (I/O Device Description) file to the I/O Link Master's configuration tool.
2. The load cell parameters have been configured from the manufacturer within the IODD, this may include:
 - Serial Number
 - Manufacturer
 - Type
 - Measurement Range
 - Switch off at

Process Data Mapping

1. Define the process data structure for cyclic communication. Typically, this includes:
 - Force/Weight
 - Status information
2. Map the load cell's process data to the I/O-Link Master's address range for integration with the higher-level control system.

Additional Settings

1. Configure any diagnostic or event handling features.
2. Set up condition monitoring thresholds if supported by the load cell.
3. Implement any required calibration or adjustment procedures.

Verification

1. Use the configuration tool's online view to verify proper communication and data exchange between the load cell and Master.
2. Process Data is sent cyclically, input_1 will read a % of the Full-Scale load applied to the sensor. By monitoring this process data output – verification of the force input its corollary percentage can be performed.

Operation

Process Data

The load cell provides the cyclic process data.

Diagnostic Data

Diagnostic information is available via acyclic communication, including:

- Temperature
- Peak values
- Operating hours
- Error codes

Maintenance

- Keep the load cell clean and free of debris
- Periodically check mounting hardware
- Recalibrate annually or as required per your calibration schedule

Troubleshooting

- Check cable connections if no communication
- Verify proper supply voltage
- Review diagnostic data for error codes
- Contact Interface Support if issues persist

Appendix A

Features and Benefits of Interface I/O Link Load Cells

Why is the Interface model 1200 and 1201 Standard I/O-Link Load Cell the best in class:

- Proprietary Interface temperature compensated strain gages
- Eccentric load compensated
- Low deflection
- Tension and compression
- Compact size

Options

- Base (recommended)
- Custom calibration
- Multiple bridge
- Special threads
- Dual diaphragm

Accessories

- Mating connector
- Mating cable
- Loading hardware

I/O Link Quick Start Guide – Revision History		
Author	Revision	Release Date
JG	A	08/27/2024