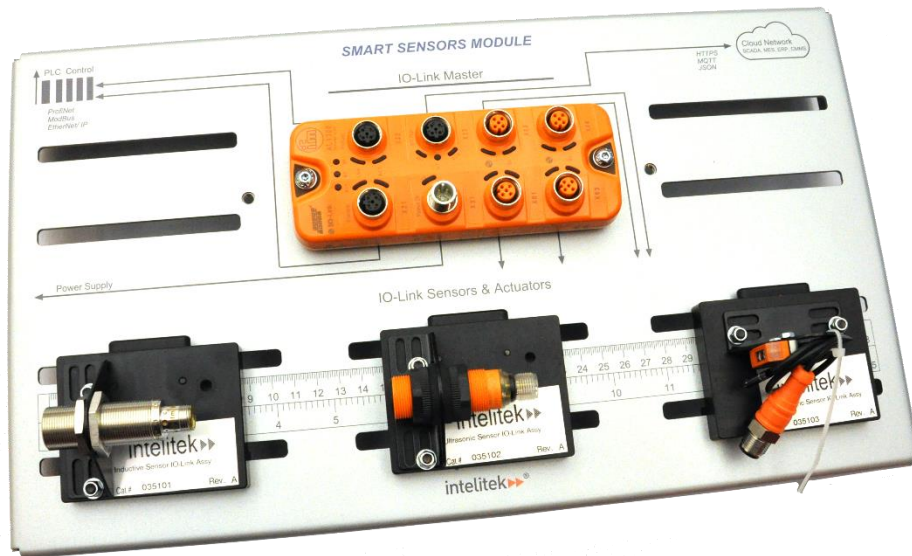


Smart Device Experimentation Package



IO-LINK PROXIMITY AND DISTANCE LAB ACTIVITY GUIDE

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INDUSTRY 4.0

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Intelitek software and documentation are available at <http://intelitekdownloads.com>.

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1. Getting Started

1.1. OVERVIEW

Thank you for purchasing the Intelitek *IO-Link Experimentation Package* for use in your classroom or laboratory. IO-Link is a communication protocol common to industrial automation systems, and the *Smart Sensor Module* is meant to provide a scaled-down IO-Link system that is usable in an educational setting, while still providing users with authentic, industry-recognized hardware and software.

This guide is meant to help you get started with the laboratory curriculum and provide you with access to the various lab activities.

1.2. INTEGRATING JMETS

The stand-alone lab activities do not require any additional materials besides those listed in the Materials section on page 5. However, components can be mounted onto a JobMaster Training System (JMETS) panel for ease of use.

For more information about the JMETS, its setup, and its accessory components, visit <https://www.intelitekdownloads.com/Manuals/IndustrialMaint/> and download the relevant user guides.



An IO-Link master device mounted onto the JMETS.

1.3. PREREQUISITES

It is strongly recommended that you complete Intelitek's Level 1 and Level 2 Industry 4.0 courses before performing these lab activities.

1.4. WHERE ARE THE LAB ACTIVITIES?

You can find a list of lab activities in Section 4, List of Lab Activities, on page 7. All lab activities are available on downloadable and printable PDF documents.

2. Materials

Materials required for each lab activity are also listed at the beginning of each activity. Ensure that all materials are ready before the beginning of each lab period.

Provided Materials

Part	Part No.	Amount
IO-Link Master AL1300 / AL1320	410495 / 410496	1
230V/24V IO-Link Power Supply	430755	1
IO-Link Master Power Cable with Banana Connection	040513	1
M12-RJ45 Ethernet Cable	410492	1
IO-Link M12-M12 Connection Cable	410493	3
Inductive Sensor	035101	1
Ultrasonic Sensor	035102	1
Photoelectric Sensor	035103	1
Steel Plate	110650	1
Brass Rod	112872	1
Marked Aluminum Cylinder	112713	1
Blue Block	113023	1
Plexiglass Block	113034	1
Magnet	410404	1

Additional Required Materials

Part	Amount
Wrench	1
Computer	1
Ethernet Switch (recommended)	1
Ruler	1

Required Software

Package
LR Device
Ethernet Configuration Tool (Hilscher)

Intelitek software and documentation are available at <http://intelitekdownloads.com>.

3. Navigating the Lab Activities

3.1. OVERVIEW AND PREPARATION

Lab activities include tasks that must be performed using the IO-Link smart devices.

Participants are assigned with reading the lab activity PDFs (see Section 4, List of Lab Activities, below) and performing the tasks. Both participants and instructors are encouraged to read through the activities ahead of each lab period as preparation.

All activities require instructor verification to ensure that the work of the participants meet the requirements in the performance objectives. Performance objectives are listed at the beginning of each lab activity.

3.2. VIDEOS AND QR CODES

Lab activities contain QR codes such as the one below. Click these codes or scan them with your smartphone to watch instructional or illustrative videos that are relevant for the specific lab activity task.

An example QR code is given here:



Click or scan the above QR code to watch a video of the IO-Link master's IoT port blinking green.

4. List of Lab Activities

Below is a list of lab activities in the *IO-Link Experimentation Package Proximity and Distance Curriculum*. Ctrl + click the name of each activity to navigate to that lab activity.

- ⓘ **Note:** Lab activities are password protected. Contact support@intelitek.com if you have not received passwords for the activities.

Stand-Alone Lab Activities – Proximity and Distance

Lab Activity	Description
Connecting the IO-Link Master	Connect the IO-Link master to a PC and enable communication.
The Inductive Sensor	Connect an inductive sensor to the master and monitor sensor status.
The Ultrasonic Sensor	Connect an inductive sensor to the master and measure object proximities.
The Photoelectric Sensor	Connect the photoelectric sensor to the master and observe how different objects are detected.