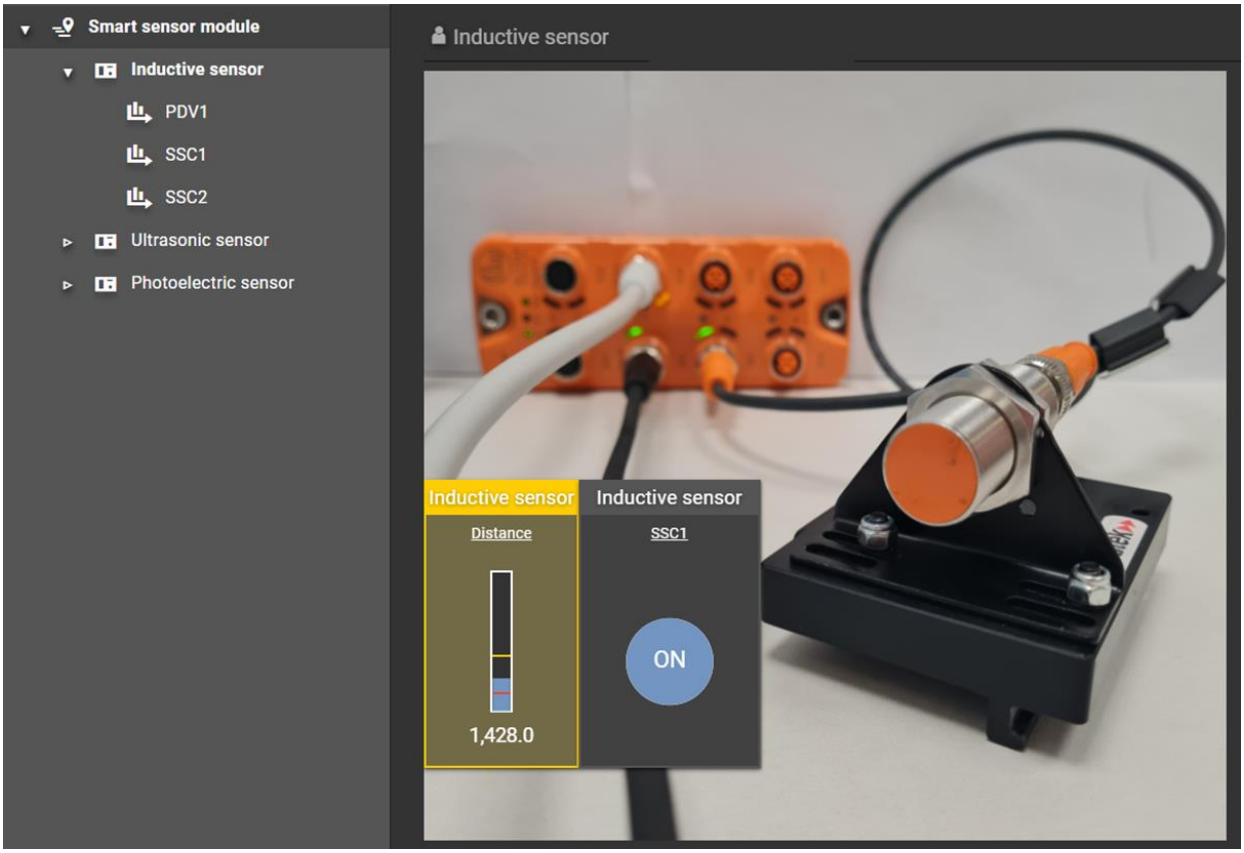
Smart Device Experimentation Package



IIoT Monitoring Software Lab Activity Guide

Catalog #34-8000-0023 Rev. B

intelitek

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IO-Link Experimentation Package Identification Kit Lab Activity Guide

Cat. # 34-8000-0023 Rev. B

September 2022

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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 with Identification Kit* 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 IIoT Monitoring Software laboratory curriculum and provide you with access to the various lab activities.

1.2. INTEGRATING JMTS

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 (JMTS) panel for ease of use.

For more information about the JMTS, 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 JMTS.

1.3. PREREQUISITES

Participants must complete the both the Proximity and Distance lab activities and Identification Kit lab activities before participating in the lab activities in this curriculum.

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.

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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.	Package	Amount
IO-Link Master AL1300 / AL1320	410495 / 410496	Proximity & Distance	1
230V/24V IO-Link Power Supply	430755	Proximity & Distance	1
IO-Link Master Power Cable with Banana Connection	040513	Proximity & Distance	1
M12-RJ45 Ethernet Cable	410492	Proximity & Distance	1
IO-Link M12-M12 Connection Cable	410493	Proximity & Distance	3
Inductive Sensor	035101	Proximity & Distance	1
Ultrasonic Sensor	035102	Proximity & Distance	1
Photoelectric Sensor	035103	Proximity & Distance	1
Magnet	410404	Proximity & Distance	1
Stack Light	035106	Identification	1

Required Software

Package
LR Device
Ethernet Configuration Tool (Hilscher)
Moneo RTM

Additional Required Materials

Part	Amount
Wrench	1
Computer	1
Ethernet Switch (Recommended)	1

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

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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. In addition, performing the lab activities using the Moneo RTM software requires an IFM user profile account and Moneo RTM administration privileges.

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.

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4. List of Lab Activities

Below is a list of lab activities in the IO-Link Experimentation Package 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.*

Lab Activity	Description
M1: Moneo Setup	Connect your devices and enable communication between them and the Moneo RTM monitoring software. Produce data points and create interactive dashboards for monitoring the data points.
M2: Analysis and Ticketing	Establish acceptable ranges for sensor values and generate alerts and warnings for when these ranges are exceeded. Analyze sensor data.
M3: Calculated Values	Create calculated values and add them to your dashboard to enhance your monitoring options.
M3b: Calculated Values - Solution	Sample solution to the final task in M3.

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