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Banner DXMR90-4K IO-Link Configuration Software Instruction Manual

IO-Link Configuration Software
Instruction Manual
Original Instructions
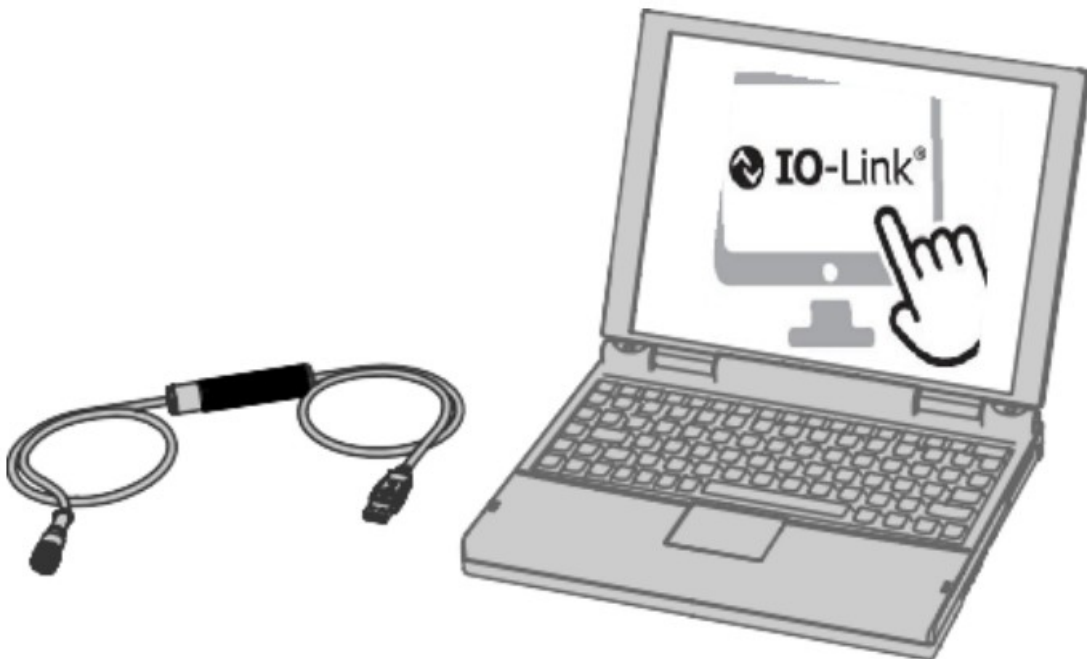228876 Rev. B
29 August 2022

Contents

Software Description

Software that Enables the Field Configuration of Banner IO-Link Masters and Banner IO-Link Devices

- Allows the configuration of Banner IO-Link devices
- Free to download and available on the product pages for the DXMR90-4K, R90C-4K-MQ, and R45C-2K-MQ IO-link masters
- Works on Microsoft® Windows® 7 and 101
- BWA-UCT-900 cable required to connect PC-based IO-Link Configuration Software to Banner IO-Link masters and Banner IO-Link devices

Note: Administrative rights are required to install the IO-Link Configuration Software.

1.1 Overview

Banner's IO-Link Configuration Software offers an easy way to configure Banner IO-Link masters and Banner IO-Link devices, offering users full control of master and device configuration. The easy-to-use software provides a variety of tools and works with the DXMR90-4K, R90C-4K-MQ, and R45C-2K-MQ IO-Link Masters.

Configure Banner IO-Link masters and Banner IO-Link devices using the free IO-Link Configuration Software, available for download at **https://www.bannerengineering.com/us/en/products/part.811445.html**.

Specifications and Requirements

2.1 IO-Link Configuration Software PC Requirements

Operating System
Microsoft® Windows® operating system versions 7 or 102
Hard Drive Space
120 MB
USB
Available USB port
Screen Resolution
1366 × 768 full-color minimum
Third-Party Software
NET version 4.6.2 or higher

⭐ **Important:** Administrative rights are required to install the IO-Link Configuration Software.

2.2 Adapter Cable – Required for use with IO-Link Configuration

An adapter cable, model BWA-UCT-900, is required for use with the IO-Link Configuration Software. Use the adapter cable to connect Banner IO-Link devices to read, write, and preview device configurations.

- Connects Banner IO-Link masters to the PC-based IO-Link Configuration Software

2.2.1 Model

Model	Adapter	Length	Connections
BWA-UCT-900	RS-485 to USB	1 m (3.28 ft)	USB and 5-pin M12 quick disconnect

2.3 BWA-UCT-900 Adapter Cable Specifications

Input Voltage
5 V DC from USB Type A connector

CE **Certifications**
Output Voltage
24 V DC power output for a single device transmitting at 1 Watt
Operating Conditions
–40 °C to +80 °C (–40 °F to +176 °F) 95% maximum relative humidity (non-condensing)

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Installation Instructions

3.1 Install the Software

⭐ **Important:** Administrative rights are required to install the IO-Link Configuration Software.

1. Download the latest version of the software from
   https://www.bannerengineering.com/us/en/products/part.811445.html.
2. Navigate to the downloaded file IOLConfigInstaller.exe.
3. Double-click the installer to open Banner IO-Link Configuration Software Setup.
4. Accept the terms in the License Agreement by selecting the checkbox.
5. Click Install to install the software.
6. Depending on the system settings, a pop-up window may appear prompting to allow the IO-Link Configuration Software to make changes to the computer. Click Yes.
7. Click Close to exit the installer after installation is complete.
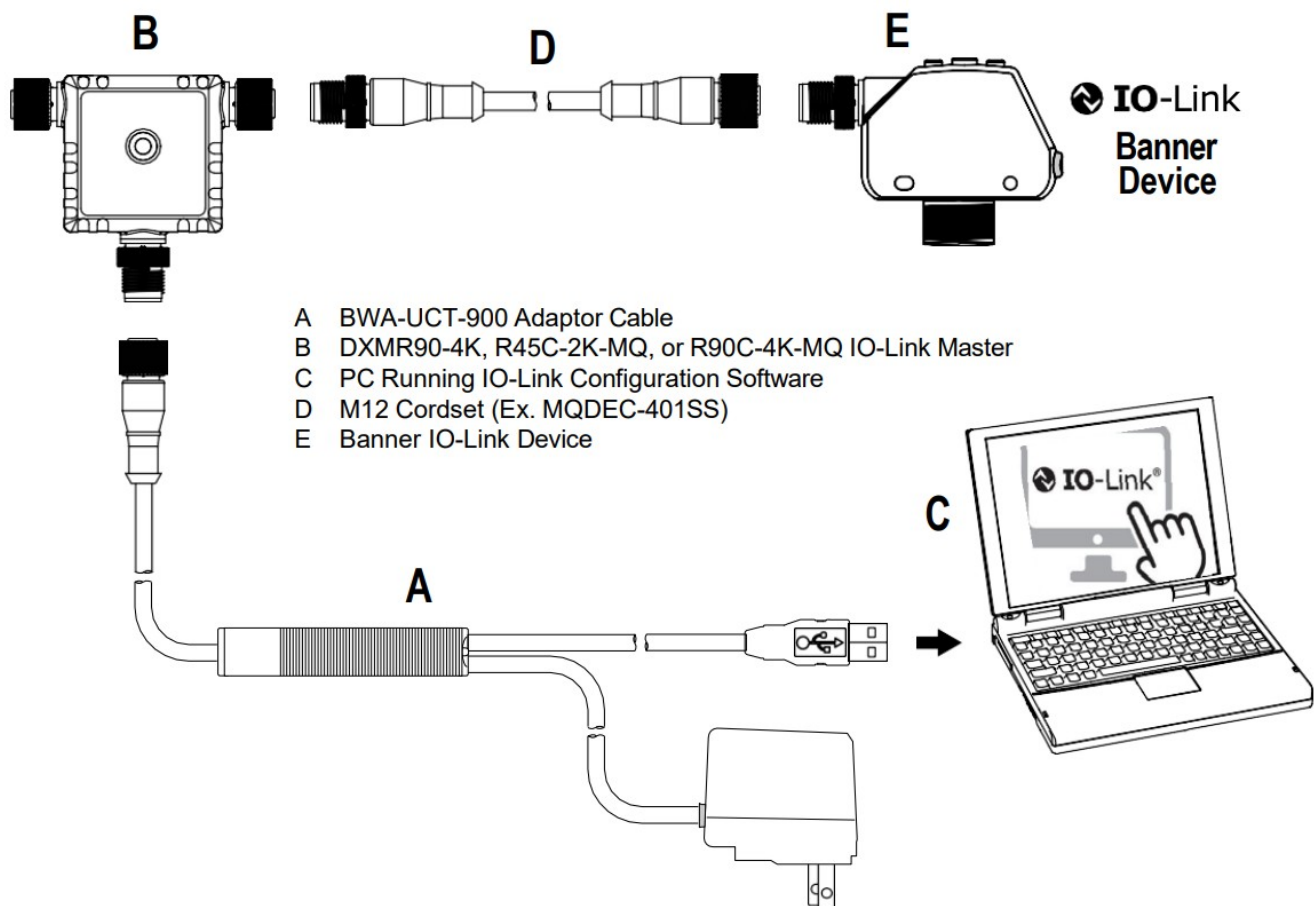
3.2 Connect the Cables

1. With the BWA-UCT-900 adapter cable, plug the M12 connector into male connector of the IO-Link master.
2. Plug the USB connector of the BWA-UCT-900 into the PC.
3. Plug the power cable of the BWA-UCT-900 into a wall outlet.

3.2.1 IO-Link Device Connection
To configure Banner IO-Link devices:

1. Connect the Banner IO-Link device or devices to the ports on the DXMR90-4K, the R45C-2K-MQ or R90C-4K-MQ IO-Link masters using an M12 cordset.
2. Plug the M12 connector of the BWA-UCT-900 adapter cable into the male M12 communication port on the R45C-2K- MQ or R90C-4K-MQ.

3. Plug the USB connector on the BWA-UCT-900 into the PC.

A   BWA-UCT-900 Adaptor Cable
B   DXMR90-4K, R45C-2K-MQ, or R90C-4K-MQ IO-Link Master
C   PC Running IO-Link Configuration Software
D   M12 Cordset (Ex. MQDEC-401SS)
E   Banner IO-Link Device

3.3 Load an IODD and Connect to Banner IO-Link Devices

After connecting a Banner IO-Link master to a PC, follow these steps to connect IO-Link devices to the IO-Link Configuration Software.

1. Download the Banner IO-Link device IODDs.

   a) Go to **www.bannerengineering.com**.

   b) Search for the desired Banner IO-Link devices.

   c) Click Product Detail.

Figure 1. Search for the Product (LM150KIQP shown)
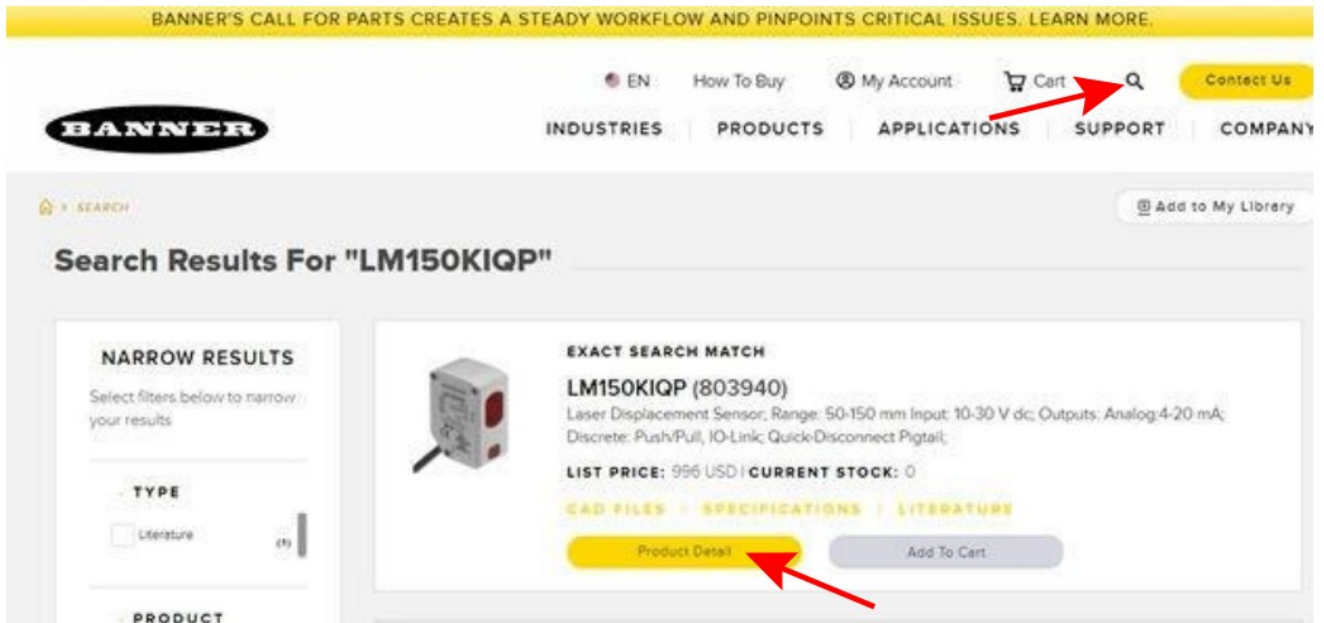
d) On the product page, under Downloads, navigate to the IODD file and click the download button.

Figure 2. Download the IODD Files

2. Extract the downloaded IODD zip file and save it to a desired location. Repeat this process for every Banner IO-Link device that is connected to the IO-Link master.

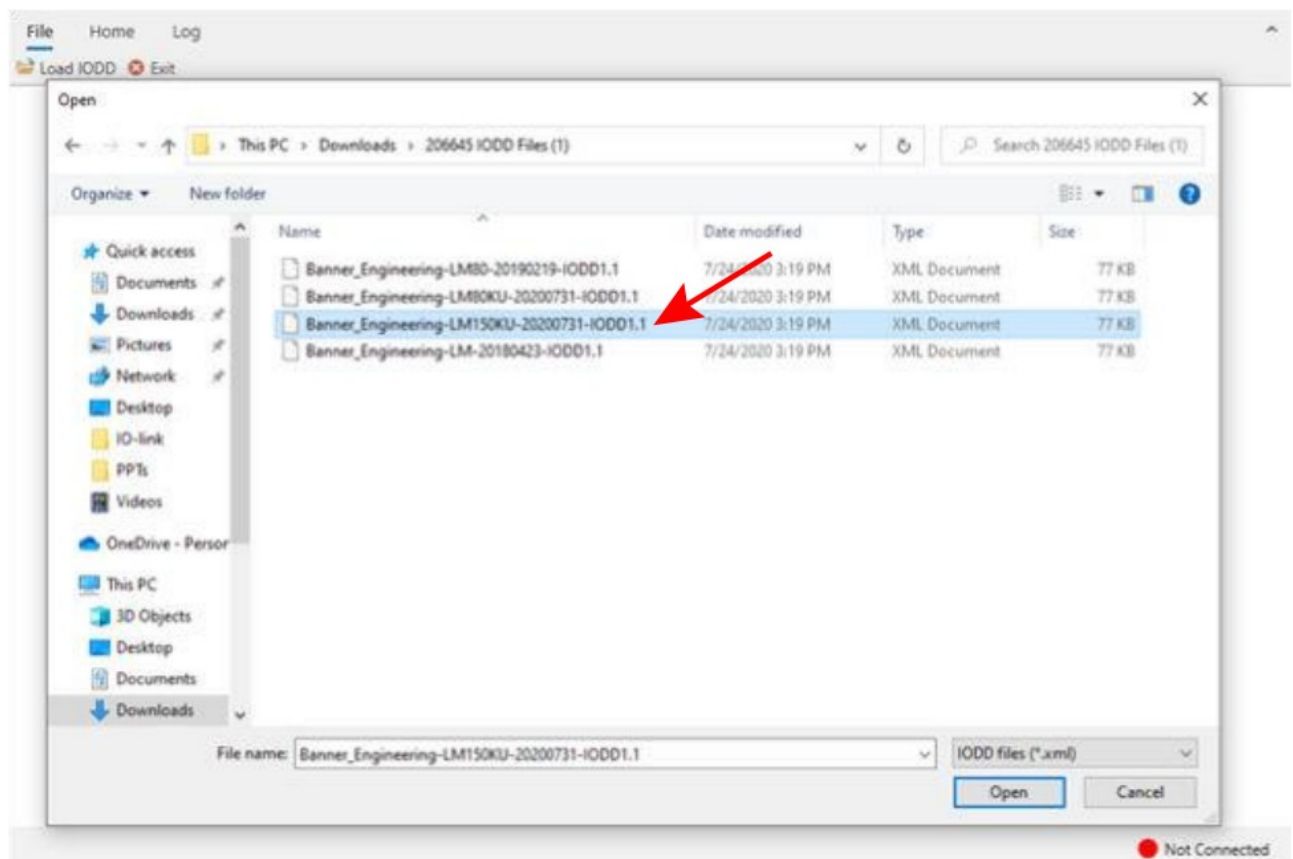3. Open the IO-Link Configuration Software and click File > Load IODD in the upper left corner of the window.

Figure 3. Load IODD

A File Explorer window opens.

4. Navigate to where the IODD file was extracted to in File Explorer and click on it.

5. Click Open in File Explorer.

Figure 4. Open the IODD File

The file explorer window closes, and the IODD file loads into the IO-Link Configuration Software.

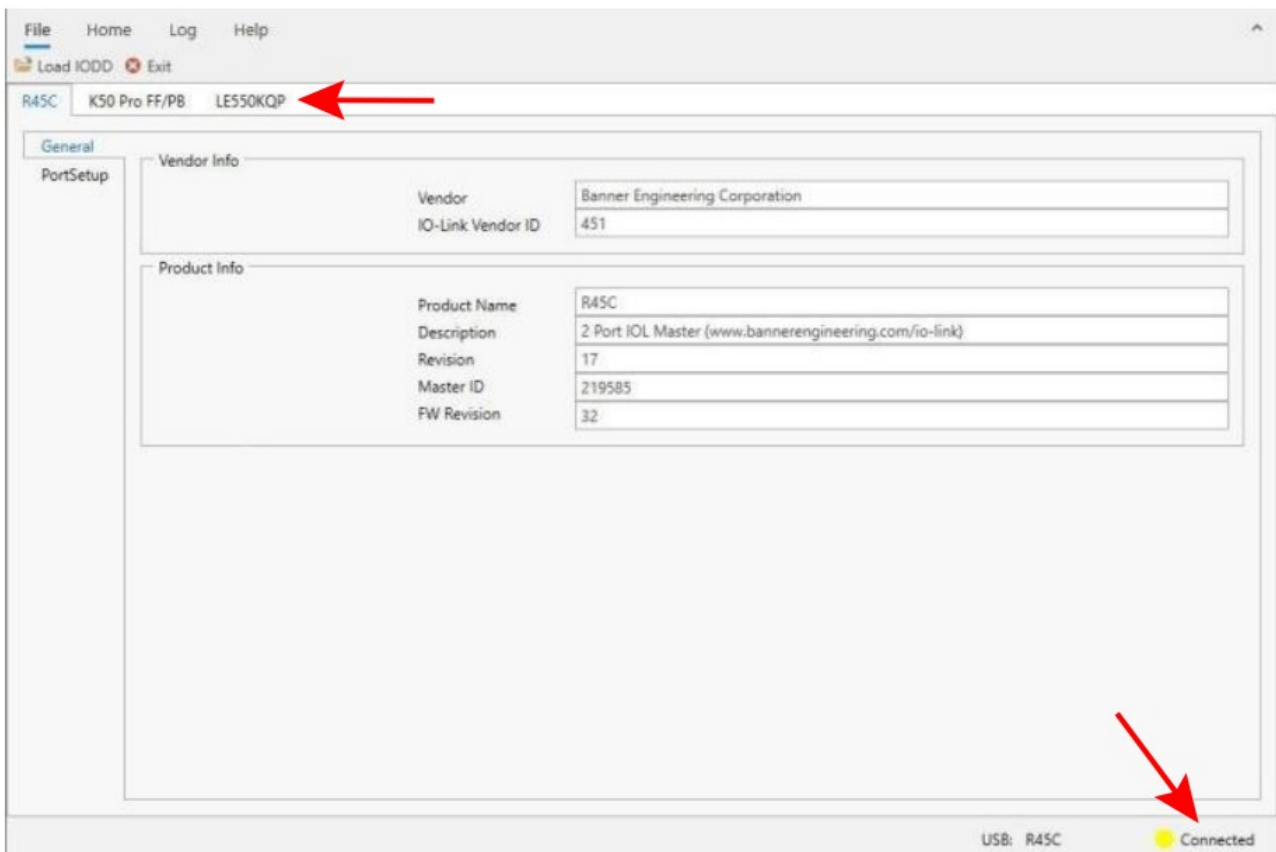6. Click Connect in the IO-Link Configuration Software window.

Figure 5. Connect the Device

The Banner IO-Link devices are now connected to the IO-Link Configuration Software. The connected IO-Link devices appear in new tabs within the software window, and the status in the bottom right corner now reads as Connected.
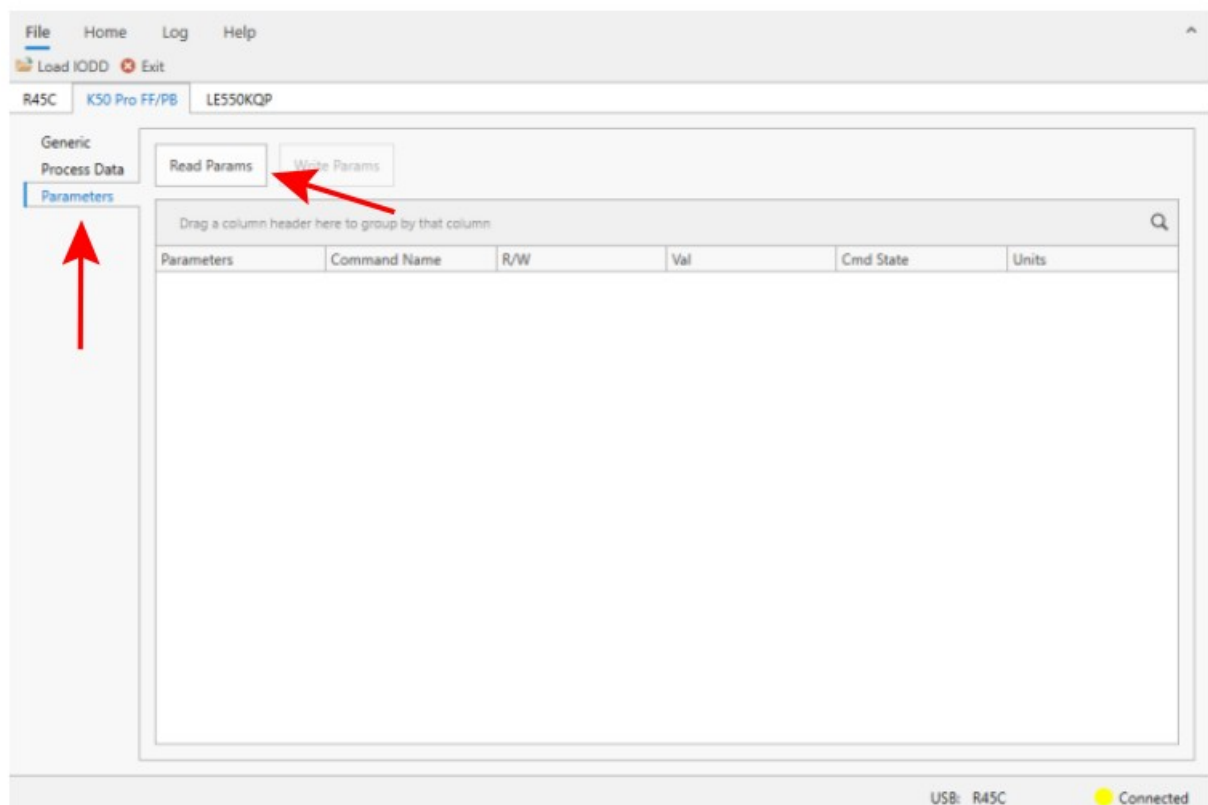
Figure 6. Connected

3.3.1 Read and Change the Banner IO-Link Device Configuration

1. Select the device tab in the software window, and click Parameters in the left menu. Parameters is used to read and change the Banner IO-Link device configuration.
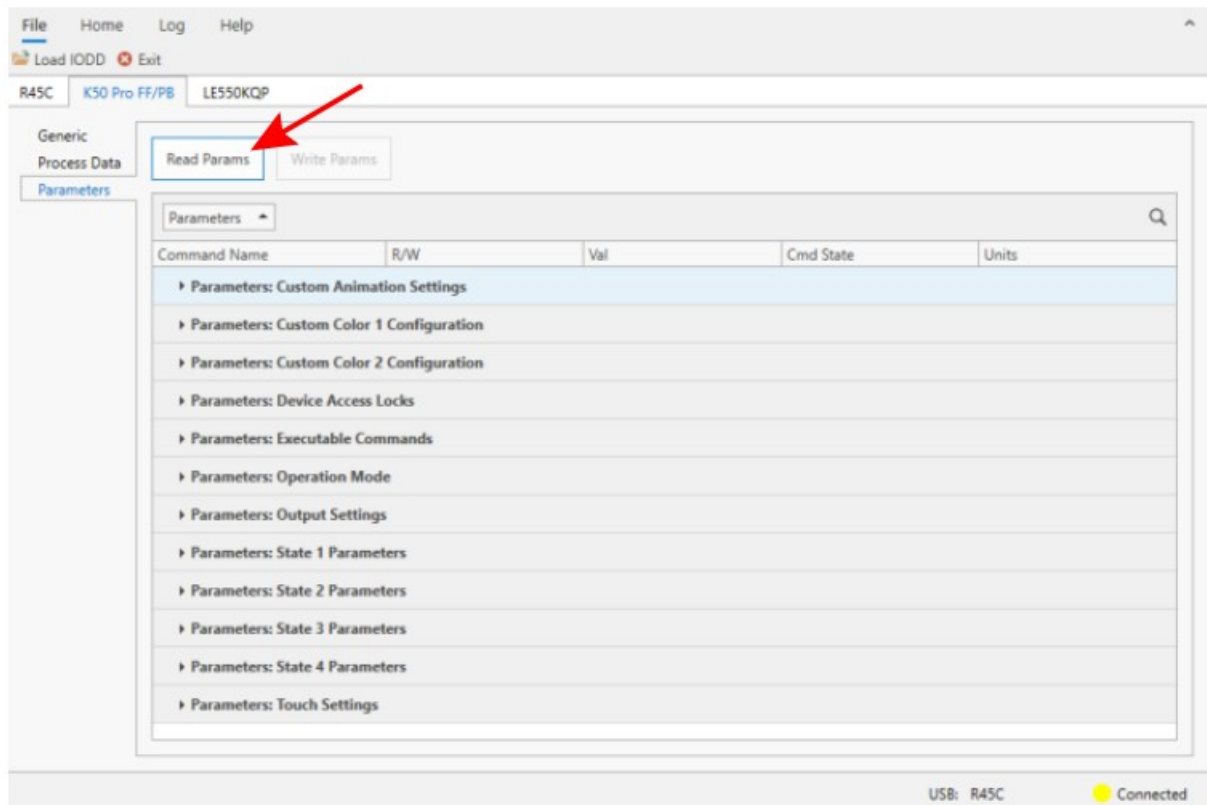   After clicking on Parameters, the Parameters pane opens within the device tab.

Figure 7. Parameters

2. Click Read Params to read the current configuration of the connected Banner IO-Link device.

Figure 8. Read Params

This displays the current IO-Link configuration information in the Parameters pane, along with all of the device's available settings.

3. If desired, make any changes to the Banner IO-Link device's configuration in this pane using the available settings.

4. If changes were made to the settings, write the changes to the device by clicking Write Params.

Figure 9. Write Params
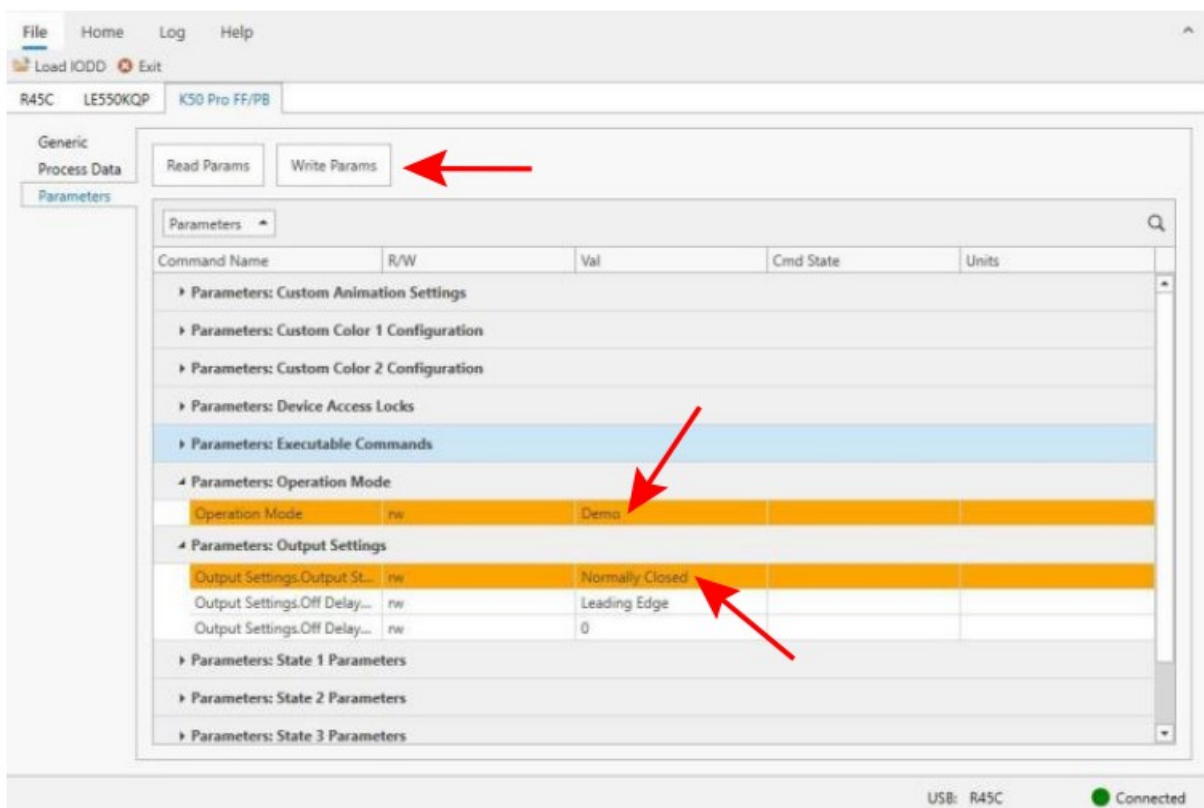
3.3.2 Process Data

Process data refers to the information that the device reads and transmits to the master, such as the distance reading on a laser measurement sensor.

Process data can also refer to information that is transmitted to the device from the master, such as messages sent to a tower light indicating which color segments should be illuminated.

Cyclic and acyclic process data can be transferred between an IO-Link master and an IO-Link device. By clicking Process Data in the left menu, the user is able to view the live process data of the Banner IO-Link device connected to the IO-Link master.

Process Data IN is data that is sent from the IO-Link device to the IO-Link master.

Process Data OUT is data that is sent from the IO-Link master to the IO-Link device.

Figure 10. Process Data
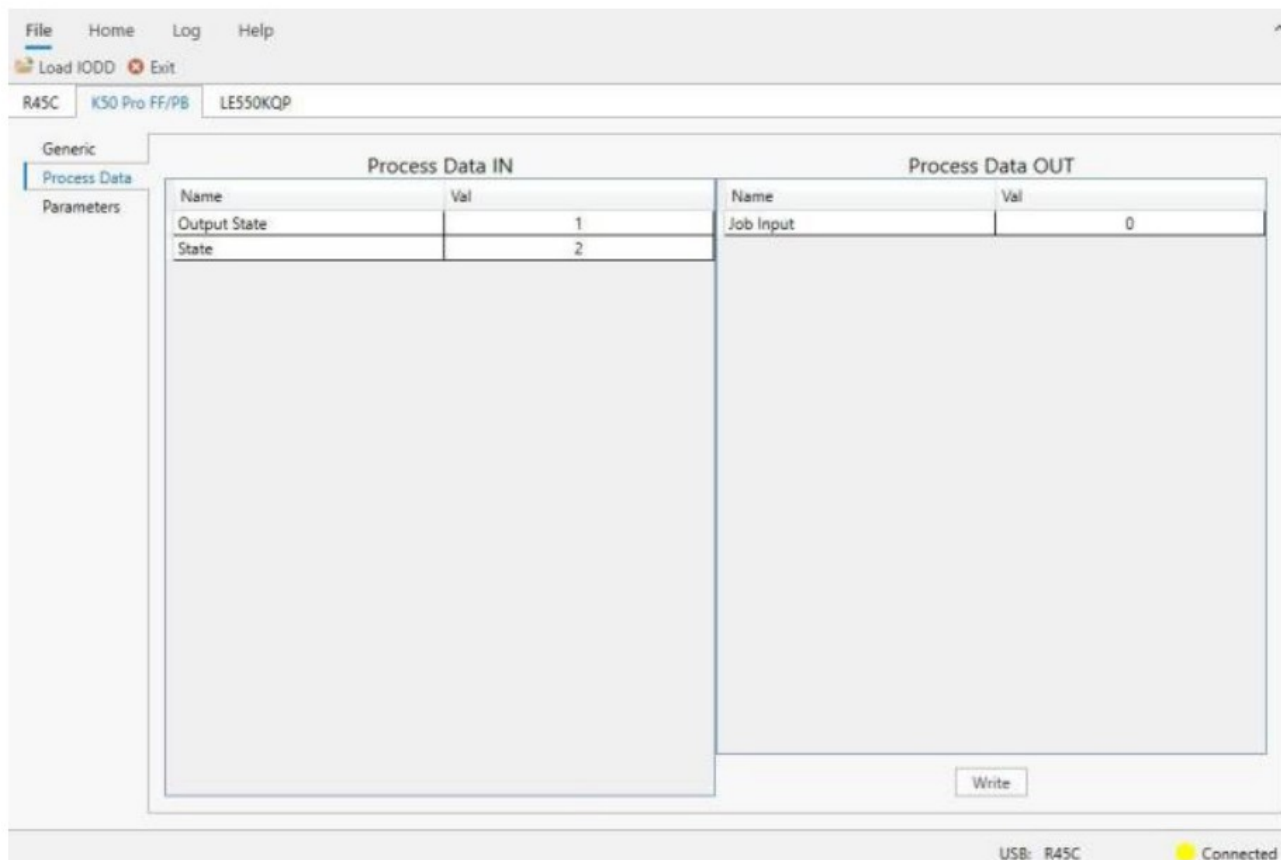
Read and Change the Banner IO-Link Master Port Configuration

The IO-Link Configuration Software has a special tab for configuring the port settings on the IO-Link master. To access, click on the IO-Link master tab and select PortSetup.

Figure 11. IO-Link Master Port Setup
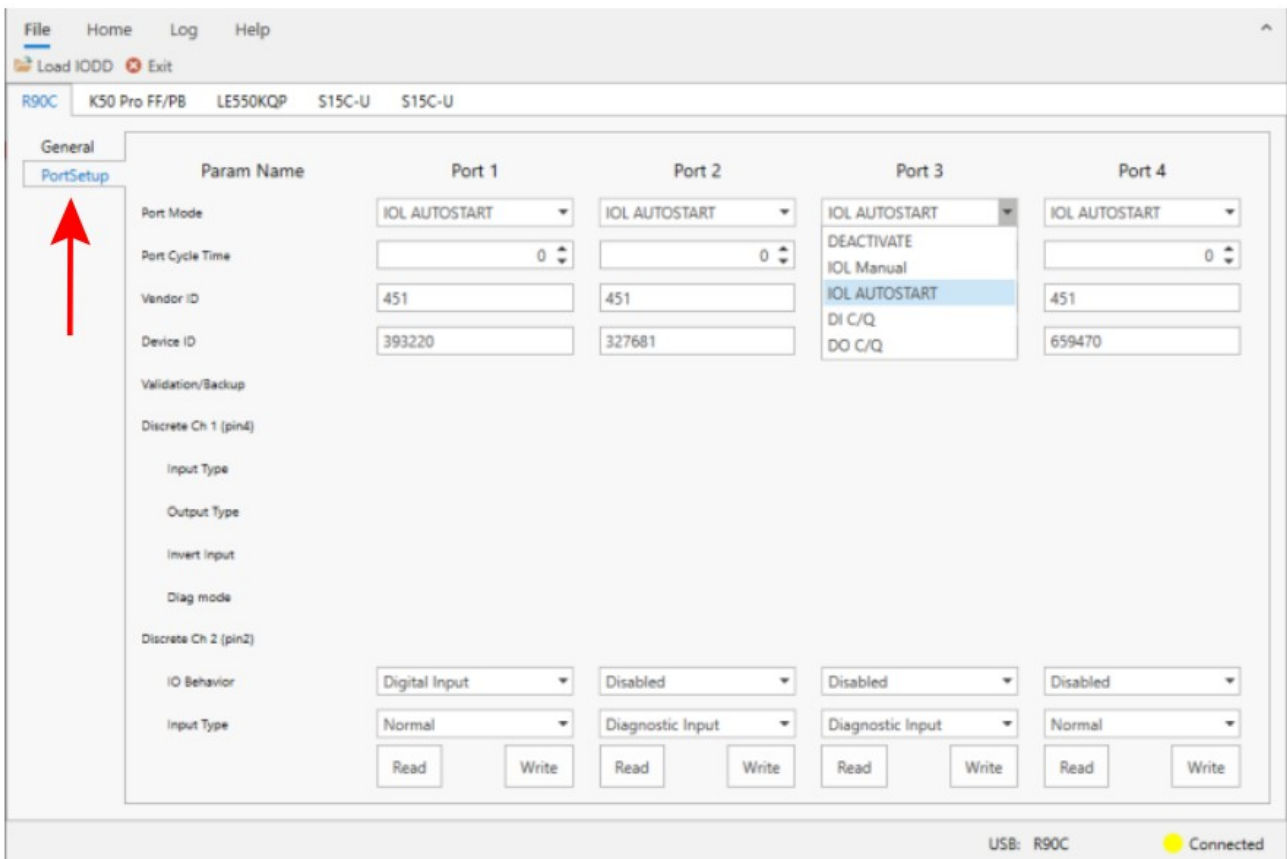
The operating mode can be configured for any port on the IO-Link master. The following modes can be used:

Deactivated

Use deactivated mode for any unused IO-link master ports if a device is not connected.

IO-Link Manual

The IO-Link master only connects IO-Link devices that have a certain vendor ID and device ID (1: IOL_MANUAL).

IO-Link Autostart

The IO-Link master connects to every connected IO-Link device (2: IOL_AUTOSTART).

Digital Input

The IO-Link port functions as a standard digital input (3: DI_C/Q).

Digital Output

The IO-Link port functions as a standard digital output (4: DO_C/Q).

When the backup function of the IO-Link master is used, the IO-Link master automatically provides the saved parameters to the new device after replacement. This makes IO-Link device replacement seamless in IO-Link applications. Another common industry term for this function is data storage mode.

Backup+Restore Mode

If a port on the IO-Link master is set to Backup+Restore, then the new device added to the IO-Link port takes in the same device configuration as the device that was just replaced, as the IO-Link master had stored the last configuration change by a backup (3: Type compatible Device V1.1, Backup + Restore).

Restore

If the port on the IO-Link master port is set to Restore, then the new device takes in the configuration according the settings saved in the master at the time of the last backup. Because possible configuration changes were not saved in the master, a different behavior from the previous one before the replacement may occur (4: Type compatible Device V1.1, Restore).

Make changes to the ports' settings by selecting the drop-down menus for each port. To read the current configuration of each port, select the applicable Read button. After making the desired changes to the port settings, select the applicable Write button.
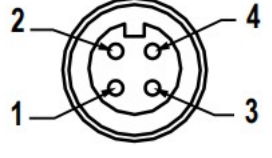
Figure 12. Write Port Settings
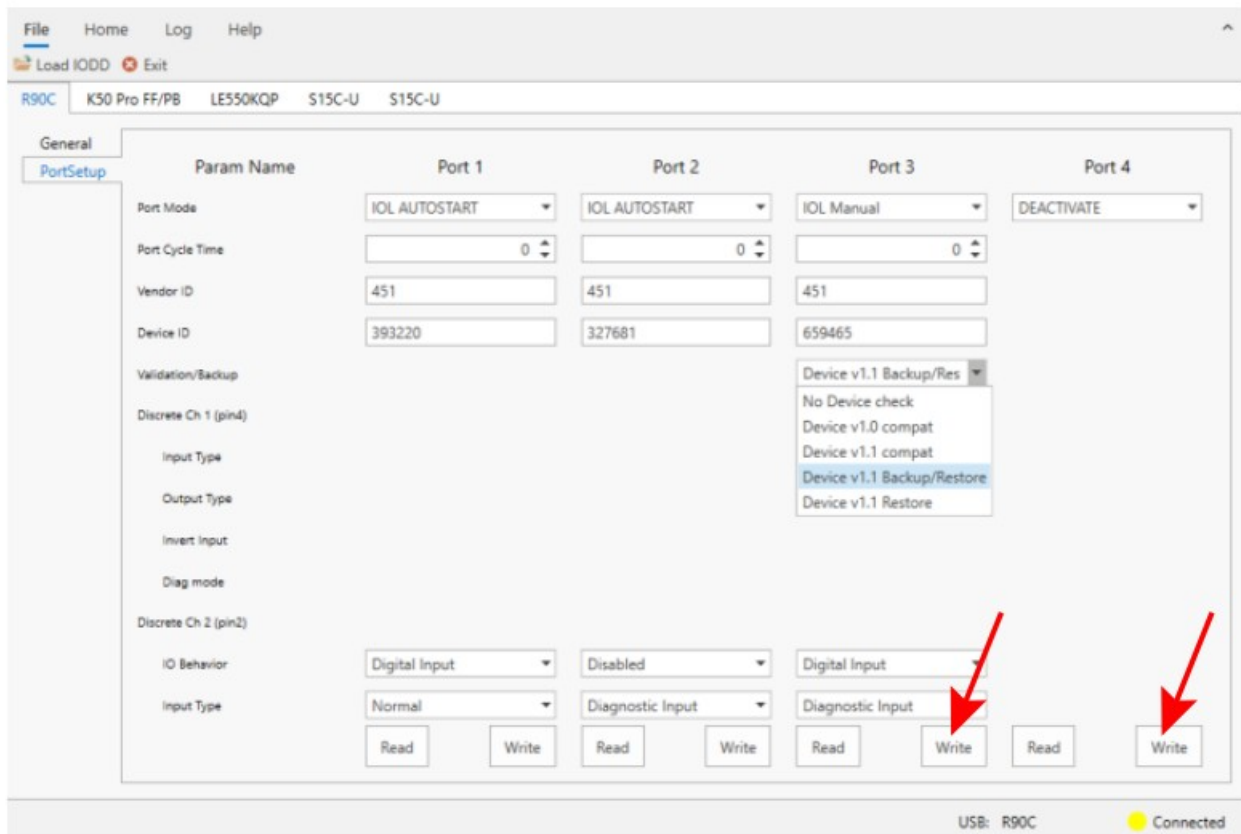
Accessories

5.1 IO-Link Hardware
4-Pin Threaded M12 RS-485 to USB Adapter Cordset, with Wall Plug

Model	Length	Style	Dimensions	Pinout (Female)
BWA-UCT-900	1 m (3.28 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black

Product Support and Maintenance

6.1 Maintenance
Maintenance tasks include updating the IO-Link Configuration Software as new versions become available.

6.1.1 Update the Software
The current version of the IO-Link Configuration Software is available for download from
https://www.bannerengineering.com/us/en/products/part.811445.html.

When connected to a network, if an IO-Link Configuration Software update is available, a red icon ⚠ displays in the bottom right corner of the IO-Link Configuration Software. Click this icon to update the software to the latest version.

6.2 IO-Link Configuration Release Notes

Version	Devices	General
2.0.7	Added support for DXMR90-4K IO-Link Master	Can now connect multiple devices and configure multiple ports
1.0.16	Supports R45C and R90C IO-Link Master devices	Initial release

6.3 Contact Us

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For worldwide locations and local representatives, visit **www.bannerengineering.com**.

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For patent information, see **www.bannerengineering.com/patents**.

6.5 FCC Part 15 Class B

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help

6.6 Industry Canada

This device complies with CAN ICES-3 (B)/NMB-3(B). Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) This device must accept any interference received, including interference that may cause undesired operation.

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Documents / Resources

	Banner DXMR90-4K IO-Link Configuration Software [pdf] Instruction Manual DXMR90-4K, R90C-4K-MQ, R45C-2K-MQ, DXMR90-4K IO-Link Configuration Software, IO-Link Configuration Software, Configuration Software, Software

References

- ▣ **Banner Engineering**
- ▣ **Banner Engineering**
- ▣ **Patents**
- ▣ **R90C-4K-MQ | Converters**
- ▣ **Banner Engineering**
- ▣ **R90C-4K-MQ | Converters**

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