MAXREFDES165# Four-Channel IO-Link Master Quick Start Guide

UG6772; Rev 0; 09/18

Abstract

The MAXREFDES165# 4-Channel IO-Link® Master Quick Start Guide describes the steps required to quickly get the MAXREFDES165# reference design up and running by controlling it with TMG TE's IO-Link Device Tool.

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Required Equipment

- PC with Windows® 7 or Windows 8 or Windows 10. Verify with TMG that your version of Windows is supported before purchasing their software.
- MAXREFDES165# (Box Contents)
  - MAXREFDES165# 4-Port IO-Link Master
  - TMG TE's IO-Link Device Tool (Note 1)
  - FTDI® Driver (Note 1)
  - AC-to-DC 24V/1A (min) output power converter
  - 1 meter IO-Link cable
  - USB 2.0 Type B cable

Note 1: Download files from the Design Resources tab at www.maximintegrated.com\MAXREFDES165.

Figure 1. MAXREFDES165# box contents.

Overview

- Install the **TMG TE's IO-Link Device Tool** V5 software.
- Install the **FTDI Driver** (in most cases, this installs automatically from the internet when connected first time). Otherwise use the installer.
- Connect the USB cable from the PC to the **MAXREFDES165#** board.
- Connect the AC-to-DC 24V DC-power converter.
- Run the **TMG TE's IO-Link Device Tool** software and connect to the **MAXREFDES165#** board.
- Load in the IODD file for your sensor or actuator.
- Press the **IO-Link** button to connect to a sensor or actuator.
- Read and write to sensor or actuator parameters.

Procedure

1. Download the **TMG TE's IO-Link Device Tool** software at https://tmgte.de/en/IO-Link-component/io-link-engineering-software.html

2. Install the **TMG GUI IO-Link Device Tool V5**.

3. Install the **FTDI_Driver** driver as shown in **Figure 2**.

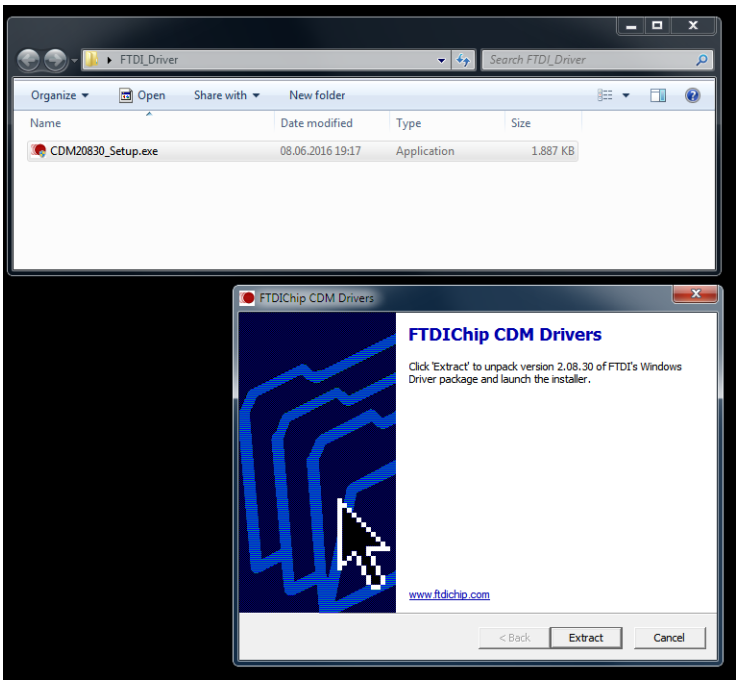


Figure 2. FTDI driver.

4. Connect the 24V Power-Supply, then connect the USB cable from the PC to the MAXREFDES165# as shown in **Figure 3**.

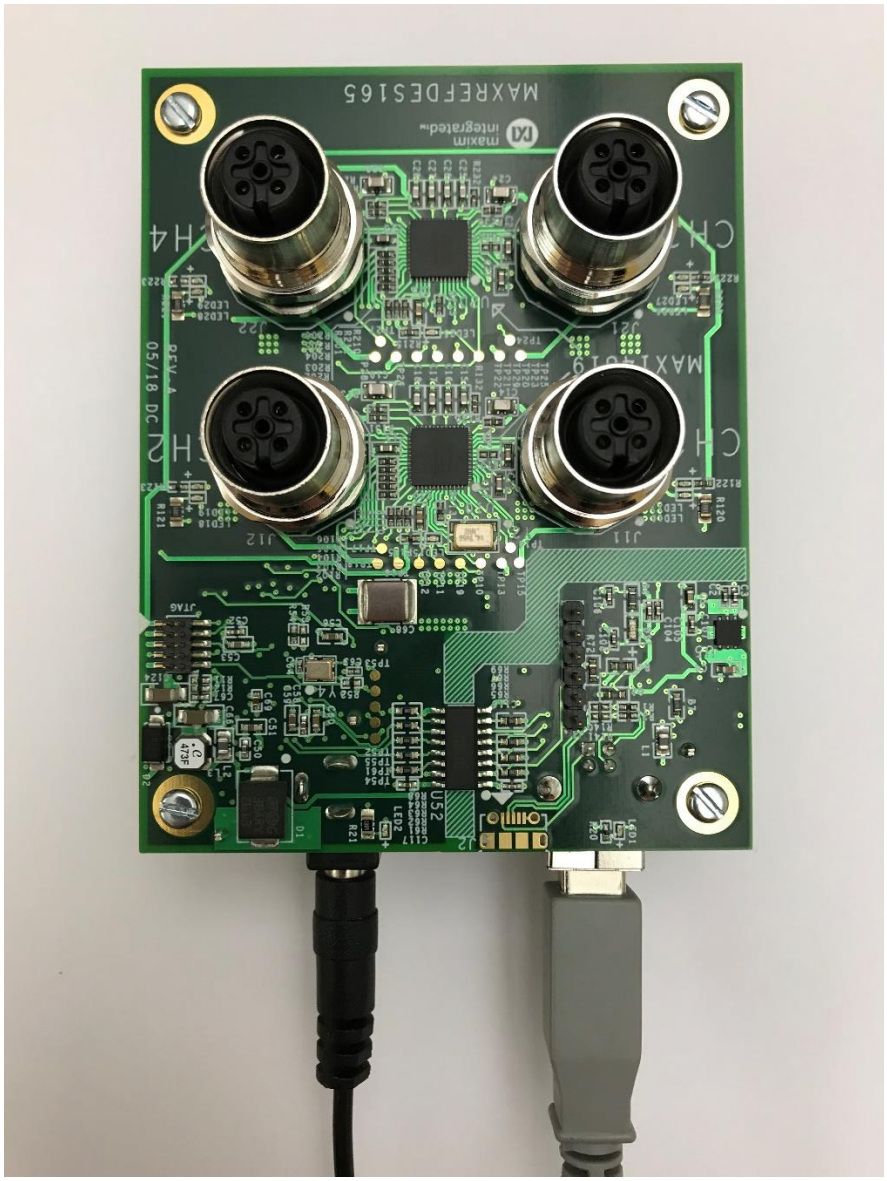


Figure 3. Connect the Power and USB cables to MAXREFDES165# and then connect it to the PC.

5. Run the **TMG TE's IO-Link Device Tool** software as shown in **Figure 4**. At the top right, select **Search Master**. A window pops up and shows the master that is found on the PC.

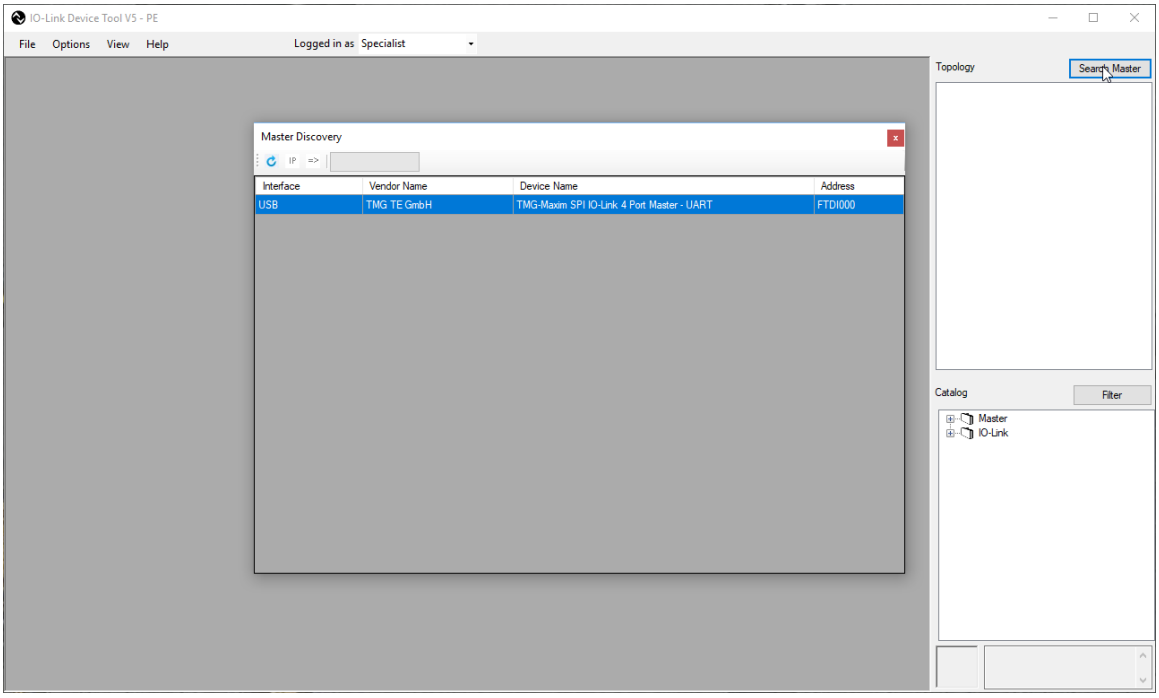
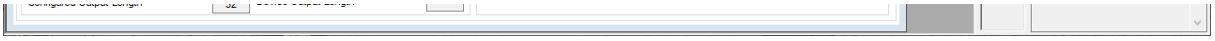


Figure 4. TMG TE's IO-Link Device Tool software.

6. 

Double-click the displayed master. The GUI shows the 4-port master as shown in **Figure 5**. Click **Go Online** and the four red LEDs on the MAXREFDES165# should turn on.

Figure 5. TMG software – IO-Link Master.

7. Connect an IO-Link sensor. In this case, we show the MAXREFDES27# IO-Link proximity sensor (not included). The device should be found and listed. Select **Takeover devices into engineering**.

   Note: MAXREFDES27# is the part number; this design is also known by the product name 'Maxim-Saratoga' as shown in **Figure 6** to **Figure 10**.

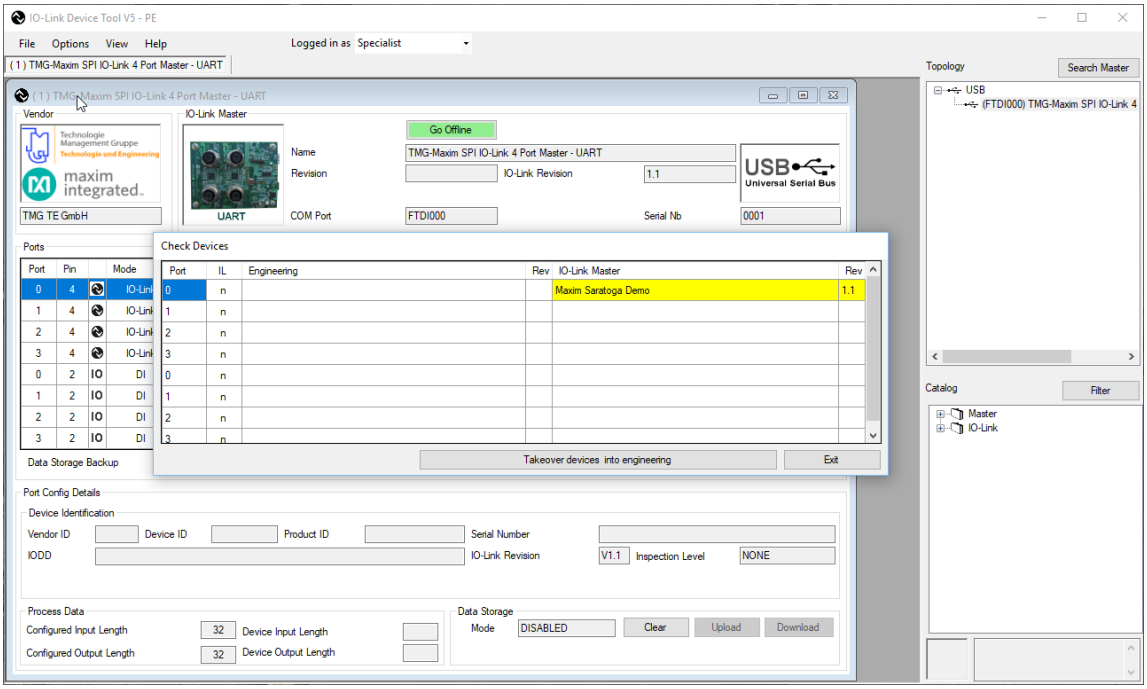


Figure 6. MAXREFDES27# sensor found.

8. The device is listed in the main window.

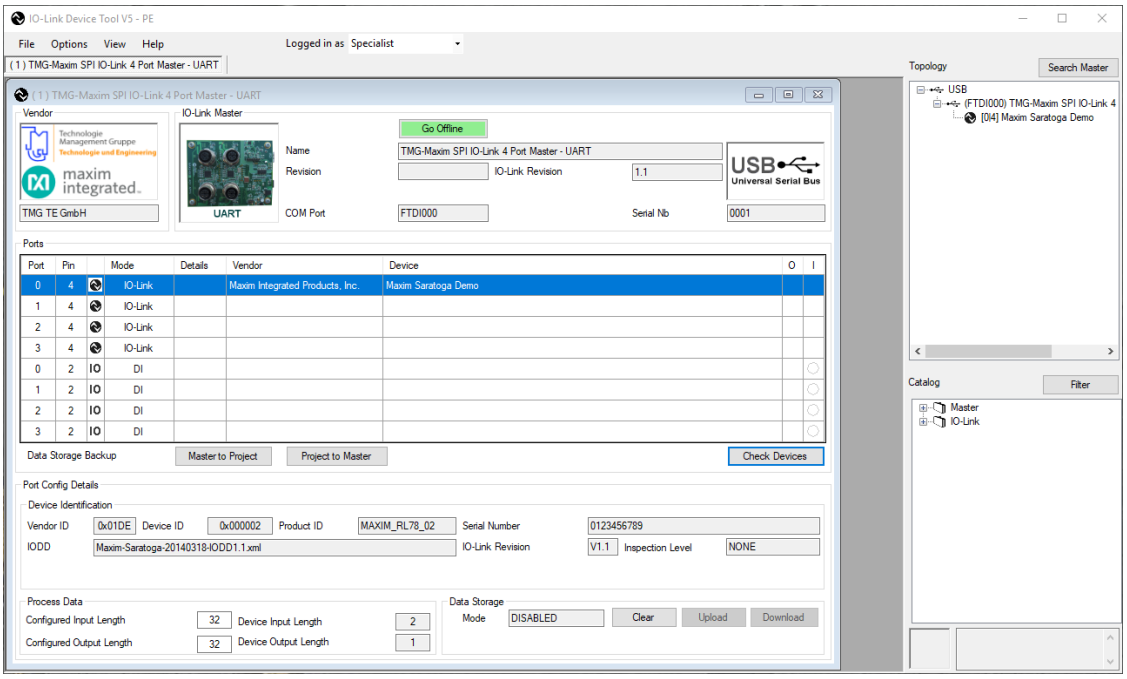


Figure 7. MAXREFDES27# sensor listed.

9. Double click on the device to open and display the data from the MAXREFDES27# IODD file, as shown in **Figure 8.**

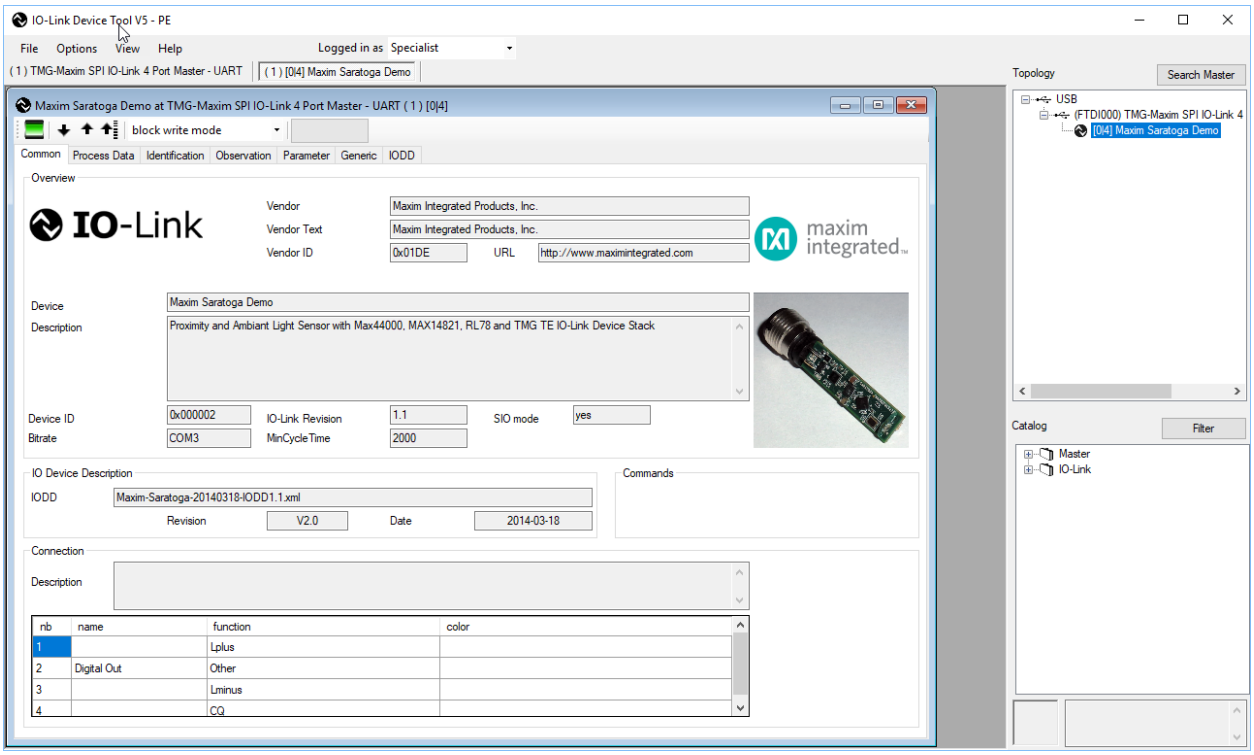


Figure 8. MAXREFDES27# IODD.

10. Select the tab **Process Data**, as shown in **Figure 9**.

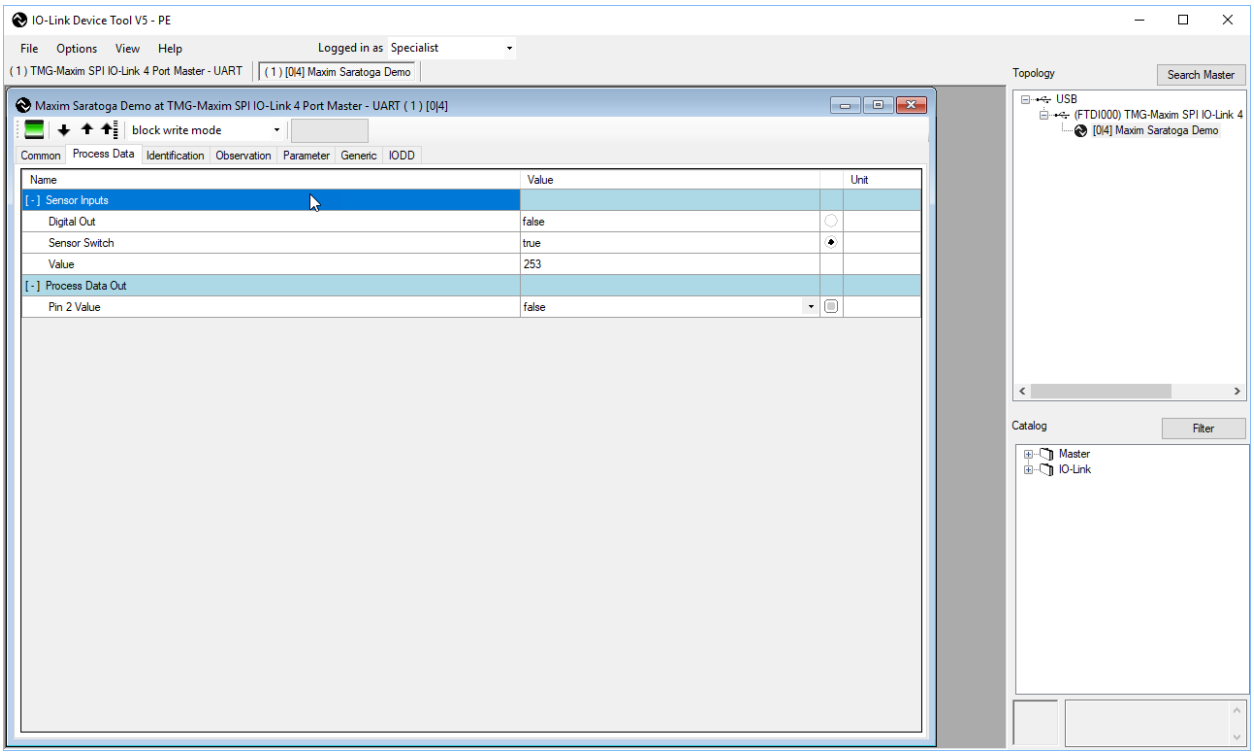


Figure 9. MAXREFDES27# process data out.

11. Trigger the sensor to continuously update the data.

Software License Keys

The TMG TE IO-Link master stack ships preprogrammed inside the MAXREFDES165# hardware with a perpetual license. TMG contact information is as follows:

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