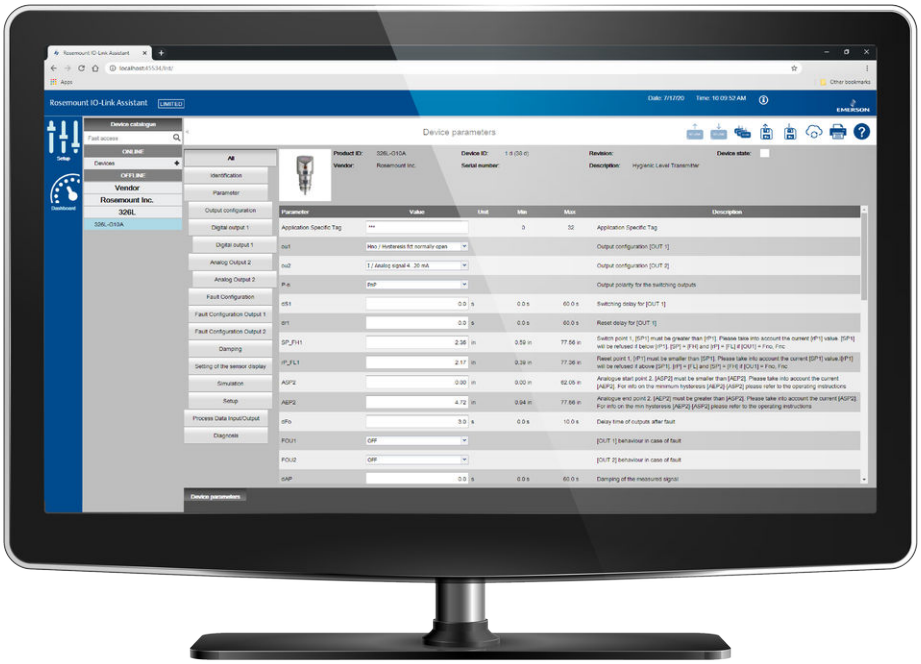
Reference Manual
00809-0100-4113, Rev AA
July 2020

Rosemount™ IO-Link Assistant



ROSEMOUNT™

EMERSON™

Safety messages

⚠ WARNING

Installation considerations

Read this guide before working with the product. For personal and system safety, and for optimum product performance, ensure you thoroughly understand the contents before installing, using, or maintaining this product.Failure to follow these installation guidelines could result in death or serious injury. Use the equipment only as specified in this manual. Failure to do so may impair the protection provided by the equipment. Use the equipment only as specified. Failure to do so may impair the protection provided by the equipment. Ensure the device is installed by qualified personnel and in accordance with applicable code of practice. All operation described in this document must be carried out by authorized, trained personnel only.

Equipment modifications

Do not make changes to the source code or individual components. Changes such as this which are not explicitly stated in this document may forfeit any rights to technical support by the manufacturer.

Physical access

Unauthorized personnel may potentially cause significant damage to and/or misconfiguration of end users' equipment. This could be intentional or unintentional and needs to be protected against.

Physical security is an important part of any security program and fundamental to protecting your system. Restrict physical access by unauthorized personnel to protect end users' assets. This is true for all systems used within the facility.

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1 Overview

1.1 Functions and features

The Rosemount IO-Link Assistant software offers the following options:

- Parameter setting of IO-Link masters and devices
  - Via the network
  - Devices "point-to-point" via USB IO-Link master
- Online and offline set-up of Rosemount IO-Link masters and devices
  - Parameter setting
  - Loading parameters from an IO-Link sensor
  - Saving and loading sets of parameters in or from a file
  - Writing parameters to IO-Link devices
  - Support of IO-Link actuators
- Graphic representation of process values
  - Evaluation of measured values
  - Export of displayed measured values

The software can be used for simple and efficient parameter setting of IO-Link masters and sensors. The software is designed to reduce setup costs, increase plant up-time and simplify verification and evaluation of measured value curves during setup or maintenance.

⚠ CAUTION

Parameters of devices and sensors can only be set from the Rosemount IO-Link Assistant. Simultaneous parameter setting of devices and sensors with several Rosemount IO-Link Assistant instances or other software products is not supported and may cause problems.

⚠ WARNING

During parameter setting, the behavior of devices and sensors may change. This applies in particular if process values of actuators are changed via the Rosemount IO-Link Assistant. The user must ensure that no processes in operation will be impaired and that there is no risk for people or devices at any time.

2 Installation

2.1 System requirements

PC hardware

- Minimum 2GB working memory
- Minimum 5GB available hard disk space
- One free Ethernet port
- One free USB 2.0 port
- Minimum CPU: Intel® Dual Core 2.0 GHz

PC software

- Operating systems
  - Microsoft® Windows™ 7 SP1
  - Microsoft Windows 8.1
  - Microsoft Windows 10
  - Microsoft Windows Server 2008 (release 2, service pack 1)
  - Microsoft Windows Server 2012
  - Microsoft Windows Server 2012 (release 2)
  - Microsoft Windows Server 2016
- Web browsers
  - Google℠ Chrome™
  - Mozilla Firefox®
  - Microsoft Internet Explorer 11
  - Microsoft Edge™

Hardware accessories

- IT network and the necessary accessories for the connection of computer and network
- OPTION: USB IO-Link master (i.e. plug-in power supply, USB cable, M12 connection cable for IO-Link devices)
- OPTION: IO-Link master (i.e. voltage supply, network cable with M12 connector, M12 connection cable for IO-Link devices)

Note
Hardware accessories are not supplied.

2.2 Install program

The program is installed on the PC using the .exe file.

Administrator rights are required for setup and operation of the software. Contact the administrator or IT operator.

Procedure

1. Double click the "Rosemount_IO_Link_Assistant_x.x.x.xxx_INSTALL.exe" file.
   The setup window opens and displays the license conditions.
2. Agree to the license conditions, select **Install**, and follow the instructions of the installation routine.
3. Close the setup window after successful installation.

2.3 Upgrade software

Procedure

1. Ask your Emerson representative for available upgrades.
   The setup window opens and displays the license conditions.
2. Follow the instructions in Install program.

Note
The license key remains valid.

2.4 Select language

The interface language depends on the language selected in your browser.

Procedure

1. Set the required language in the browser settings for website display.
2. Restart or refresh the browser.

Note
Language versions of the software manual are available on Emerson.com.

2.5 Start program

Limited software

The software can be used in a limited environment without a license key. Functions of the limited environment:

- IO-Link masters displayed with network address via the network
- Read parameters from the master
- Read device parameters via "point-to-point" connection

- Edit parameters on the surface (offline)
- Writing data to a master or device is not possible
- Dashboard functions for monitoring devices is offered without any restrictions (only when point-to-point connection is used)

Licensing keys and functions

The license key is checked by clicking on the ***LIMITED*** information. The license key consists of:

- License number
- License

Note
The license key is supplied either inside the device package or via email.

Table 2-1: Functions by License

License	Reading IO-Link files via USB IO-Link master or network	Writing data via network to network IO-Link master	Writing data via USB IO-Link master to IO-Link device	Writing data via network IO-Link master to IO-Link device
Limited	Yes	Yes	No	No
Sensor	Yes	Yes	Yes	No
Device	Yes	Yes	Yes	Yes

2.6 Connect hardware

Procedure

When network is used:

1. Connect the PC to the network via a suitable network cable.

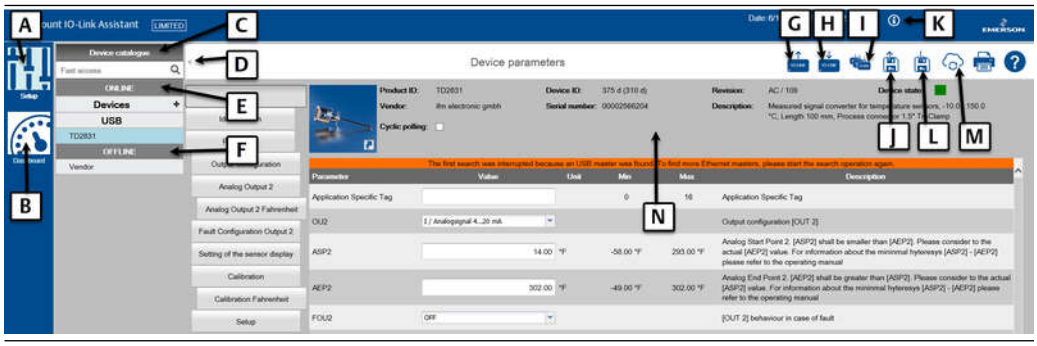
When the USB IO-Link master is used:

2. Connect the USB IO-Link master to the PC and the plug-in power supply.
3. For sensors with display or indication of the readiness for operation, check whether the unit is in operation.

Note
The corresponding device is supplied with voltage via the USB IO-Link master.

2.7 Start screen overview

The start screen is displayed in the language that is set in the browser (see Install program).



A: Setup	Parameter setting of IO-Link masters and IO-Link devices	**H: Write IO-Link parameters to the device**	Write set parameter values to the master or device
B: Dashboard	Display mode of all measured values available online	**I: Write IO-Link parameters to selected devices**	Write set parameter values to the master or device and to several detected, selected devices in offline mode
C: Device catalog	Quick access to IODD files for offline parameter setting via article number	**J: Load parameters from a file**	Upload stored parameter settings (lrp file) from a directory
D: < or >	Hides or shows menu catalog respectively, ONLINE and OFFLINE	**K: Company details**	Show company details
E: ONLINE	Detected interface/device is displayed.	**L: Save parameters to a file**	Save parameter values in an lrp file
F: OFFLINE	Selection list from manufacturer to article number (activates IODD file for offline parameter setting)	**M: Search for updates of IODD files**	Download new IODD files from the internet (can also delete installed IODD files)
G: Read IO-Link parameters from the device	Read parameters from the master or device	**N: Header with information and photo of read device**	Device name, vendor, device ID, serial number, device type, hardware/ firmware revision (internal version ID), device status (only for online parameter setting)

General icons

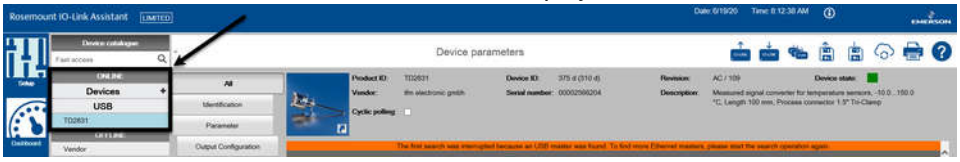
	Opens a print preview of the displayed parameters in a separate browser window. It contains parameter names, the current and the preset parameter value (factory setting), maximum and minimum setting parameter values, and short description of the parameter. In the print preview, remarks can be added and printed.
	Opens software manual in a separate browser window.

3 Configuration

3.1 Set online parameters via the network

Procedure

1. Ensure PC is connected to the network.
2. Click .
   Parameters of the connected IO-Link master display.



3.1.1 Display additional IO-Link masters

If there is an IO-Link device connected via a USB IO-Link master, this device will be displayed under ***USB*** first. To additionally display the IO-Link masters in the connected network:

Procedure

1. Click the **Devices** list.
2. Click .
   All detected IO-Link masters display in the ***ONLINE*** pane.
3. Adapt the network address of the PC in the network and sharing center.
   The device detects IO-Link masters with network addresses deviating from the PC network address in the networks. The parameters cannot be changed in this case.
4. Click .
   If the IO-Link masters display with ***Application Tag***, the network settings are correct.
5. In the ***Devices*** list, select the IO-Link master.
   Parameter settings for the selected IO-Link master display in the main window.
6. To set parameters (e.g. IP address, Application tag), see the respective instructions of the IO-Link master.

3.1.2 Identify physical device

The Devices list shows the used ports of the IO-Link master.

Procedure

1. Click the radio button next to the displayed IO-Link master.
   The radio button displays only if the device supports this function.

2. While the ***LED RDY*** on the IO-Link master flashes and radio button flashes orange, click the radio button again.
   The device LED and radio button flash permanently.
3. Click the radio button again.
   The device LED and the radio button flashing stops. Refreshing or closing the browser window also stops the flashing.

3.1.3 Edit device parameters

From version 1.5, the device supports the safety function of IO-Link masters, provided the devices are equipped with this function. The safety function allows access to the device via the IoT interface to be password-protected (i.e. ***Security mode HTTPS*** and ***Security password*** parameters). For configuration, see the IO-Link master instructions.

Procedure

1. Click **P1** to show the device on port 1.
   Parameters of the connected IO-Link device display.
2. For a targeted input of parameters, select the requested category and edit the parameters.
3. Click .
   The ***Auto refresh*** function allows available device parameter values to display in an additional column (i.e. ***Device value***). Writing to the device is always done using the icon.

3.1.4 Search for missing IODD

If an IODD is not yet installed for a connected device that has been found, the Rosemount IO-Link Assistant inquires if a corresponding IODD is to be searched on the internet

Procedure

1. Verify internet connection.
2. Click **Yes** to start the search.

3.2 Set online parameters via USB IO-Link master

Procedure

1. Ensure IO-Link device is connected to the PC via the USB IO-Link master.
2. Click .
   Parameters of the connected sensor display. Used interface and detected sensor display in the ***ONLINE*** pane. The ***All*** setting is set by default. All displayed parameters may be edited. For a targeted input of parameters, click the appropriate category button and edit the parameter.
3. Edit the necessary parameter(s).
4. Click to write parameters to the device.

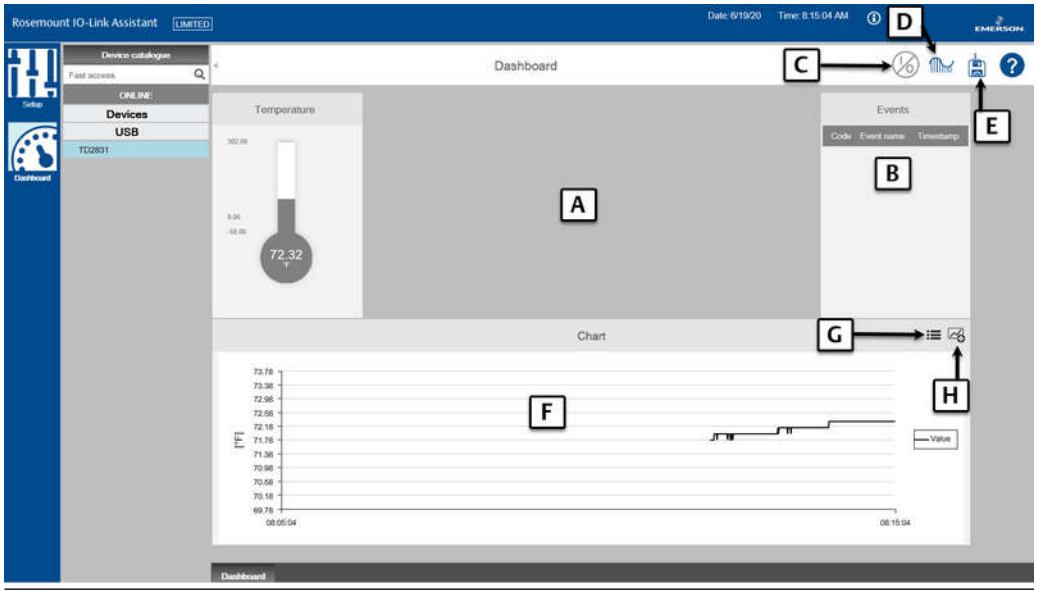
4 Operation

4.1 Dashboard

The dashboard consists of the following:

Display instruments	Measured values and switching states are displayed in the form of display instruments in the respective current condition
Chart	Representation of the measured values and/or switching states in a time diagram

Figure 4-1: Dashboard Components



A: Display instruments	Simplified graphical representation of the outputs	**E: Export measured values**	Measured values of the chart are stored in a .csv file
B: Events	Events display with code, name, and time (a tool tip shows further detailed information about the event)	**F: Chart**	Graphical representation of measured values and switching states over a defined period of time (the legend indicates which characteristic curve refers to which measured value)
C: Process data output	Status/values of process data outputs display; outputs can be set	**G: Edit/ configuration**	Edit diagram labeling, define time range of the X axis, and activate/ deactivate legend
D: Set device sampling rate	Transmission rate setting of the new measured values (number of measured values detected per time unit)	**H: Add/delete data sources**	Activate/deactivate display of detected data sources in the chart

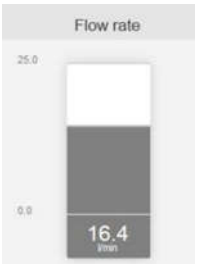
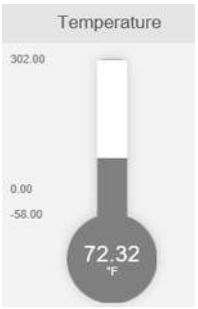
Note
The maximum recording time for capturing process data via the dashboard is 60 minutes. The possible recording time, however, may vary and depends on the set time range of the x axis (standard value: 10 minutes).

NOTICE

The Rosemount IO-Link Assistant only records the measured values of the device selected in the dashboard: As soon as a device is selected in the dashboard that provides process values, the application starts to record the measured values. Selecting another device interrupts the recording of the measured values of this device. When the first device is selected again, the recording is continued with a time gap. This gap in the measured values will also be present in the exported .csv file. The application only exports the recorded measured values of the device selected at the time of export.

4.2 Measurement indicators

Indicator type	Description	Reference image
Pointer instrument	This display format is inspired by manometers and typically used for pressure measurements in bar/psi/MPa.	

Indicator type	Description	Reference image
Bar graph	This indicator is used for process values typically not displayed as a manometer or thermometer.	
Thermometer	This display format is based on thermometer design and used for temperature measurements in °F and °C .	
Status switch	This indicator is used to display digital I/O signals and only displays one setting: • ON: active or high output • OFF: inactive or low output	

4.3 Process data outputs

It is possible to set the outputs for some IO-Link devices. The process data outputs are set in the dashboard. Displaying the window for the process data outputs is toggled using the icon. The following elements are available to change the outputs:

- Switch
- Input field
- Slider bar
- List

Note
The setting options and elements available depend on the connected device and possibly the configured operating mode. If the operating mode can be set, it can be changed in the *Setup* menu.

4.3.1 Change outputs via switch

Procedure

1. Click to access the **Setup** menu.
2. Click .
   A window with all process data outputs that can be changed displays (activated outputs are marked with a red square, deactivated with a gray square).
3. Click to activate/deactivate the requested outputs.

Note
The outputs are directly set with the configured values.

4.3.2 Change outputs via other operating elements

Procedure

1. Enter requested values into the input fields and press **Enter**.
   The respective sliders adjust accordingly.
2. Click and drag as needed to move the sliders into required positions.
   The values in corresponding fields adjust accordingly.
3. Select the required values from the lists.
   Changed values are marked with a "pen" icon.

Note
The total number of changes displays toward the top of the window.

4. Click the pen icon to set only this output with the displayed value.
   The output is set with the configured value, the pen icon disappears, and the number of changes decreases by one.
5. Click **Write all changes to device**.
   All changed outputs are set with the configured values, all pen icons disappear, and the number of changes is set to zero.

4.4 Set offline parameters

Offline parameter setting allows editing of a parameter set without connecting a corresponding device. Only the IODD is required for the device to be set. For Emerson devices, the IODD is stored in the Rosemount IO-Link Assistant. For devices from other manufacturers, the corresponding IODDs can be downloaded and installed from the internet.

Procedure

1. In the field below ***Device catalog***, enter the requested article number.
   A list of product IDs display in the device catalog.
2. Click the desired product ID.
   The set of corresponding device parameters displays and may be edited.

3. In the ***Value*** column, click to select the desired setting and edit as needed.
   Invalid values are marked with a red "X"; the value must be selected from the range between the minimum and maximum values.

4. Click  to save the parameter set as an .lrp file.
   The file is saved to the download directory (if any parameter is invalid, the file cannot be saved and a corresponding message will display).

Note
In offline mode, reading of or writing to a connected device is not possible. The saved file with the parameters can only be accessed in the online mode and then be written to the device.

4.5 IODD/device catalog updates

The Rosemount IO-Link Assistant provides an easy way to keep the IODDs and device catalog current. For an online update, an internet connection is required.

4.5.1 Download and install IODD files

Offline parameter setting allows editing of a parameter set without connecting a corresponding device. Only the IODD is required for the device to be set. For Emerson devices, the IODD is stored in the Rosemount IO-Link Assistant. For devices from other manufacturers, the corresponding IODDs can be downloaded and installed from the internet.

Procedure

1. Click .
   The ***Device description files (IODD): download and install*** window opens.

   Note
   The ***Updates*** radio button is selected and all files are checked by default.

2. If necessary, select another manufacturer to download new IODDs.
3. Check those IODDs that are to be installed or updated.
4. Click **OK**.
   A window with information about the update of the device definitions (IODDs) appears.

4.5.2 Export IODD files

As an alternative, IODDs can be saved as a file on a storage medium and imported later.

Procedure

1. Click .
2. Click **Browsing...**.
3. Select the storage medium and highlight the file.

4. Click **Open**.
   An informational window appears about the device definitions (IODDs) update.

4.5.3 Delete IODD files

Procedure

1. Click .
   The ***Device description files (IODD): download and install*** window opens.
2. Click **Remove device description files (IODDs)**.
3. Select the IODD files to be deleted.
4. Click **OK**.
5. Acknowledge the confirmation prompt to delete the selected IODDs.
   An informational window appears about the device definitions (IODDs) update.

5 Troubleshooting

5.1 Software doesn't start

Recommended actions

Reboot the computer.

5.2 "No connected device was found!" error message appears

Potential cause: sensor not detected

Recommended actions

1. Disconnect USB connection between the PC and USB IO-Link master.
2. Wait 30 seconds and reconnect USB cable.
3. Restart the procedure.
4. Enter the device license key.
5. Check network connection.
6. Check network settings.
7. Check IP address of the computer and, if necessary, assign a static IP address.
8. Check firewall settings and, if necessary, disable the firewall.

5.3 Installation routine not completed

Potential cause: a module not detected correctly, or wrong driver selected

Recommended actions

1. End the installation.
2. Start uninstall process.
3. Reboot the computer.
4. Restart the installation process.

5.4 Poor display in web browser

Note
A poor display does not impact function.

Recommended actions

1. Refresh browser window (F5 key).
2. Use an alternative browser (see System requirements).

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