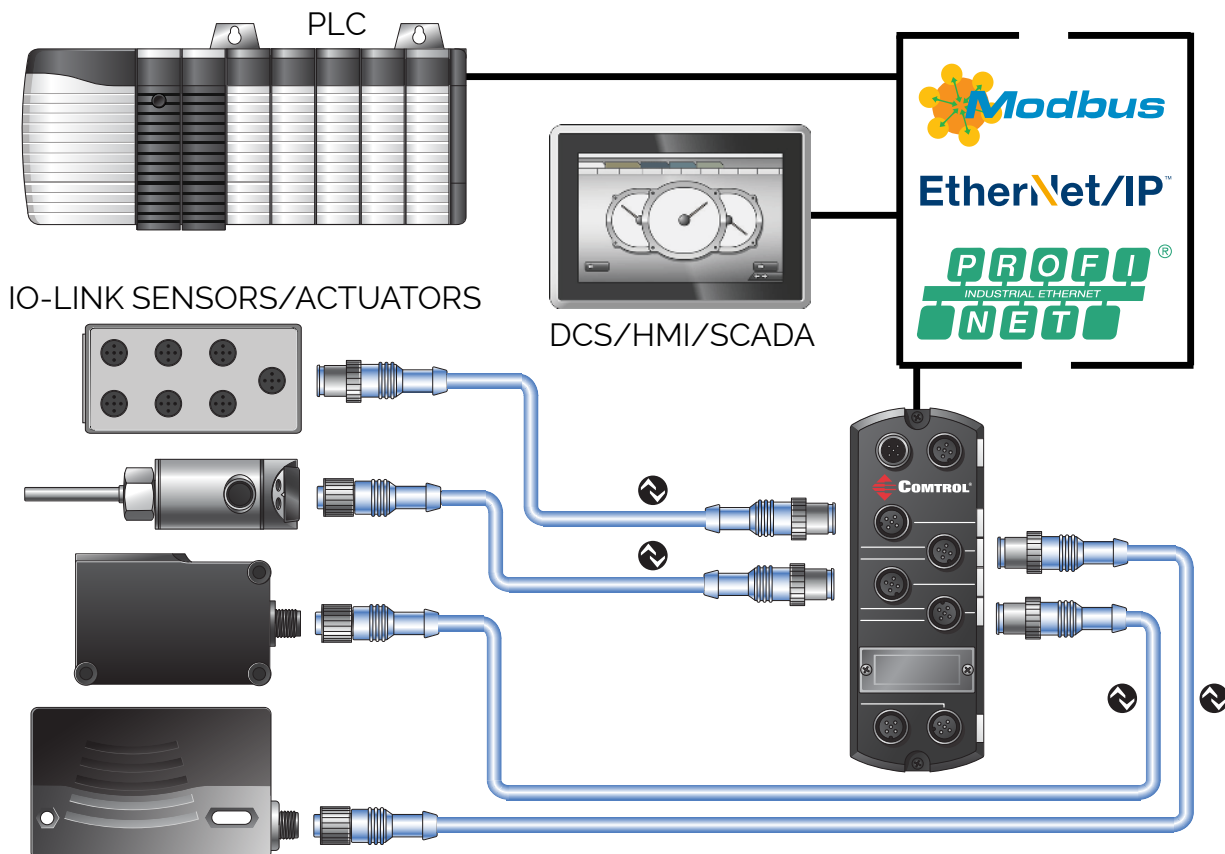




IO-LINK MASTER COMPATIBILITY REPORT

Device Validation: ifm PN7004 Pressure Sensor
with the ifm PN7594 Pressure Sensor



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Test Report Overview

This report illustrates another way to implement the **Device Validation (Compatibility)** feature in the Control IO-Link Master. It shows how to replace a PN7004 pressure sensor with a PN7594 pressure sensor. The port where the PN7004 resides can be configured for **Compatible Device Validation** mode to operate with using the PN7594 and the PN7004 IODD file.

Please note: A PN7004 sensor was not available but the IODD files for PN7004 were loaded using the **Attached Devices | IODD Files** page.

IO-Link Master - IO-Link Diagnostics Page

The **IO-Link Diagnostics** page shows that Port 2 is not active (no device attached) and Port 4 shows the PN7594.

IO-Link Diagnostics

UPDATE STOP LIVE UPDATES RESET STATISTICS

IO-LINK PORT STATUS	PORT 1	PORT 2	PORT 3	PORT 4
Port Name	Temp#62	PN7004	Temp# 1	Pressure#39
Port Mode	IOLink	IOLink	IOLink	IOLink
Port Status	Operational,PDI Valid	Inactive	Operational,PDI Valid	Operational,PDI Valid
Device Vendor Name	ifm electronic gmbh		ifm electronic gmbh	ifm electronic gmbh
Device Product Name	TAD191		TAD991	PN7594
Device Serial Number	F0035010714		t0015300514	G01460109141
Device Hardware Version	AD		AD	AA
Device Firmware Version	319		317	V1.06
Device IO-Link Version	1.1		1.1	1.1
Actual Cycle Time	22.8 ms		22.8 ms	4.0 ms
Device Minimum Cycle Time	18.8 ms		18.8 ms	2.3 ms
Configured Minimum Cycle Time	4 ms	4 ms	4 ms	4 ms
Data Storage Capable	Yes		Yes	Yes
Automatic Data Storage Configuration	Disabled	Disabled	Disabled	Disabled
Auxiliary Input (AI) Bit Status	On	Off	On	On
Device PDI Data Length	2		2	2
PDI Data Valid	Yes		Yes	Yes

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Port 2 – Device Validation Mode Configuration

This illustrates how to configure a port with a PN7004 pressure sensor to operate if a PN7594 is connected to the port.

1. Open your browser and enter the IO-Link Master IP address.
2. Click **Configuration | IO-Link**.
3. Click **EDIT** on the appropriate port.
4. Select **Compatible** for the **Device Validation Mode**.
5. Enter the **Vendor ID**, in this example the **Vendor ID** is 310.
6. Enter the **Device ID** for the sensor that is permitted to operate on this port. In this example, the **Device ID** is 311 (PN7594).
7. Click **SAVE**.

The screenshot shows the 'IO-Link Settings' page in a web browser. The navigation bar includes 'CONTROL', 'Home', 'Diagnostics', 'Configuration', 'Advanced', 'Attached Devices', and 'Help'. The 'IO-Link' menu is expanded, showing 'ETHERNET/IP', 'MODBUS/TCP', 'NETWORK', 'MISC', and 'CLEAR SETTINGS'. The main content area is titled 'IO-Link Settings' and contains a table for configuring four ports. The 'PORT 2' column is highlighted in yellow, indicating it is the active configuration. The 'Device Validation Mode' is set to 'Compatible', the 'Vendor Id' is 310, and the 'Device Id' is 311. The 'Data Validation Mode' is set to 'None'. The 'GET ATTACHED' button is visible at the bottom of the configuration table.

IO-LINK PORT CONFIG	PORT 1	PORT 2	PORT 3	PORT 4
	<input type="button" value="EDIT"/>	<input type="button" value="CANCEL"/> <input type="button" value="SAVE"/>	<input type="button" value="EDIT"/>	<input type="button" value="EDIT"/>
Port Name	Temp#62	PN7004	Temp#1	Pressure#39
Port Mode	IOLink	IOLink	IOLink	IOLink
Invert IO	false	<input type="checkbox"/>	false	false
Default Digital Output	Off	Off	Off	Off
Minimum Cycle Time (4 - 538)	4 ms	4 ms	4 ms	4 ms
Data Storage Config				
Storage Contents	empty	empty	empty	empty
Automatic Upload Enable	Off	Off	Off	Off
Automatic Download Enable	Off	Off	Off	Off
Data Storage Manual Ops				
	<input type="button" value="CLEAR"/>	<input type="button" value="CLEAR"/>	<input type="button" value="CLEAR"/>	<input type="button" value="CLEAR"/>
	<input type="button" value="UPLOAD"/>		<input type="button" value="UPLOAD"/>	<input type="button" value="UPLOAD"/>
	<input type="button" value="DOWNLOAD"/>		<input type="button" value="DOWNLOAD"/>	<input type="button" value="DOWNLOAD"/>
Validation Config				
Device Validation Mode	None	Compatible	None	None
Vendor Id (0 - 65535)	0	310	0	0
Device Id (0 - 16777215)	0	311	0	0
Serial Num				
Data Validation Mode	None	None	None	None
PDI Length (0 - 32)	2 byte	0 byte	0 byte	0 byte
PDO Length (0 - 32)	0 byte	0 byte	0 byte	0 byte
	<input type="button" value="GET ATTACHED"/>	<input type="button" value="GET ATTACHED"/>	<input type="button" value="GET ATTACHED"/>	<input type="button" value="GET ATTACHED"/>

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8. Connect the PN7594 pressure sensor (from Port 4) to Port 2.
9. Click **Diagnostics | IO-Link** and notice the following:
 - Port 2 shows a PN7004 that is operational with valid PDI
 - The serial number is the PN7594 that was on Port 4.

The screenshot shows the 'IO-Link Diagnostics' page for 'PORT 2'. The page includes a navigation bar with 'CONTROL' and 'Home', 'Diagnostics', 'Configuration', 'Advanced', 'Attached Devices', 'Help', and 'Logout'. Below the navigation bar are links for 'IO-LINK', 'ETHERNET/IP', and 'MODBUS/TCP'. The main content area has a title 'IO-Link Diagnostics' and three buttons: 'UPDATE', 'STOP LIVE UPDATES', and 'RESET STATISTICS'. A table displays the port status and various parameters. The 'Device Serial Number' field is highlighted in yellow and contains the value 'G01460109141'.

IO-LINK PORT STATUS	PORT 2
Port Name	PN7004
Port Mode	IOLink
Port Status	Operational, PDI Valid
Device Vendor Name	ifm electronic gmbh
Device Product Name	PN7004
Device Serial Number	G01460109141
Device Hardware Version	AA
Device Firmware Version	V1.06
Device IO-Link Version	1.1
Actual Cycle Time	4.0 ms
Device Minimum Cycle Time	2.3 ms
Configured Minimum Cycle Time	4 ms
Data Storage Capable	Yes
Automatic Data Storage Configuration	Disabled
Auxiliary Input (AI) Bit Status	On
Device PDI Data Length	2
PDI Data Valid	Yes
Last Rx PDI Data (MS Byte First)	00h,03h

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10. In the event that you need to review or change the PN7594 parameters, you do not even need to load the IODD files for the PN7594.

Reviewing or Changing the PN7594 Configuration

If the IODD files for the PN7004 were loaded to configure the PN7004, the PN7594 does not require the IODD files for configuration.

1. This illustrates the IODD files loaded on this IO-Link Master. The IODD files for the PN7594 are not loaded.

IO-Link Device Description Files ⓘ

User IODD files (click filename to view)

VENDOR	DEVICE	IODD FILENAME	VENDOR IMAGE	DEVICE IMAGE	SIZE	<input type="checkbox"/>
310	371	ifm-000173-20140723-I0001.1.xml	ifm-000173-kqxxxx-pic.png	ifm-logo.png	130K	<input type="checkbox"/>
310	313	ifm-000139-20131022-I0001.0.1.xml	ifm-pn7-pic.png	ifm-logo.png	144K	<input type="checkbox"/>
310	87	ifm-000057-20121210-I0001.0.1.xml	ifm-tn-pic.png	ifm-logo.png	151K	<input type="checkbox"/>
310	323	ifm-000143-20140605-I0001.1.xml	ifm-tad991-pic.png	ifm-logo.png	133K	<input type="checkbox"/>
310	157	ifm-000090-20140130-I0001.0.1.xml	ifm-pi230-pic.png	ifm-logo.png	120K	<input type="checkbox"/>
310	311	ifm-000137_V223-20140910-I0001.1.xml	ifm-pn0-pic.png	ifm-logo.png	124K	<input type="checkbox"/>

UPLOAD IODD FILE IODD space: 1504K used, 14880K available DELETE SELECTED

Standard IO-Link Definitions

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2. Click **Port 2** to review the PN7594 configuration using the PN7004 IODD files.

The screenshot shows the 'IO-Link Device - Port 2' configuration page. The navigation bar includes 'CONTROL', 'Home', 'Diagnostics', 'Configuration', 'Advanced', 'Attached Devices', and 'Help'. The user is logged in as 'IO-Link Master 4-ETP'. The main content area displays a table of parameters for the device. The 'Product Name' and 'Serial Number' fields are highlighted in yellow. A red text overlay is present over the 'Digital Output' section.

Parameter Name	Index	Subindex	Value	R/W	Unit	Min	Max	Comments
- Identification								
Vendor Name	16		ifm electronic gmbh	RO				
Product Name	18		PN7004	RO				
Product Text	20		Electronic pressure s ensor	RO				
Serial Number	21		G01460109141	RO				
Hardware Version	22		AA	RO				
Firmware Version	23		V1.06	RO				
Application Specific Tag	24		Pressure#39	RW				
- Parameter								
- Output Configuration								
OU1	67		4	RW		3	6	value range:3;4;5;6
OU2	70		4	RW		3	13	value range:3;4;5;6;13
P-n	81		0	RW		0	1	value range:0;1
- Digital Output 1								
+ Digital Output 1								
- Digital Output 2								
+ Digital Output 2								
+ Memory								
+ Damping								

The IO-Link Master displays the PN7594 as a PN7004.

IO-Link Device ISDU Interface - Port 2

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3. The highlighted areas show that several parameters were changed.

CONTROL Home Diagnostics Configuration **Advanced** Attached Devices Help ID-Link Master 4-EDP Logout

IODD FILES SUMMARY PORT 1 PORT 2 PORT 3 PORT 4

IO-Link Device - Port 2

REFRESH EDIT

Parameter Name	Index	Subindex	Value	R/W	Unit	Min	Max	Comments
- Identification								
Vendor Name	16		ifm electronic gmbh	RO				
Product Name	18		PN7004	RO				
Product Text	20		Electronic pressure sensor	RO				
Serial Number	21		G01460109141	RO				
Hardware Version	22		AA	RO				
Firmware Version	23		V1.06	RO				
Application Specific Tag	24		PN7594	RW				
- Parameter								
- Output Configuration								
OU1	67		5	RW		3	6	value range:3;4;5;6
OU2	70		5	RW		3	13	value range:3;4;5;6;13
P-n	81		0	RW		0	1	value range:0;1
- Digital Output 1								

IO-Link Device ISDU Interface - Port 2

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