



QM30VT3 Process Data AOI Guide, v5 February 19th, 2026

This document covers the installation and use of Add-On Instruction (AOI) for the Logix Designer software package from Rockwell Automation. This AOI handles cyclic IO-Link Process Data In and Process Data Out to and from a Banner QM30VT3 sensor via an IO-Link Master to an Allen-Bradley PLC. The AOI covers parsing and display of the QM30VT3 sensor Process Data In. The AOI has seven User Defined Tag data types.

Components

Banner_QM30VT3_PD_v5.L5X

AOIs Packaged with above AOI

Banner_QM30VT3_PD_FP_RMS_v5.L5X

Banner_QM30VT3_PD_SS_RMS_v5.L5X

Banner_QM30VT3_PD_User_v5.L5X

UDT Packaged with the AOI

Banner_QM30VT3_FP_RMS_PD_v5

Banner_QM30VT3_FP_RMS_XYZ_PD_v5

Banner_QM30VT3_PDI_v5

Banner_QM30VT3_SS_RMS_PD_HiFreq_v5

Banner_QM30VT3_SS_RMS_PD_v5

Banner_QM30VT3_SS_RMS_Vel_PD_v5

Banner_QM30VT3_User_PD_v5

Other AOIs Available Separately

Banner has AOI files for controlling other Banner IO-Link devices and for a variety of IO-Link Masters. Banner also has AOI files for easily handling Banner device Process Data.

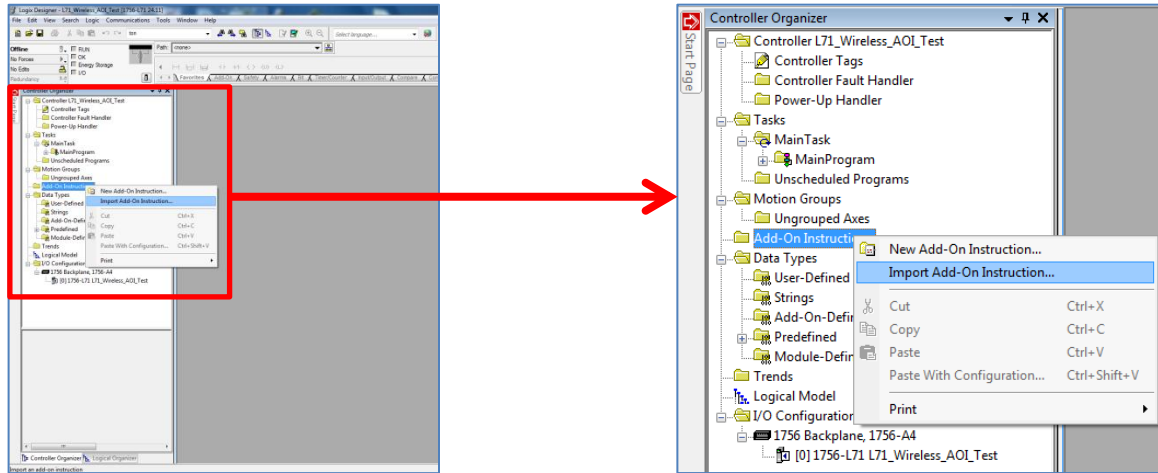
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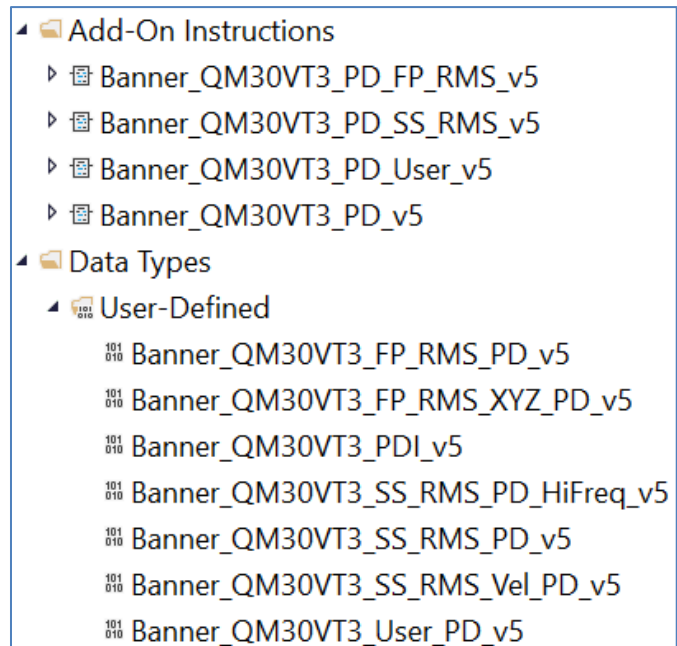
1. Installation Process

This section describes how to install the AOI in Logix Designer software.

1. Open a project.
2. In the Controller Organizer window, right-click on the Add-On Instruction folder. Select the Import Add-On Instruction option.



3. Navigate to the correct file location and select the AOI to be installed. In this example the “Banner_QM30VT3_PD_v5_AOI.L5X” file will be selected. Click the Open button.
4. The Import Configuration window will pop up. The default selection will create all the necessary items for the AOI. Click the OK button to complete the import process.
5. The AOI is added to the Controller Organizer window and should look like the picture on the right.
6. AOI installation into Logix Designer software complete.



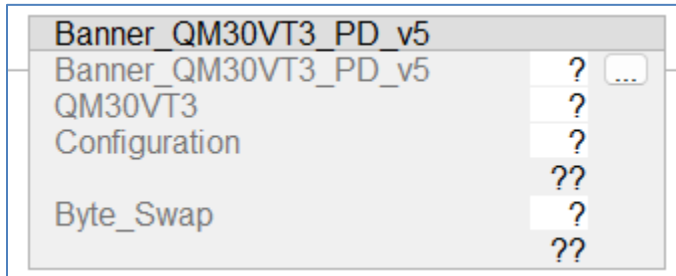
2. Configuring the IO-Link Master

Make an EtherNet/IP connection to the IO-Link Master.

Create an Ethernet communications module for the IO-Link Master device. The controller tags generated include Input (I) and Output (O) Assembly Instances. Each Assembly has a corresponding tag array. Creating this Class 1 EtherNet/IP implicit IO connection will provide PLC access to the IO-Link device Process Data. Each port on the IO-Link Master is given a dedicated group of I and O registers. See the relevant IO-Link Master User's Guide for more information.

3. Configuring the AOI

1. Add the “Banner_QM30VT3_PD_v5” AOI to your ladder logic program. For each of the question marks shown in the instruction we need to create and link a new tag array. The AOI includes a new type of User Defined Tags (UDT): a custom array of tags meant specifically for this AOI.



2. In the AOI, right-click on the question mark on the line labeled “Banner_QM30VT3_PD_v5”. Click New Tag. Name the new tag. This example uses the name “QM30VT3_IOLM1_01_PD_Status”. The example naming convention accounts for this being a QM30VT3 sensor connected to IO-Link Master #1, port #1, in our program. More masters could be named IOLM2, IOLM3, and different sensors could be connected at other port numbers, etc.

Note that the Data Type is the User-Defined Data Type (UDT) entitled “Banner_QM30VT3_PD_v5”. This custom-made array of registers is specially built to handle the memory needs of this AOI. Click Create to make the tag array.

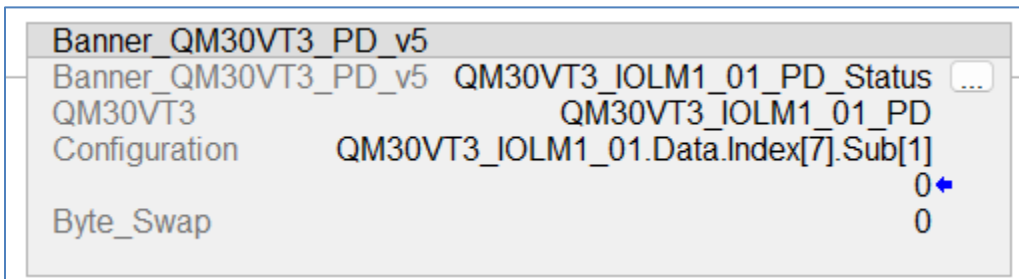
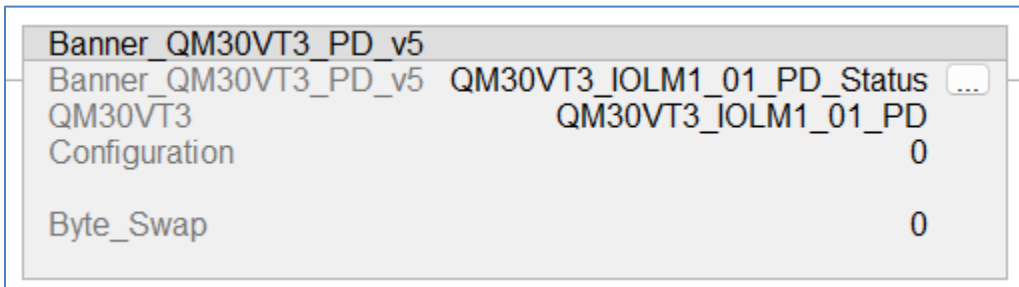
3. Now we will right-click on the question mark on the line labeled “QM30VT3” in the AOI. Click on “New Tag”. Give the tag a name. This example uses the name “QM30VT3_IOLM1_01_PD”. Notice that the Data Type is “Banner_QM30VT3_PDIO_v5”. Click Create.

This array will handle the displaying of the parsed Process Data In for the QM30VT3.

4. The next line in the AOI is a setting to account for byte swapping. In the case of the QM30VT3, the Process Data In is four bytes long. IO-Link Masters may read each pair of bytes in either order, so this AOI must be ready to perform a byte swap. Enter a “0” or a “1” to toggle this setting. See Appendix B for more information.

- 5. The last item, "Configuration", allows the AOI to correctly interpret the Process Data In. In the case of the QM30VT3, there are two user-defined measurements in the Process Data In, and there can be some extra bits included to tell the state of discrete channels 1 and 2 as well as the stability indicator. This AOI needs to know what choices have been made in the sensor for these three options.

There are two ways to achieve this goal. We can simply type in the correct number for this selection, or we can link this QM30VT3 Process Data AOI to the QM30VT3 Parameter Data AOI. See Appendix A for more information about QM30VT3 Process Data In.

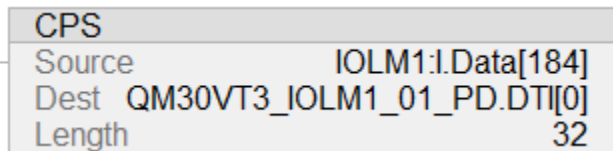


NOTE: if you type in the incorrect number (i.e., it does not match the sensor's current configuration) you will get incorrectly displayed Process Data In information.

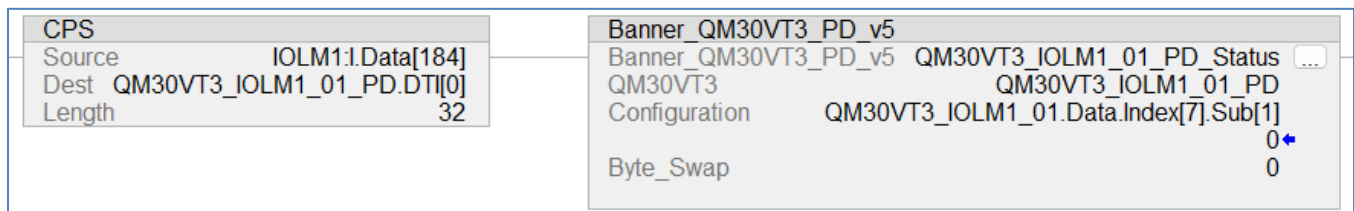
Configuration: the options here are 0, 1, 2, 3, 4, or 5 depending on the sensor's configuration (setting found in Index 80, Subindex 1).

- The final step required before we download and run the Q5X Process Data AOI involve a File Synchronous Copy (CPS) instructions. These instructions allow the AOI to read from and write to the raw Process Data values found in the register tags of the IO-Link Master.

Add a CPS instruction before the AOI on the ladder rung that looks like the one seen below. Refer to Appendix B for which byte to start with in the “Source” area. In this case, the IO-Link Master in question has the raw Process Data In values for a device connected to port 1 starting at byte 184. For the “Destination”, we will enter the “PDI_DT[0]” location, as seen below. Finally, the length will be 32 bytes, as that is the size of the QM30VT3 Process Data In.



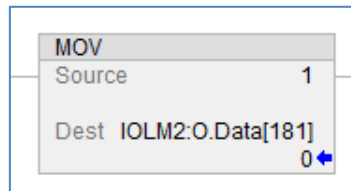
Here is what the entire rung looks like when completed.



If a Banner IO-Link Master is being used, setup a Move block. Send a 1 to the Activate Outputs array value (see table for each port’s value). As an example, if port 1 needs the process data outputs active then send a 1 to 181.

The “Banner_Q5X_PD_v4” AOI is now ready for use.

IO-Link Master Port	Activate Outputs
1	181
2	215
3	249
4	283
5	317
6	351
7	385
8	419



4. Using the AOI

The “Banner_QM30VT3_PD_v5” Add-On Instruction has created a group of tags representing the Q5X Process Data In and Process Data Out, broken out into its component parts.

Look in the Controller Tags to find the name you used in Step 4 above. This example used the name “QM30VT3_IOLM1_01_PD”. The tag array, seen below, has individual pieces of information instead of a group of unlabeled bits.

◀ QM30VT3_IOLM1_01_PD		{...} Banner_QM30VT3_PD...	
◀ QM30VT3_IOLM1_01_PD.PD0_FP_imperial		{...} Banner_QM30VT3_FP...	
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.X_RMS_Velocity	0.49930003	REAL	in/sec or mm/sec
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Y_RMS_Velocity	0.2888	REAL	in/sec or mm/sec
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Z_RMS_Velocity	1.8908001	REAL	in/sec or mm/sec
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.X_High_Freq_RMS_Accel	0.023000002	REAL	G
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Y_High_Freq_RMS_Accel	0.023000002	REAL	G
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Z_High_Freq_RMS_Accel	0.13700001	REAL	G
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Temperature	82.72001	REAL	F
▶ QM30VT3_IOLM1_01_PD.PD0_FP_imperial.X		{...} Banner_QM30VT3_FP...	
▶ QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Y		{...} Banner_QM30VT3_FP...	
▶ QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Z		{...} Banner_QM30VT3_FP...	
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Temp_Warning	0	BOOL	
QM30VT3_IOLM1_01_PD.PD0_FP_imperial.Temp_Alarm	0	BOOL	

Appendix A QM30VT3 Process Data

The QM30VT3 has 32 bytes of Process Data In. There are six modes for this Process Data called FP Imperial Units, SSP Imperial Units, FP Metric units, SSP Metric units, FP User Define, and SSP User Define. The default mode, FP Imperial Units, is shown first.

0=FP Imperial Units (Partially Shown)

ProcessDataIn "Process Data Input" id=PDin_Primary_FP_RMS_insec									
bit length: 256									
data type: 256-bit Record (subindex access not supported)									
subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	Float32						X-Axis RMS Velocity (in/sec) (6-1000Hz)	X-Axis Total RMS Velocity in in/s
2	32	Float32						Y-Axis RMS Velocity (in/sec) (6-1000Hz)	Y-Axis Total RMS Velocity in in/s
3	64	Float32						Z-Axis RMS Velocity (in/sec) (6-1000Hz)	Z-Axis Total RMS Velocity in in/s
4	96	Float32						X-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	X-Axis Total HF RMS Accel in G
5	128	Float32						Y-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	Y-Axis Total HF RMS Accel in G
6	160	Float32						Z-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	Z-Axis Total HF RMS Accel in G
7	192	Float32						Temperature (°F)	Temperature Farenheight
8	224	Boolean						X Vel Acute Warning	X-Axis Velocity Acute Warning
9	225	Boolean						X Vel Acute Alarm	X-Axis Velocity Acute Alarm
10	226	Boolean						X Vel Chronic Warning	X-Axis Velocity Chronic Warning
11	227	Boolean						X Vel Chronic Alarm	X-Axis Velocity Chronic Alarm
12	228	Boolean						X HiFreq Accel Acute Warning	X-Axis High Frequency Acceleration Acute Warning
13	229	Boolean						X HiFreq Accel Acute Alarm	X-Axis High Frequency Acceleration Acute Alarm
14	230	Boolean						X HiFreq Accel Chronic Warning	X-Axis High Frequency Acceleration Chronic Warning
15	231	Boolean						X HiFreq Accel Chronic Alarm	X-Axis High Frequency Acceleration Chronic Alarm
16	232	Boolean						Y Vel Acute Warning	Y-Axis Velocity Acute Warning
17	233	Boolean						Y Vel Acute Alarm	Y-Axis Velocity Acute Alarm
18	234	Boolean						Y Vel Chronic Warning	Y-Axis Velocity Chronic Warning
19	235	Boolean						Y Vel Chronic Alarm	Y-Axis Velocity Chronic Alarm
20	236	Boolean						Y HiFreq Accel Acute Warning	Y-Axis High Frequency Acceleration Acute Warning
21	237	Boolean						Y HiFreq Accel Acute Alarm	Y-Axis High Frequency Acceleration Acute Alarm
22	238	Boolean						Y HiFreq Accel Chronic Warning	Y-Axis High Frequency Acceleration Chronic Warning
23	239	Boolean						Y HiFreq Accel Chronic Alarm	Y-Axis High Frequency Acceleration Chronic Alarm

1=SSP Imperial Units (Partially Shown)

ProcessDataIn "Process Data Input" id=PDin_Primary_SS_RMS_insec									
bit length: 256									
data type: 256-bit Record (subindex access not supported)									
subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	16-bit UInteger						X-Axis RMS Velocity (in/sec) (6-1000Hz)	X-Axis Total RMS Velocity in in/s
2	16	8-bit Integer						Scale	Scale
3	24	Boolean						X Vel Acute Warning	X-Axis Velocity Acute Warning
4	25	Boolean						X Vel Acute Alarm	X-Axis Velocity Acute Alarm
5	26	Boolean						X Vel Chronic Warning	X-Axis Velocity Chronic Warning
6	27	Boolean						X Vel Chronic Alarm	X-Axis Velocity Chronic Alarm
7	32	16-bit UInteger						Y-Axis RMS Velocity (in/sec) (6-1000Hz)	Y-Axis Total RMS Velocity in in/s
8	48	8-bit Integer						Scale	Scale
9	56	Boolean						Y Vel Acute Warning	Y-Axis Velocity Acute Warning
10	57	Boolean						Y Vel Acute Alarm	Y-Axis Velocity Acute Alarm
11	58	Boolean						Y Vel Chronic Warning	Y-Axis Velocity Chronic Warning
12	59	Boolean						Y Vel Chronic Alarm	Y-Axis Velocity Chronic Alarm
13	64	16-bit UInteger						Z-Axis RMS Velocity (in/sec) (6-1000Hz)	Z-Axis Total RMS Velocity in in/s
14	80	8-bit Integer						Scale	Scale
15	88	Boolean						Z Vel Acute Warning	Z-Axis Velocity Acute Warning
16	89	Boolean						Z Vel Acute Alarm	Z-Axis Velocity Acute Alarm
17	90	Boolean						Z Vel Chronic Warning	Z-Axis Velocity Chronic Warning
18	91	Boolean						Z Vel Chronic Alarm	Z-Axis Velocity Chronic Alarm

2=FP Metric Units (Partially Shown)

ProcessDataIn "Process Data Input" id=PDin_Primary_FP_RMSmmsec

bit length: 256
data type: 256-bit Record (subindex access not supported)

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	Float32						X-Axis RMS Velocity (mm/sec) (6-1000Hz)	X-Axis Total RMS Velocity in mm/s
2	32	Float32						Y-Axis RMS Velocity (mm/sec) (6-1000Hz)	Y-Axis Total RMS Velocity in mm/s
3	64	Float32						Z-Axis RMS Velocity (mm/sec) (6-1000Hz)	Z-Axis Total RMS Velocity in mm/s
4	96	Float32						X-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	X-Axis Total HF RMS Accel in G
5	128	Float32						Y-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	Y-Axis Total HF RMS Accel in G
6	160	Float32						Z-Axis High Frequency RMS Acceleration (G) (1000-5300Hz)	Z-Axis Total HF RMS Accel in G
7	192	Float32						Temperature (°C)	Temperature Celcius
8	224	Boolean						X Vel Acute Warning	X-Axis Velocity Acute Warning
9	225	Boolean						X Vel Acute Alarm	X-Axis Velocity Acute Alarm
10	226	Boolean						X Vel Chronic Warning	X-Axis Velocity Chronic Warning
11	227	Boolean						X Vel Chronic Alarm	X-Axis Velocity Chronic Alarm
12	228	Boolean						X HiFreq Accel Acute Warning	X-Axis High Frequency Acceleration Acute Warning
13	229	Boolean						X HiFreq Accel Acute Alarm	X-Axis High Frequency Acceleration Acute Alarm
14	230	Boolean						X HiFreq Accel Chronic Warning	X-Axis High Frequency Acceleration Chronic Warning
15	231	Boolean						X HiFreq Accel Chronic Alarm	X-Axis High Frequency Acceleration Chronic Alarm
16	232	Boolean						Y Vel Acute Warning	Y-Axis Velocity Acute Warning
17	233	Boolean						Y Vel Acute Alarm	Y-Axis Velocity Acute Alarm
18	234	Boolean						Y Vel Chronic Warning	Y-Axis Velocity Chronic Warning
19	235	Boolean						Y Vel Chronic Alarm	Y-Axis Velocity Chronic Alarm
20	236	Boolean						Y HiFreq Accel Acute Warning	Y-Axis High Frequency Acceleration Acute Warning
21	237	Boolean						Y HiFreq Accel Acute Alarm	Y-Axis High Frequency Acceleration Acute Alarm
22	238	Boolean						Y HiFreq Accel Chronic Warning	Y-Axis High Frequency Acceleration Chronic Warning
23	239	Boolean						Y HiFreq Accel Chronic Alarm	Y-Axis High Frequency Acceleration Chronic Alarm

3=SSP Metric Units (Partially Shown)

ProcessDataIn "Process Data Input" id=PDin_Primary_SS_RMS_mmsec									
bit length: 256									
data type: 256-bit Record (subindex access not supported)									
subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	16-bit UInteger						X-Axis RMS Velocity (mm/sec) (6-1000Hz)	X-Axis Total RMS Velocity in mm/s
2	16	8-bit Integer						Scale	Scale
3	24	Boolean						X Vel Acute Warning	X-Axis Velocity Acute Warning
4	25	Boolean						X Vel Acute Alarm	X-Axis Velocity Acute Alarm
5	26	Boolean						X Vel Chronic Warning	X-Axis Velocity Chronic Warning
6	27	Boolean						X Vel Chronic Alarm	X-Axis Velocity Chronic Alarm
7	32	16-bit UInteger						Y-Axis RMS Velocity (mm/sec) (6-1000Hz)	Y-Axis Total RMS Velocity in mm/s
8	48	8-bit Integer						Scale	Scale
9	56	Boolean						Y Vel Acute Warning	Y-Axis Velocity Acute Warning
10	57	Boolean						Y Vel Acute Alarm	Y-Axis Velocity Acute Alarm
11	58	Boolean						Y Vel Chronic Warning	Y-Axis Velocity Chronic Warning
12	59	Boolean						Y Vel Chronic Alarm	Y-Axis Velocity Chronic Alarm
13	64	16-bit UInteger						Z-Axis RMS Velocity (mm/sec) (6-1000Hz)	Z-Axis Total RMS Velocity in mm/s
14	80	8-bit Integer						Scale	Scale
15	88	Boolean						Z Vel Acute Warning	Z-Axis Velocity Acute Warning
16	89	Boolean						Z Vel Acute Alarm	Z-Axis Velocity Acute Alarm
17	90	Boolean						Z Vel Chronic Warning	Z-Axis Velocity Chronic Warning
18	91	Boolean						Z Vel Chronic Alarm	Z-Axis Velocity Chronic Alarm

4=FP User Define

ProcessDataIn "Process Data Input" id=PDin_User_Profile_FP_mmsec

bit length: 256
 data type: 256-bit Record (subindex access not supported)

subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	Float32						Metric 1	Metric 1
2	32	Float32						Metric 2	Metric 2
3	64	Float32						Metric 3	Metric 3
4	96	Float32						Metric 4	Metric 4
5	128	Float32						Metric 5	Metric 5
6	160	Float32						Metric 6	Metric 6
7	192	Float32						Metric 7	Metric 7
8	224	Boolean						M1 Chan 1 Warning	M1 Chan 1 Warning
9	225	Boolean						M1 Chan 2 Alarm	M1 Chan 2 Alarm
10	226	Boolean						M2 Chan 1 Warning	M2 Chan 1 Warning
11	227	Boolean						M2 Chan 2 Alarm	M2 Chan 2 Alarm
12	228	Boolean						M3 Chan 1 Warning	M3 Chan 1 Warning
13	229	Boolean						M3 Chan 2 Alarm	M3 Chan 2 Alarm
14	230	Boolean						M4 Chan 1 Warning	M4 Chan 1 Warning
15	231	Boolean						M4 Chan 2 Alarm	M4 Chan 2 Alarm
16	232	Boolean						M5 Chan 1 Warning	M5 Chan 1 Warning
17	233	Boolean						M5 Chan 2 Alarm	M5 Chan 2 Alarm
18	234	Boolean						M6 Chan 1 Warning	M6 Chan 1 Warning
19	235	Boolean						M6 Chan 2 Alarm	M6 Chan 2 Alarm
20	236	Boolean						M7 Chan 1 Warning	M7 Chan 1 Warning
21	237	Boolean						M7 Chan 2 Alarm	M7 Chan 2 Alarm

5=FP User Define

ProcessDataIn "Process Data Input" id=PDin_User_Profile_SS_insec									
bit length: 256									
data type: 256-bit Record (subindex access not supported)									
subindex	bit offset	data type	allowed values	default value	acc. restr.	mod. other var.	excl. from DS	name	description
1	0	16-bit Unsigned						Metric 1	Metric 1
2	16	8-bit Integer						Scale	Scale
3	24	Boolean						Chan 1 Warning	Chan 1 Warning
4	25	Boolean						Chan 2 Alarm	Chan 2 Alarm
5	32	16-bit Unsigned						Metric 2	Metric 2
6	48	8-bit Integer						Scale	Scale
7	56	Boolean						Chan 1 Warning	Chan 1 Warning
8	57	Boolean						Chan 2 Alarm	Chan 2 Alarm
9	64	16-bit Unsigned						Metric 3	Metric 3
10	80	8-bit Integer						Scale	Scale
11	88	Boolean						Chan 1 Warning	Chan 1 Warning
12	89	Boolean						Chan 2 Alarm	Chan 2 Alarm
13	96	16-bit Unsigned						Metric 4	Metric 4
14	112	8-bit Integer						Scale	Scale
15	120	Boolean						Chan 1 Warning	Chan 1 Warning
16	121	Boolean						Chan 2 Alarm	Chan 2 Alarm
17	128	16-bit Unsigned						Metric 5	Metric 5
18	144	8-bit Integer						Scale	Scale
19	152	Boolean						Chan 1 Warning	Chan 1 Warning
20	153	Boolean						Chan 2 Alarm	Chan 2 Alarm
21	160	16-bit Unsigned						Metric 6	Metric 6
22	176	8-bit Integer						Scale	Scale
23	184	Boolean						Chan 1 Warning	Chan 1 Warning
24	185	Boolean						Chan 2 Alarm	Chan 2 Alarm
25	192	16-bit Unsigned						Metric 7	Metric 7
26	208	8-bit Integer						Scale	Scale
27	216	Boolean						Chan 1 Warning	Chan 1 Warning
28	217	Boolean						Chan 2 Alarm	Chan 2 Alarm

Appendix B IO-Link Master Cheat Sheet

Different IO-Link Masters behave differently in several ways. For one, the register locations where Process Data is stored varies. For another, some IO-Link Masters require byte-swapping and/or word-swapping. The tables below aim to define some of these differences. Note that these numbers are when using all default settings. IO-Link Masters can change the register locations to which Process Data is mapped in response to non-default, optional settings. See relevant IO-Link Master documentation for more information.

PDI (Process Data In) is found in the IO-Link Master’s T->O (PLC “Input”) Assembly Instance.

PDO (Process Data Out) is found in the IO-Link Master’s O->T (PLC “Output”) Assembly Instance.

Table 1. First Register of Process Data “SINT0”

Port	Allen-Bradley*		Comtrol		Balluff		Turck		ifm		Banner	
	PDI	PDO	PDI	PDO	PDI	PDO	PDI	PDO	PDI	PDO	PDI	PDO
1	I.Ch0Data[0]	O.Ch0Data[0]	4	0	8	6	6	4	190	46	184	182
2	I.Ch1Data[0]	O.Ch1Data[0]	40	32	56	38	38	36	222	78	218	216
3	I.Ch2Data[0]	O.Ch2Data[0]	76	64	104	70	70	68	254	110	252	250
4	I.Ch3Data[0]	O.Ch3Data[0]	112	96	152	102	102	100	286	142	286	284
5	I.Ch4Data[0]	O.Ch4Data[0]	148	128	200	134	134	132	318	174	320	318
6	I.Ch5Data[0]	O.Ch5Data[0]	184	160	248	166	166	164	350	206	354	352
7	I.Ch6Data[0]	O.Ch6Data[0]	220	192	296	198	198	196	382	238	388	386
8	I.Ch7Data[0]	O.Ch7Data[0]	256	224	344	230	230	228	414	270	422	420

*see relevant Banner Allen-Bradley IO-Link Master AOI Guide and Allen-Bradley User Guides for more information on using device IODD files to aid in integration.

Note: Murr IO-Link Masters have configurable process data. Refer to the Murr IO-Link Master Instruction Manual for Process Data mappings.

Table 2. Byte-Swap

IO-Link Master	Byte Swap
Allen-Bradley	0
Comtrol	1
Balluff	0
Turck	1
ifm	1
Murr	0
Banner	0

Specific hardware used in both tables (all default settings):

- Allen-Bradley Armor Block I/O IO-Link Master (1732E-8IOLM12R)
- Comtrol 8-EIP IO-Link Master (99608-8)
- Balluff BNI006A (BNI EIP-508-105-Z015)
- Turck TBEN-L5-8IOL
- ifm AL1122
- Murr Impact67 E DIO 12 DIO4/IOL4 4P (Art.-No. 55144)

Banner IO-Link Masters (DXMR90-4K) have a port status register. The register gives the status of the port. It gives information on if the port has an IO-Link device connected and if Process Data is valid. This is optional information but is useful for troubleshooting. The data comes into the PLC as bytes while the literature shows the value as a word. The table below gives the upper and lower byte data location in the PLC. The upper byte includes bits 15 through 8, while the lower byte has bits 7 through 0.

IO-Link Master Port	Upper Bits 15 - 8	Lower Bits 7 - 0
1	182	183
2	216	217
3	250	251
4	284	285
5	318	319
6	352	353
7	386	387
8	420	421

Port Status:

Bit0 = Connected?
Bit1 = Process Data Valid?
Bit2 = Event Pending?
Bit3 = Ready for ISDU?
Bit4 = Pin4 SIO State
Bit5 = Pin2 SIO State

Bit6-7 = Pin4 Mode:

SDCI Mode = 0
 SIO Input Mode = 1
 SIO Output Mode = 2

Bit8-10 = Pin2 Mode:

Disabled = 0
 Input Normal = 1
 Output = 2
 Diagnostic Input = 3
 Inverted Input = 4