

Conversion Guide: PROFINET Class B and In-Sight Explorer 5.8 upgrades for TIA Portal



Contents

1	Overview.....	3
2	PLC Changes	4

1 Overview

Upgrading an In-Sight camera to the 5.8 firmware will install a new PROFINET stack, adding support for PROFINET Class B. While this adds new functions and capabilities, it is not a drop-in replacement for a vision system running the Class A stack, which all previous versions of In-Sight firmware supported. This document will outline the steps necessary to update the hardware configuration in the TIA software used to program Siemens PLCs

The In-Sight Explorer software 5.8.0 and later contains two GSD files. Please use the appropriate GSD file based on your vision system model and its firmware version.

Firmware Version and In-Sight model	GSD file	Description
5.8.0 or later, except In-Sight 5705/5705C vision systems*	V2.34 (GSDML-V2.34-Cognex-InSightClassB-xxxxxxx.xml)	Supports Class B (uses the Port stack). The Class B configs are suffixed with CC-B, indicating that the config is Class B (for example, In-Sight IS2XXX CC-B).
5.7.x or earlier and In-Sight 5705/5705C vision systems	V2.3 (GSDML-V2.3-Cognex-InSight-xxxxxxx.xml)	Uses the Siemens PROFINET stack.
*The In-Sight 5705 and 5705C vision systems do not support the V2.34 GSD file.		

V2.34 is not compatible with V2.3. When you upgrade an In-Sight vision system's firmware version to 5.8.0 or later and if the vision system has PROFINET enabled and the V2.34 GSD file is used, see section 2 of this document for steps to update the PLC

SNMP (Simple Network Management Protocol) v2 is supported only when the V2.34 GSD file is used. PROFINET uses the topology technology to detect and identify devices on SNMP.

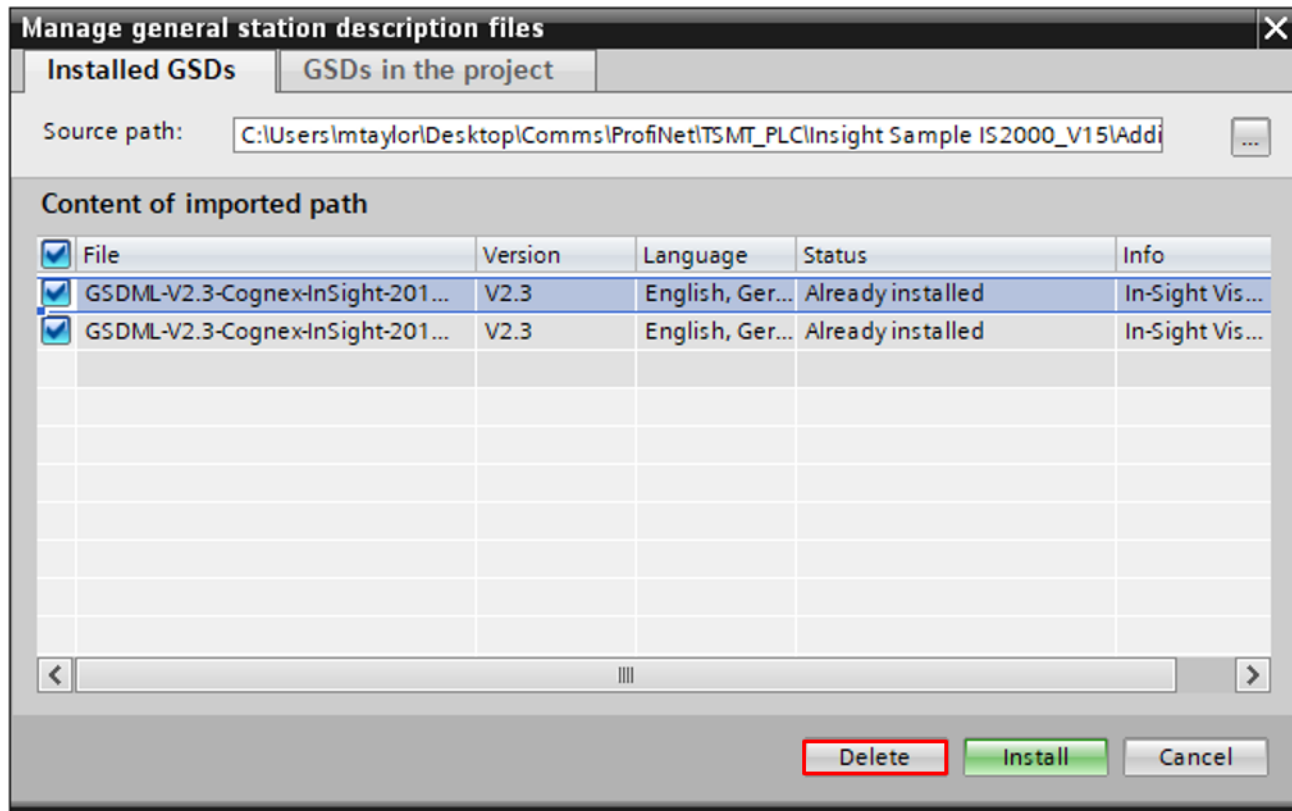
- Supported MIBs:
 - LLDP-MID
 - LLDP-EXT-DOT3-MIB
 - MIB-II
- Writable OIDs:
 - 1.3.6.1.2.1.1.4.0 (sysContact, defaults to "Someone <someone@[somewhere.net](#)>")
 - 1.3.6.1.2.1.1.5.0 (sysLocation, defaults to "somewhere")
 - 1.3.6.1.2.1.1.6.0 (sysName, defaults to "something")

These OIDs will be reset to the default settings after a factory reset. Other OIDs are also supported in the above MIBs but have read access only.

2 PLC Changes

When upgrading the firmware on an In-Sight vision system to firmware version 5.8 or higher, it is necessary to remove the vision system from the PLC hardware configuration, replace the GSD file, then re-add the “CC-B” version of the system to the hardware configuration. From the point of view of the PLC, a Class A device is being replaced with a Class B device, which fundamentally changes how the PLC will communicate with the vision system. The PLC treats this as a completely different device. Here are the steps to follow as well as some best practices to follow to replace the vision system in the PLC’s hardware configuration while maintaining the IO module addressing scheme, thus ensuring the logic in the project will not be affected. Note, it is highly recommended that this process be followed for each vision system being upgraded, one at a time:

- 1) Go into the Siemens HW Config tool and delete the vision system (GSD) from the PROFINET I/O system.



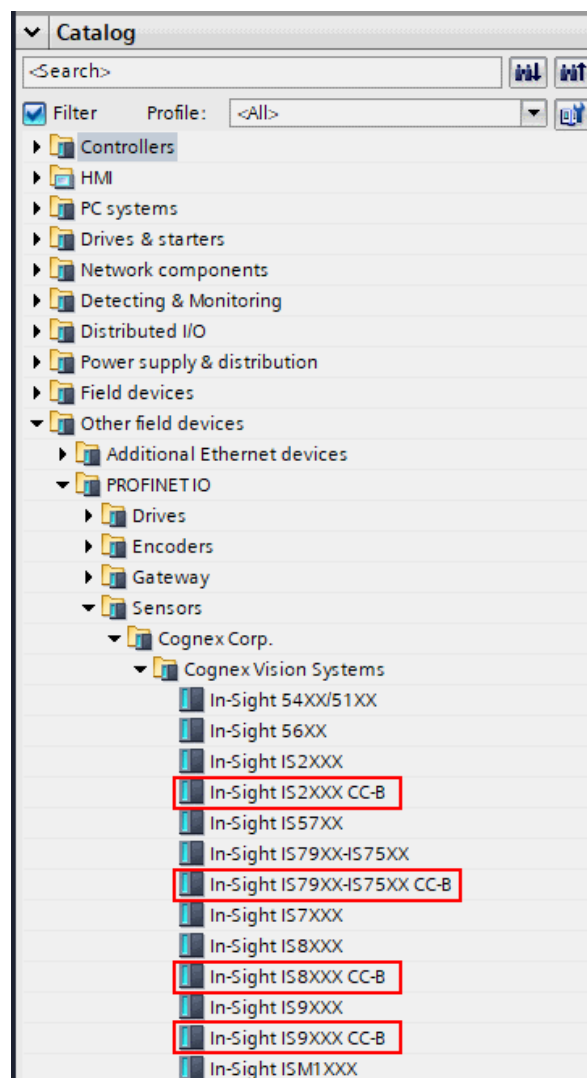
- 2) Select the source path in the Manage General Station Description files and browse to the In-Sight Explorer GSD file location:

C:\Program Files (x86)\Cognex\In-Sight\In-Sight Explorer 5.8.0\Factory Protocol Description\GSD

NOTE: The TIA software will automatically assign IO module addresses when a new system is added to the hardware configuration. To prevent different addresses from being assigned when the class B system is added, it is advised that a screen shot is taken of the original IO Module addressing. This will for the new camera’s IO modules to be mapped to the correct address space in the PLC, and prevent broken logic in the project:

Device overview						
	Module	Rack	Slot	I address	Q address	Type
	▼ InSight	0	0			In-Sight IS79XX-IS7...
	▶ mmtis7802	0	0 X1			InSight
	Acquisition Control_1	0	1		4	Acquisition Control
	Acquisition Status_1	0	2	5...7		Acquisition Status
	Inspection Control_1	0	3		5	Inspection Control
	Inspection Status_1	0	4	15...18		Inspection Status
	Command Control_1	0	5	68...69	64...65	Command Control
	SoftEvent Control_1	0	6	8	6	SoftEvent Control
	User Data - 64 bytes_1	0	7		66...129	User Data - 64 bytes
	Results - 64 bytes_1	0	8	70...137		Results - 64 bytes

- 3) Remove the existing vision system from the hardware configuration
- 4) Expand the catalog in the TIA Portal software and select the In-Sight ISXXXX CC-B version and add that to your configuration.



- 5) Confirm that the IO Module addressing matches what the original vision system was mapped to.
- 6) Compile and download the changes to the PLC