EN

Industrial Ethernet (RTE)

For Machine Vision Devices

Interface Protocol

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Table of Contents

1. Use for Intended Purpose

Machine Vision Devices can communicate via various Industrial Ethernet (RTE) protocols to communication partners (e.g. PLCs) to exchange data.

Supported Machine Vision Devices:
- Smart Camera B60

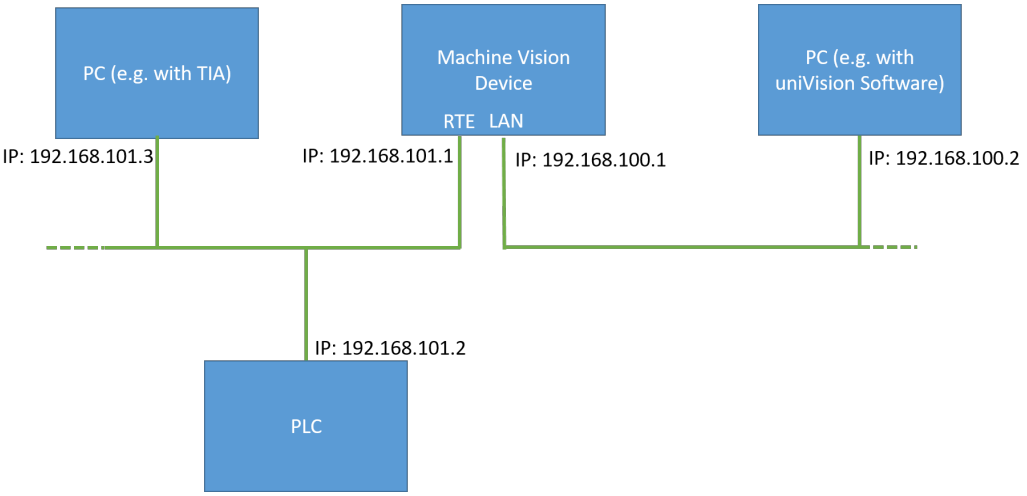
Supported protocols:
- PROFINET

NOTE!
For details about Machine Vision Devices (e.g. conformance class), check the operating instruction of the device.

2. Network Overview

Connect the network cable from the Realtime Ethernet Connector (RTE) of the Machine Vision Device to the communication partner (e.g. PLC) or to a switch in order to work with several devices.

NOTE!
- For details about the Realtime Ethernet Connector (RTE) of the Machine Vision Device, check the operating instructions of the device.
- Before booting the Machine Vision Device, make sure that the RTE connector is connected.
- Do not use any hub in the PROFINET network. A switch may be used if both Priority Tagging and LLPD (100 Mbit/s, Full Duplex) are supported.
- Split the networks for LAN and RTE in order to optimize the performance of the Machine Vision Device.
  - » RTE for communication with e.g. PLC, PC with PLC software and further RTE devices.
  - » LAN for communication with e.g. PC with uniVision software, webbased visualization, LIMA communication and process data via Device TCP or UDP.



Depending on the protocol, the LEDs have different meanings.

PROFINET LED Meaning	Color	State	Meaning
MS/SF (System error)	(Off)	Off	No error
	(Red)	Flashing (1 Hz, for 3 s)	DCP (discovery and configuration protocol) signal activated by the PLC to find the relevant PROFINET device.
	(Red)	On	System error
NS/BF (Bus error)	(Off)	Off	No error
	(Red)	Flashing (2 Hz)	No data exchange
	(Red)	On	• No PROFINET configuration • Slow or missing physical connection
L/A	(Yellow)	Flashing	Machine Vision Device sends or receives Ethernet frames.
	(Off)	Off	No communication

3. Input and Output Data

In the view of the PLC, the following input and output data is available:

- 8 Bytes Input: Device Status
- For each Processing Instance
  - » Inputs (Device to PLC)
    - 8 Bytes Input: Status of Processing Instance
    - x Bytes Input: User-Defined Process Data
  - » Outputs (PLC to Device)
    - 4 Bytes Output: Commands
    - x Bytes Output: User-Defined Process Data

NOTE!
The size of the User-Defined Process Data is depending on the configuration file. For details, see section “6. Attachments”.

3.1 Device Status

The Machine Vision Device sends the device status info with 8 bytes to the PLC. The following status bits are available (starting with bit and byte number 0). Not used bits are set to FALSE.

Name	Data Type	Bit Number	Byte.Bit	Description
Too big changes in position	BOOL	7	0.7	Is TRUE in case of unwanted position change. Check device website (-> Settings -> Position Sensor).
Crashed software service	BOOL	21	2.5	Is TRUE in case of crashed software services. Check device website for details.
Localize (device is blinking)	BOOL	30	3.6	Is TRUE in case of localizing. Deactivate localize via button on Machine Vision Device or via software wenglor Discovery Tool.

NOTE!
For details about the device status, check operating instructions of the Software wenglor Discovery Tool, the Machine Vision Device and the Software uniVision.

3.2 Status of Processing Instance

Each Processing Instance sends the status information with 8 bytes to the PLC. The following status bits are available (starting with bit and byte number 0). Not used bits are set to FALSE.

Bytes 0 and 1 provide the following status information:

Name	Data Type	Bit Number	Byte.Bit	Description
Operation Ready	BOOL	0	0.0	Is TRUE if Processing Instance is ready for operation. Possible reasons for operation not ready: • The Machine Vision Device has not yet fully booted or the start job is not yet fully loaded. • A job is currently being loaded in the Processing Instance.
Acquisition Active	BOOL	1	0.1	Is TRUE when acquisition is active. Starting/stopping acquisition is possible via the commands (see section "3.3 Commands").
Toggle Bit	BOOL	2	0.2	Changes between TRUE and FALSE every time a data evaluation is completed. It can be used to check for new results.
Processing	BOOL	3	0.3	Is TRUE when the Processing Instance is evaluating data. The status bit can be TRUE for a short time (in case of a job with small process time) or for a long time (in case of a job with big process time).
Command Acknowledge	BOOL	4	0.4	Is an echo signal of the command signal to verify that the command has been received.
Command Ready	BOOL	5	0.5	Is TRUE if the Processing Instance is ready to receive commands.  **NOTE!** Commands to Processing Instances may only be sent if the command ready signal is TRUE. The status of the command ready signal must therefore be checked, before commands are sent.
Command Error	BOOL	6	0.6	Is TRUE if there was an error in the command. Possible reasons for command errors: • Several commands are sent at the same time • Command parameter contains invalid entry • Command load job fails because the job is not available

Byte 2 returns the current job number.

NOTE!
All uniVision jobs must be saved in the following format: “xxx_testjob.u3p” (x = any integer from 0 to 9). A maximum of 255 jobs can be used. The job number can be set between 1 and 255. Every uniVision job file needs an unambiguous number.

Bytes 4 to 7 provide the status of the Processing Instance (starting with bit number 0 and byte number 4). Not used bits are set to FALSE.

Name	Data Type	Bit Number	Byte.Bit	Description
WARNING	BOOL	0	4.0	Is TRUE in case of a warning. Check the reason of the warning
ERROR	BOOL	1	4.1	Is TRUE in case of an error. Check the reason of the error.
Data overflow	BOOL	3	4.3	Is TRUE in case of data overflow. Reduce the acquisition frame rate or the processing time of the complete job to avoid data overflow.
Command overflow	BOOL	4	4.4	Is TRUE in case of command overflow. Reduce the frequency to send commands to the Processing Instances.
FTP interface	BOOL	9	5.1	Is TRUE in case of errors at the FTP interface. Check the FTP interface.
Unlicensed module(s)	BOOL	20	6.4	Is TRUE in case of unlicensed modules. Check the modules in the current job.
Project not available	BOOL	21	6.5	Is TRUE in case of a not available job. Check the start job settings on the device website.
Processing	BOOL	22	6.6	Is TRUE in case of an error at processing. Check the job configuration.

NOTE!
- Status signals of the Processing Instance often apply for a very short time (e.g. processing bit). In order to receive all results at the PLC, the cycle time may only be half the length of the status bit.
- For more details about the status of the Processing Instance, check the operating instruction of the uniVision software.

3.3 Commands

Commands are sent from the PLC to the Processing Instance on the Machine Vision Device. The commands consist of 4 bytes (starting with bit and byte number 0).

NOTE!
Commands to the Processing Instance may only be sent if the command ready signal is active. The status of the command ready signal must therefore be checked before commands are sent.

Bytes 0 and 1 are used for the command bits.

Name	Data Type	Bit Number	Byte.Bit	Description
Load Job	BOOL	0	0.0	When the value is changed from FALSE to TRUE, the Processing Instance loads the job that is defined by the command parameter. **NOTE!** For loading jobs via RTE all jobs must be saved in the following format: “xxx_testjob.u3p” (x = any integer from 0 to 9). A maximum of 255 jobs can be used. The job number can be set between 1 and 255. Every uniVision job file needs an unambiguous number.
Trigger	BOOL	1	0.1	When the value is changed from FALSE to TRUE, the Processing Instance sends a software trigger command to the Machine Vision Device. **NOTE!** The Trigger Mode of the device must be set to ON and the Trigger Source must be set to Software.
Acquisition Start	BOOL	2	0.2	When the value is changed from FALSE to TRUE, the Processing Instance sends an acquisition start command to the Machine Vision Device. **NOTE!** Only when acquisition is active (check status bit), the device is ready to receive trigger signals. After booting or loading jobs, the acquisition is automatically set to active.

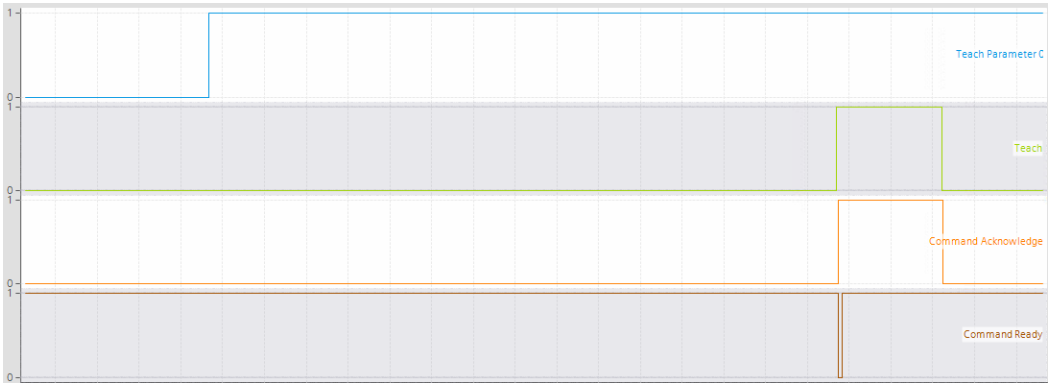
Acquisition Stop	BOOL	3	0.3	When the value is changed from FALSE to TRUE, the Processing Instance sends an acquisition stop command to the Machine Vision Device. **NOTE!** When acquisition is inactive, the device is no longer ready to receive trigger signals.
Reboot	BOOL	4	0.4	When the value is changed from FALSE to TRUE, the Machine Vision Device performs a reboot. **NOTE!** Reboot is finished after operating ready is TRUE again.
Teach	BOOL	5	0.5	When the value is changed from FALSE to TRUE, the Processing Instance teaches or resets all values in the job tree linked to the teach parameters that are set to TRUE. Using the Teach command allows to teach or reset values in the job tree even if no data is processed in the Processing Instance (e.g. no trigger signals or acquisition stopped). **NOTE!** • Set the relevant teach parameters to TRUE and then activate the command bit “Teach”. • Make sure that within the uniVision job tree the relevant value (e.g. Reset at Module Counter) is linked to the relevant Teach Parameter (e.g. Data Value of Teach 0). For details, see section “4.2.3 Teach Parameters”. • Only needed if teaching or resetting of values is required without data evaluation - otherwise it is possible to use the user-defined process data.

Byte 2 is used for the command parameter.

NOTE!
Make sure to set the command parameter (e.g. job number) first. Then send the command bit (e.g. to load the job).

Byte 3 is used for the teach parameters. 8 parameter bits are available for teaching or resetting of values.

NOTE!
Make sure to set the teach parameter bits first. Then send the teach command bit.

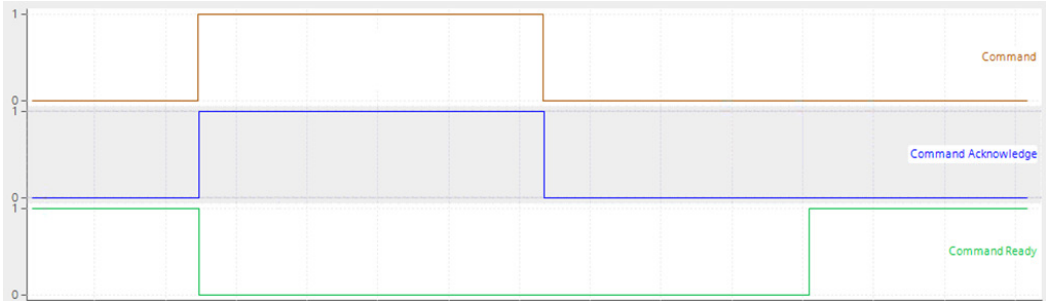


3.3.1 General Commands and Status Behavior

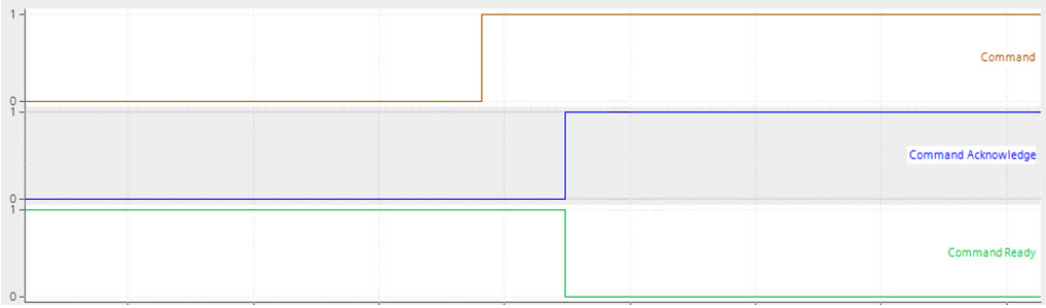
For each command that is sent from the PLC to the Machine Vision Device, an answer is sent back from the Machine Vision Device to the PLC via the status bits.

NOTE!
Commands to the Processing Instance may only be sent if the command ready signal is active. The status of the command ready signal must therefore be checked before commands are sent.

The following example of command and its status bits is valid for all types of commands.

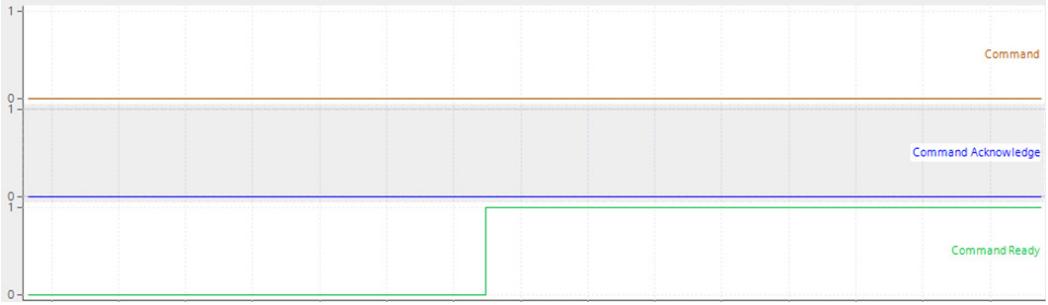


- The command (e.g. trigger command) is sent from the PLC to the Processing Instance on the Machine Vision Device.
- The Processing Instance answers with the status bits after receiving the command:
  - » The command acknowledge signal switches from FALSE to TRUE (echo signal of the command).
  - » The command ready signal switches from TRUE to FALSE.



- When the command that is sent from the PLC to the Machine Vision Device is removed, the command acknowledge signal switches from TRUE to FALSE (echo signal of the command).

- When the execution of the command is finished, the command ready signal switches from FALSE to TRUE and the Processing Instance is ready to receive a new command.

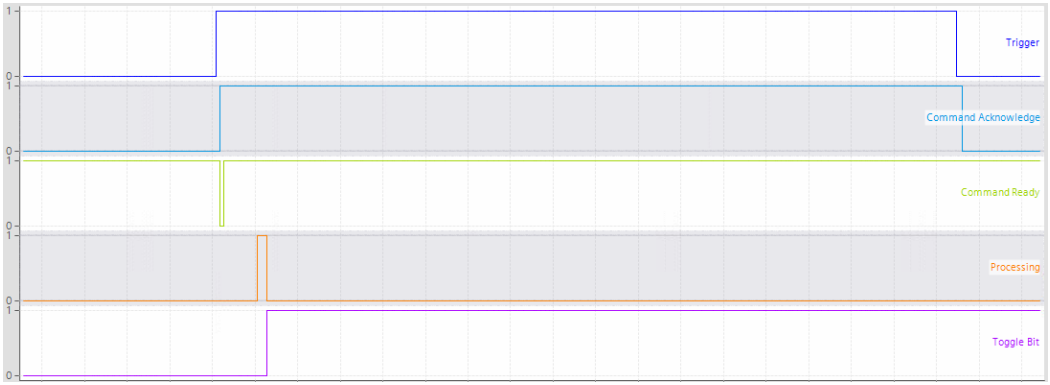


3.3.2 Trigger Command

When sending a trigger command from the PLC to the Processing Instance on the Machine Vision Device, new data is captured (in case of Trigger Source set to Software). While processing such data in the Processing Instance, the Processing bit in the status is active. After processing has been finished, the toggle bit in the status changes and the user-defined process data are available.

NOTE!

- After booting or job loading, a trigger command can be sent as soon as the command ready signal has switched from FALSE to TRUE.
- Use the toggle bit of the status to identify if the results that belong to the trigger signal are already available.

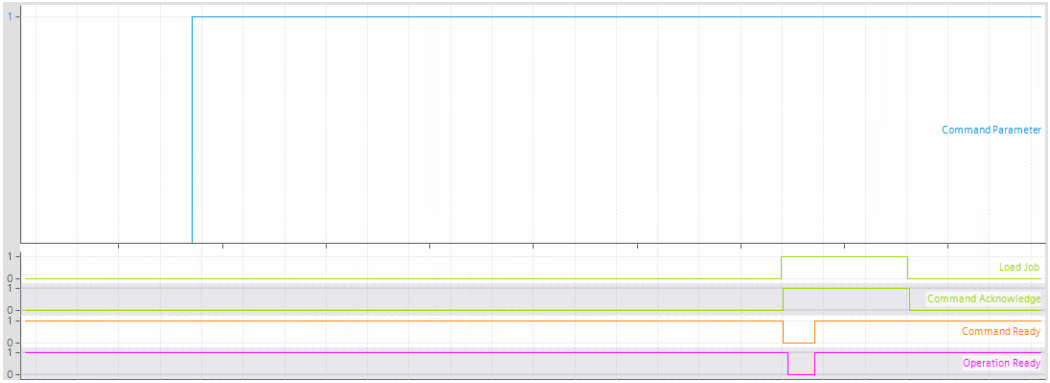


3.3.3 Load Job Command

When sending a load job command from the PLC to the Processing Instance on the Machine Vision Device, the Processing Instance loads the job defined by the command parameter. The number that is used in the job name must be sent by the command parameter.

NOTE!

- For loading jobs via Industrial Ethernet all jobs must be saved in the following format: “xxx_testjob.u3p” (x = any integer from 0 to 9). For example 002_myjob.u3p.
- A maximum of 255 jobs can be loaded. The job number can be set between 1 and 255. Every uniVision job file needs an unambiguous number.
- Make sure to set the command parameter first. Only afterwards send the load job command bit.
- The job is loaded completely when the command ready signal has switched back to TRUE and when there was no command error. Hereafter, the next command (e.g. trigger command) can directly be sent to the Processing Instance.
- The job number is also sent back via the status (see section “3.2 Status of Processing Instance”).

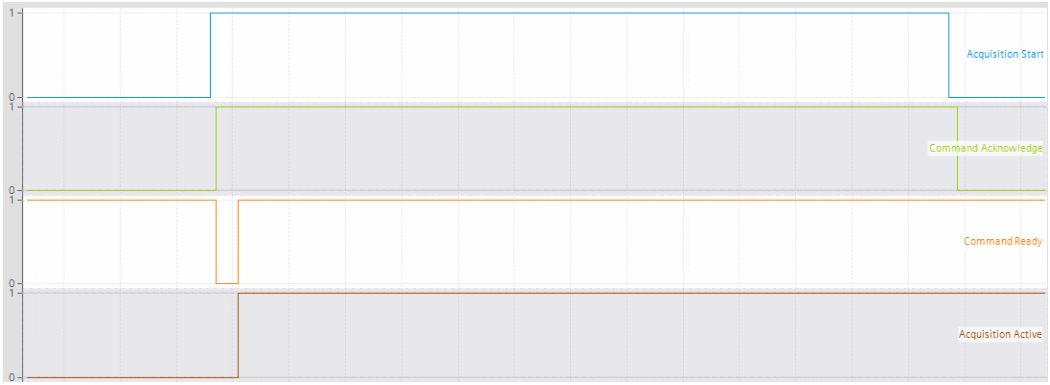


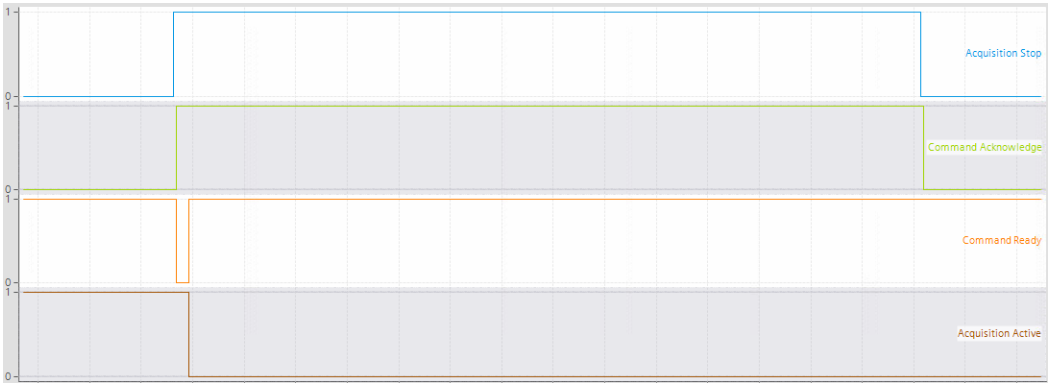
3.3.4 Acquisition Start and Stop Command

When sending an acquisition start or stop command, the Processing Instance is ready or no longer ready to receive trigger signals. The trigger signals can be generated by the device itself (if Trigger Mode is set to Off) or via an external interface (e.g. software trigger via PROFINET if Trigger Mode is set to On and Trigger Source is set to Software).

NOTE!

After booting and job loading, acquisition starts automatically.





3.4 User-Defined Process Data

User-defined process data are configured in the uniVision job. Process data can be sent from the Machine Vision Device to the PLC and reverse. For details see section “4.2 Device Industrial Ethernet”.

NOTE!

Compared to commands and status data that are updated continuously, process data is only evaluated and sent when data (e.g. image) is executed in the Processing Instance because of a trigger signal.
Use teach command and teach parameters to teach or reset values even if no data evaluation takes place (see section “3.3 Commands”).

4. Device Website and Software uniVision

4.1 Installation of Configuration Files

Machine Vision Devices support several fix configuration layouts for the user-defined process data. The default configuration and further available configuration files are available in the attachments (see section “6. Attachments”).

NOTE!

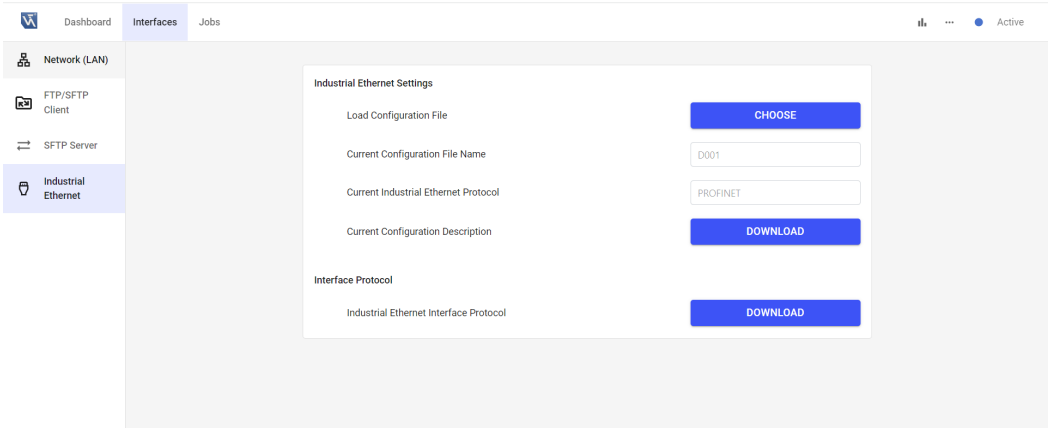
Details about minimum firmware versions of the Machine Vision Device for the various Industrial Ethernet protocols are available in the operating instruction of the device.

Loading another configuration file:

- Select suitable configuration file (see section “6. Attachments”)
- Download configuration file on the product detail page of the wenglor website (www.wenglor.com).
- Open device website in any supported browser via wenglor Discovery Tool or via entering directly the IP address of the Machine Vision Device.
- Select tab “Interfaces” and side navigation “Industrial Ethernet”.
- Press “Load Configuration File”, select the configuration file and confirm the reboot info.
- After the reboot, enter again the device website and check if the current configuration file name fits.

NOTE!

Perform another manual reboot in order to receive data on the PLC.



4.2 Device Industrial Ethernet

User-defined process data are defined within the uniVision job. Open the tab “Jobs” on the device website and click on “Open Job” in order to create a connection from the software wenglor uniVision 3 to the Processing Instance on the Machine Vision Device.

NOTE!

For details about the job configuration, check operating instruction of the uniVision software (DNNF023).

Add Device Industrial Ethernet from the toolbox to the uniVision job tree.

Process time [µs]	Process time to run the module in µs
Module State	Shows state of module: • 0: No error • Different to 0: Error (for error details see operating instruction of uniVision software).
Error Handling	If any user-defined process data is in error state, it is substituted by a user-defined replacement value.

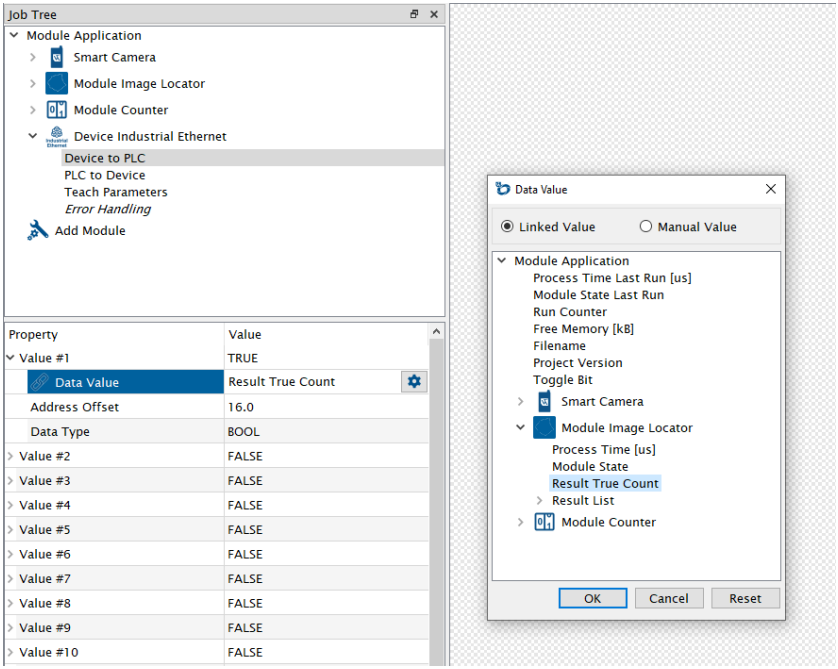
NOTE!

Compared to commands and status data that are updated continuously, process data is only evaluated and sent when data (e.g. image) is executed in the Processing Instance because of a trigger signal. Adding Device Industrial Ethernet is only possible on a real device (not at offline jobs).

4.2.1 Device to PLC

Depending on the configuration file, the user-defined process data inputs appear.

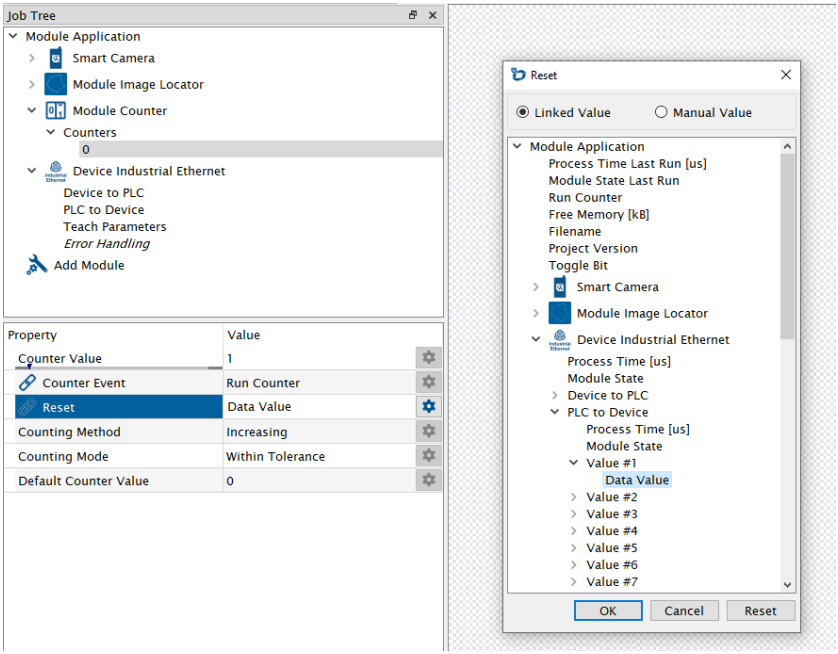
Value	Shows the result of the process data (uniVision job result).
Data Value	Set value manually or link it with any job result.
Address Offset	Shows the address offset for the value. **NOTE!** The address offset has to be added to the first input or output address that is used for the Machine Vision Device.
Data Type	Shows data type of the value.



4.2.2 PLC to Device

Depending on the configuration file, the user-defined process data output appear.

Value	Shows the result of the process data (uniVision input value).
Data Value	Shows the result of the process data (uniVision input value). Link Data Value of “PLC to Device” in other modules to evaluate it if data is processed in the Processing Instance because of a trigger signal. **NOTE!** Process data from the PLC to the Machine Vision Device is received when data is evaluated in the Processing Instance because of a trigger signal.
Address Offset	Shows the address offset for the value. **NOTE!** The address offset has to be added to the first input or output address that is used for the Machine Vision Device.
Data Type	Shows data type of the value.



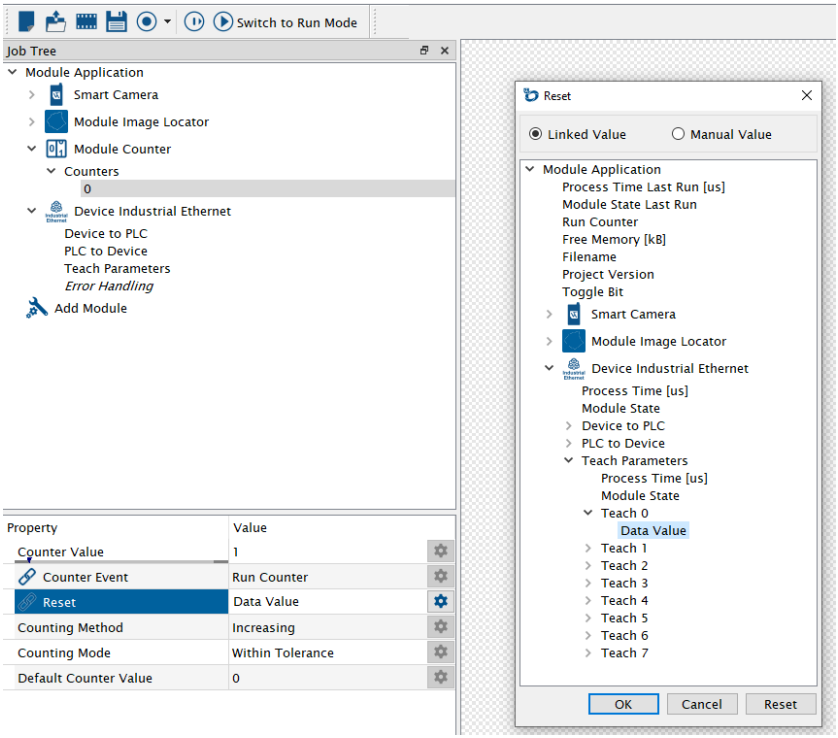
4.2.3 Teach Parameters

Teach parameter bits 0 to 7 appear as Sub-Module of Device Industrial Ethernet. Link Data Value of Teach Parameters in other modules (e.g. at value Reset of Module Counter) to teach or reset values in the job tree even if no data is processed in the Processing Instance (e.g. no trigger signal or acquisition stopped). Only needed if teaching or resetting of values is required without data evaluation – otherwise it is possible to use the user-defined process data.

NOTE!

To teach or reset, set the relevant teach parameter to TRUE and activate the teach command bit at the PLC (see section “3.3 Commands”).

Teach	Shows the result of the teach parameter (uniVision input value).
Data Value	Shows the result of the teach parameter (uniVision input value).
Address Offset	Shows the address offset for the value. **NOTE!** The address offset has to be added to the first PLC output address that is used for the Machine Vision Device.
Data Type	Shows the data type of the value



4.2.4 Error Handling

If any process data is in error state, the substitution value can be set for each data type.

Substitute BOOL types by	If a BOOL value used in Device Industrial Ethernet is in error state, it is replaced by FALSE or TRUE (Default: FALSE).
Substitute INT types by	If a INT value used in Device Industrial Ethernet is in error state, it is replaced by any user-defined INT (Default: 0).
Substitute DOUBLE types by	If a DOUBLE value used in Device Industrial Ethernet is in error state, it is replaced by any user-defined DOUBLE value (Default: 0.0000).
Substitute STRING types by	If a STRING value used in Device Industrial Ethernet is in error state, it is replaced by any user-defined STRING value (Default: Error###).

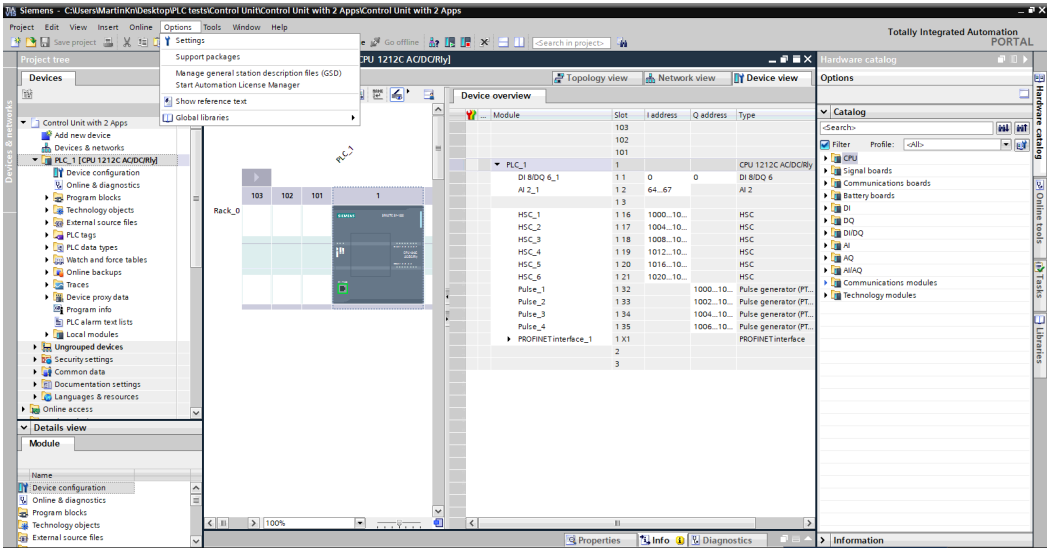
5. PROFINET PLC Settings

The integration for the Machine Vision Device B60 Smart Camera is shown with a Siemens S7-1200 PLC with TIA Portal V15.

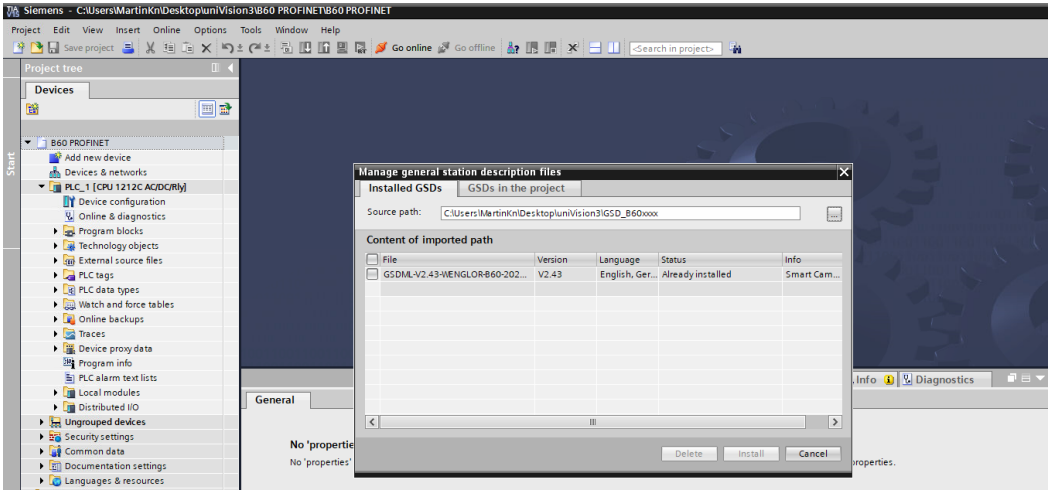
5.1 GSDML File

The GSDML file is available on the wenglor website in the download section of the Machine Vision Device (www.wenglor.com). Download the GSDML file, unzip the file and install it on the PLC.

In the software TIA Portal V15, the GSDML file is added via “Options” → “Manage general station description files (GSD)”.



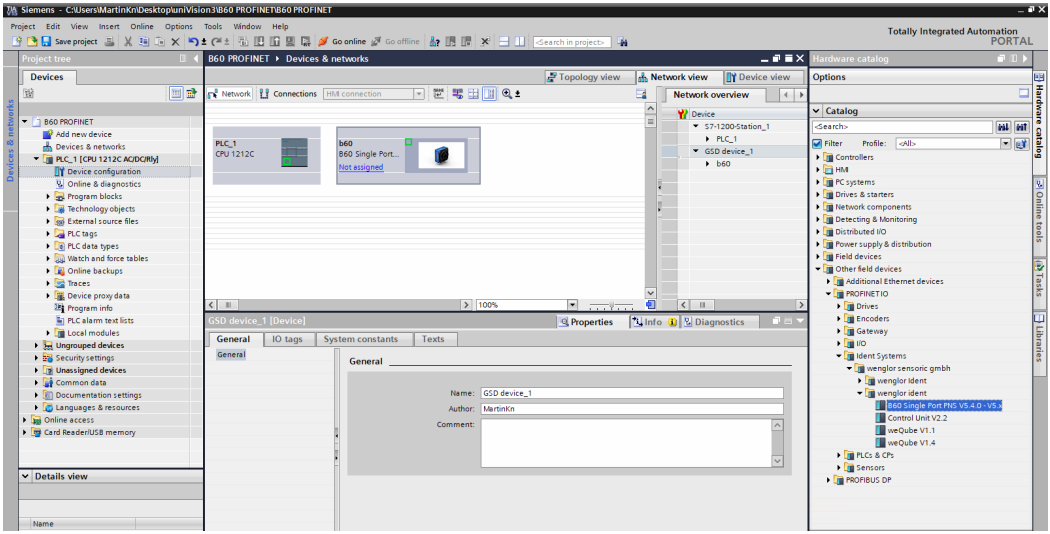
Adjust the correct source path if necessary, select the file and click on “Install”. After the successful installation, the status signals “already installed”.



5.2 Add Machine Vision Device to PLC Network

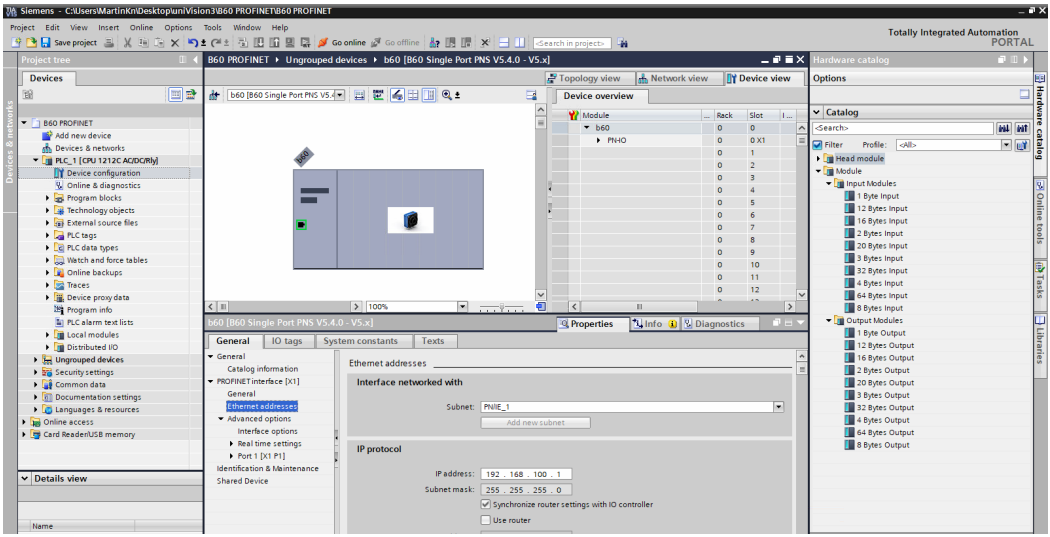
Search in the hardware catalog for “Other field devices” → “PROFINET IO” → “Ident Systems”. Select “wenglor sensoric gmbh”, “wenglor ident” and add the relevant device to your network.

Then connect the Machine Vision Device with the PLC in the network view.



5.3 PROFINET Network Configuration

Switch to the device view of the Machine Vision Device and open the properties. Then setup the network configuration for the PROFINET interface of the Machine Vision Device and select a device name.



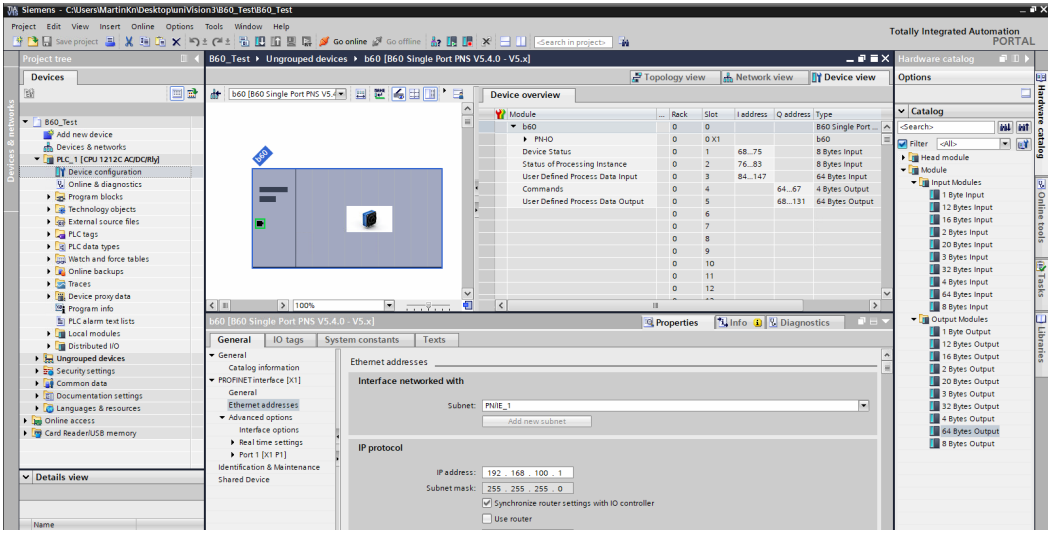
5.4 Configure Input and Output Data

Add the input and output slots according to the configuration file used on the Machine Vision Device.

NOTE!

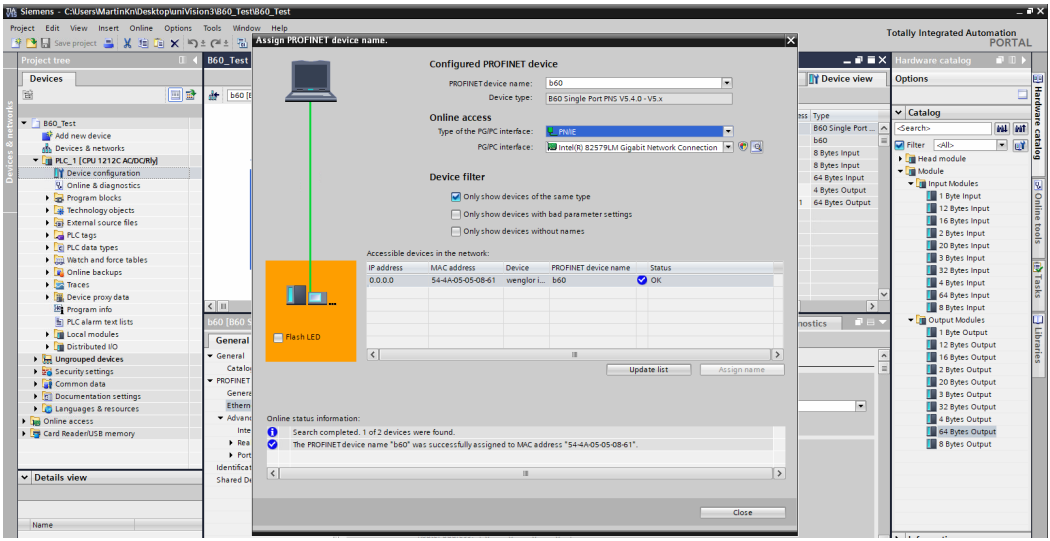
Input and output slots must be added consecutively (without gaps and in the right order) in order to use the address offsets provided in the uniVision job.

The following example shows the default slot configuration for the Smart Camera B60 (D001).

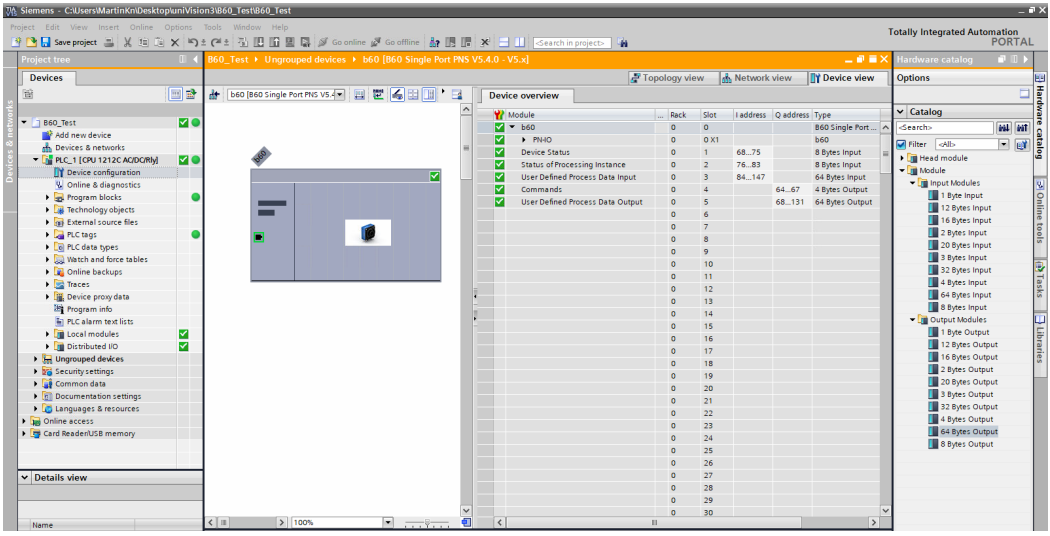


5.5 Download Configuration to PLC

Compile and download the configuration to the PLC. Then assign the network configuration and the device name to the Machine Vision Device via the context menu.
Click on “Update list” to see all Machine Vision Devices in the network. Select the available Machine Vision Device, assign the name and close the window.



Click on “Go online”. Check the status in TIA portal to analyse if the configuration of the PLC and the Machine Vision Device fit together.



5.6 PLC Tags

Select PLC tags to add the input and output data to your PLC project. Use the address offsets and the data types provided within the uniVision job for the process data.

NOTE!

Data types and address offsets are available for all user-defined process data. The address offset must be added to the starting address of the first input or output address of the Machine Vision Device.

The following example shows status, commands and user-defined process data with the default configuration of the Smart Camera B60 (D001).

	Name	Address	Display format	Monitor value
1	"Device Status"	%IB68	Hex	16#00
2	"Device Status(1)"	%IB69	Hex	16#00
3	"Device Status(2)"	%IB70	Hex	16#00
4	"Device Status(3)"	%IB71	Hex	16#00
5	"Device Status(4)"	%IB72	Hex	16#00
6	"Device Status(5)"	%IB73	Hex	16#00
7	"Device Status(6)"	%IB74	Hex	16#00
8	"Device Status(7)"	%IB75	Hex	16#00
9	"Operation Ready"	%I76.0	Bool	TRUE
10	"Acquisition Active"	%I76.1	Bool	FALSE
11	"Toggle Bit"	%I76.2	Bool	FALSE
12	"Processing"	%I76.3	Bool	FALSE
13	"Command Acknowledge"	%I76.4	Bool	FALSE
14	"Command Ready"	%I76.5	Bool	TRUE
15	"Command Error"	%I76.6	Bool	FALSE
16	"Job Number"	%IB78	Hex	16#01
17	"Status Processing Instance"	%IB80	Hex	16#00
18	"Status Processing Instance(1)"	%IB81	Hex	16#00
19	"Status Processing Instance(2)"	%IB82	Hex	16#00
20	"Status Processing Instance(3)"	%IB83	Hex	16#00
21	"User Defined Process Data Input BOOL 0"	%I84.0	Bool	FALSE
22	"User Defined Process Data Input DINT 0"	%ID88	DEC+/-	0
23	"User Defined Process Data Input REAL 0"	%ID100	Floating-point nu...	0.0
24	"User Defined Process Data Input CHAR 0"	%IB116	Character	'$00'
25	"Load Job"	%Q64.0	Bool	FALSE
26	"Trigger"	%Q64.1	Bool	FALSE
27	"Acquisition Start"	%Q64.2	Bool	FALSE
28	"Acquisition Stop"	%Q64.3	Bool	FALSE
29	"Reboot"	%Q64.4	Bool	FALSE
30	"Teach"	%Q64.5	Bool	FALSE
31	"Command Parameter"	%QB66	Hex	16#00
32	"Teach Parameter 0"	%Q67.0	Bool	FALSE
33	"User Defined Process Data Output BOOL 0"	%Q68.0	Bool	FALSE
34	"User Defined Process Data Output DINT 0"	%QD72	DEC+/-	0
35	"User Defined Process Data Output REAL 0"	%QD84	Floating-point nu...	0.0
36	"User Defined Process Data Output CHAR 0"	%QB100	Character	'$00'

6. Attachments

The configuration files are available on the wenglor website at the product detail page of the Machine Vision Device (see www.wenglor.com). For further info about the installation of configuration files see section “4.1 Installation of Configuration Files”.

6.1 Configuration File D001 (Default for B60)

Basics
- Device Type: B60
- Protocol: PROFINET

Slot Configuration
- 8 Bytes Input: Device Status
- 8 Bytes Input: Status of Processing Instance
- 64 Bytes Input: User-Defined Process Data
- 4 Bytes Output: Commands
- 64 Bytes Output: User-Defined Process Data

User-Defined Process Data Input (Device to PLC)
- 4 Bytes: 32 BOOL
- 12 Bytes: 3 DINT
- 16 Bytes: 4 REAL
- 32 Bytes: 1 CHAR with 32 Bytes

User-Defined Process Data Output (PLC to Device)
- 4 Bytes: 32 BOOL
- 12 Bytes: 3 DINT
- 16 Bytes: 4 REAL
- 32 Bytes: 1 CHAR with 32 Bytes

6.2 Configuration File D101

Basics
- Device Type: B60
- Protocol: PROFINET

Slot Configuration
- 8 Bytes Input: Device Status
- 8 Bytes Input: Status of Processing Instance
- 64 Bytes Input: User-Defined Process Data
- 64 Bytes Input: User-Defined Process Data
- 4 Bytes Output: Commands
- 32 Bytes Output: User-Defined Process Data

User-Defined Process Data Input (Device to PLC)
- 4 Bytes: 32 BOOL
- 60 Bytes: 15 REAL
- 64 Bytes: 16 REAL

User-Defined Process Data Output (PLC to Device)
- 4 Bytes: 32 BOOL
- 28 Bytes: 7 REAL

6.3 Configuration File D201

Basics
- Device Type: B60
- Protocol: PROFINET

Slot Configuration
- 8 Bytes Input: Device Status
- 8 Bytes Input: Status of Processing Instance
- 16 Bytes Input: User-Defined Process Data
- 32 Bytes Input: User-Defined Process Data
- 64 Bytes Input: User-Defined Process Data
- 4 Bytes Output: Commands
- 4 Bytes Output: User-Defined Process Data
- 32 Bytes Output: User-Defined Process Data

User-Defined Process Data Input (Device to PLC)
- 4 Bytes: 32 BOOL
- 4 Bytes: 1 DINT
- 8 Bytes: 2 REAL
- 32 Bytes: 1 CHAR with 32 Bytes
- 32 Bytes: 1 CHAR with 32 Bytes
- 32 Bytes: 1 CHAR with 32 Bytes

User-Defined Process Data Output (PLC to Device)
- 4 Bytes: 32 BOOL
- 32 Bytes: 1 CHAR with 32 Bytes

6.4 Configuration File D301

Basics
- Device Type: B60
- Protocol: PROFINET

Slot Configuration
- 8 Bytes Input: Device Status
- 8 Bytes Input: Status of Processing Instance
- 16 Bytes Input: User-Defined Process Data
- 64 Bytes Input: User-Defined Process Data
- 4 Bytes Output: Commands
- 4 Bytes Output: User-Defined Process Data
- 64 Bytes Output: User-Defined Process Data

User-Defined Process Data Input (Device to PLC)
- 4 Bytes: 32 BOOL
- 4 Bytes: 1 DINT
- 8 Bytes: 2 REAL
- 64 Bytes: 1 CHAR with 64 Bytes

User-Defined Process Data Output (PLC to Device)
- 4 Bytes: 32 BOOL
- 64 Bytes: 1 CHAR with 64 Bytes