

XUWAA...

Vision Sensors - Advanced User Manual

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Telemecanique
Sensors

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Safety Information



Important Information

NOTICE

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.



The addition of this symbol to a Danger safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates an imminently hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a potentially hazardous situation which, if not avoided, **can result in** death or serious injury.

CAUTION

CAUTION indicates a potentially hazardous situation which, if not avoided, **can result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

PLEASE NOTE

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About the Book



At a Glance

Document Scope

This manual will acquaint you with the software which can work with XUWAA*** sensors. The XUW Config is an auxiliary tool for setting parameters and tuning the sensors. The setting conditions can be edited and saved with this software.

Validity Note

This document is valid for the XUW Find and XUW Config tools.

This document has been updated with the release of XUW Sensor V1.5.17.0.

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We accept no responsibility for printing errors and mistakes which occurred in drafting these mounting and operating instructions. Subject to delivery and technical alterations.

Product Related Information

CAUTION

UNEXPECTED EQUIPMENT OPERATION

- Read the user guide before the first installation.
- Comply with the wiring and configuration instruction.
- Check the connections and fastening during maintenance operation.
- The XUW Sensor should only be connected by a qualified electrician.
- Do not tamper with or make alterations on the unit.
- The XUW Vision Sensor is not a safety-critical component and its use is prohibited under conditions where the safety of persons may depend on its function.

Failure to follow these instructions can result in injury or equipment damage.

ATENCIÓN

FUNCIONAMIENTO INESPERADO DEL EQUIPO

- Consulte el manual de usuario antes de instalar por primera vez el equipo (consulte la versión en inglés).
- Cumpla con las instrucciones de cableado y configuración.
- Compruebe las conexiones y las fijaciones durante las operaciones de mantenimiento.
- Las conexiones del sensor XUW solo podrán ser realizadas por un electricista cualificado.
- No manipule ni altere la unidad.
- El sensor de visión XUW no es un componente crítico para la seguridad, por lo que se prohíbe su uso en situaciones en las que la seguridad de las personas dependa de su funcionamiento.

El incumplimiento de estas instrucciones puede causar lesiones o daño al equipo.

User Comments

We welcome your comments about this document. You can reach us by e-mail at customer-support@tesensors.com.

Chapter 1

Intended Use

What Is in This Chapter?

This chapter contains the following topics:

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Characteristics XUW	11
Sensor Types	12
Field of View	13

Intended Use

Field of application

The XUW Vision Sensor precisely detects defective parts, parts in the wrong place, at the wrong angle or in the wrong order or a combination of all of these. A total of five detectors are available for inspection tasks and interpretation:

- pattern matching
- contour detection
- brightness
- grey level
- contrast detection

The advanced version of the XUW Vision Sensor, XUW-Advanced also offers position tracking: it is thus now also possible to reliably detect those features which do not appear with repeated accuracy in the taught position. All interpretation is carried out relative to the actual position and angle of the part without having to define an independent characteristic for each possible position. This high capacity tool also enables you to solve demanding pick and place applications.

Characteristics XUW

Functional Characteristics

This table presents the characteristics of the XUW Vision Sensor:

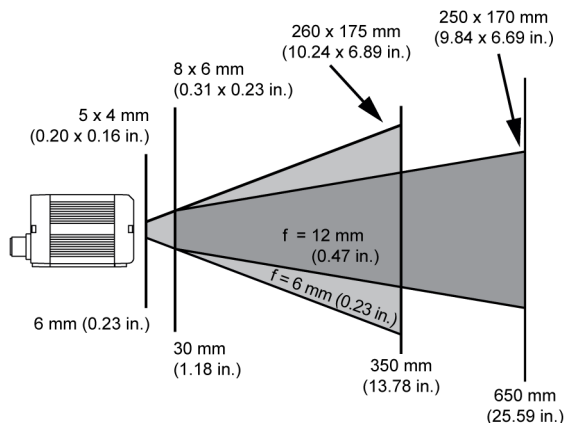
XUWAA06R, XUWAA12R,XUWAA06W, XUWAA12W	
Frames per second	50
Number of jobs	64
Alignment	Yes
Number of detectors	64
Type of detectors	Pattern matching (X, Y translation)
	Contour (X, Y translation and rotation)
	Grey level (X, Y translation and rotation with alignment tool)
	Contrast (X, Y translation and rotation with alignment tool)
	Brightness (X, Y translation and rotation with alignment tool)
6 digital outputs, 2 inputs, PNP or NPN	
Free definable digital In- / Output, PNP or NPN	4
Shape modification	All the detectors
Timeout, specified time response	
Variable resolutions	
Illumination quadrant-controlled	
Image recorder	
Encoder input	
Ethernet TCP/IP	
RS422 interface for data transmission	
EtherNet/IP interface	
Sensor monitoring with viewer, job upload, etc.	

Sensor Types

Light Color	References	Focal lens mm (<i>in.</i>)	Internal illumination	min. operating distance / mm (<i>in.</i>) (1)	min. Field of view / mm x mm (<i>in. x in.</i>)
White	XUWAA06W	6 (0.23)	White	6 (0.23)	5 x 4 (0.20 x 0.16)
	XUWAA12W	12 (0.47)		30 (1.18)	8 x 6 (0.31 x 0.23)
Red	XUWAA06R	6 (0.23)	Red	6 (0.23)	5 x 4 (0.20 x 0.16)
	XUWAA12R	12 (0.47)		30 (1.18)	8 x 6 (0.31 x 0.23)
Legend					
(1) For greater operating distances (from approx. 200 mm (7.87)) external illumination may be necessary.					

Field of View

The graphic and table below presents the size of the field of view depending on the operating distance:



Operating distance (mm (in.))	XUWAA06W XUWAA06R	XUWAA12W XUWAA12R
	X width x Y height in mm (in.)	X width x Y height in mm (in.)
6 (0.23)	5 x 4 (0.20 x 0.16)	-
30 (1.18)	23 x 16 (0.90 x 0.63)	8 x 6 (0.31 x 0.23)
50 (1.97)	37 x 26 (1.45 x 1.02)	16 x 11 (0.63 x 0.43)
100 (3.94)	75 x 50 (2.95 x 1.97)	35 x 24 (1.37 x 0.94)
150 (5.90)	110 x 75 (4.33 x 2.95)	55 x 37 (2.16 x 1.45)
200 (7.87)	150 x 100 (5.94 x 3.94)	75 x 50 (2.95 x 1.97)
250 (9.84)	180 x 125 (7.08 x 4.92)	95 x 65 (3.74 x 2.56)
300 (11.81)	220 x 150 (8.66 x 5.90)	115 x 75 (4.52 x 2.95)
350 (13.78)	260 x 175 (10.23 x 6.89)	135 x 90 (5.31 x 3.74)
400 (15.74)	-	150 x 100 (5.90 x 3.94)
450 (17.71)	-	170 x 115 (6.69 x 4.52)
500 (19.68)	-	190 x 130 (7.48 x 5.11)
550 (21.65)	-	210 x 125 (8.62 x 4.92)
600 (23.62)	-	230 x 155 (9.05 x 6.10)
650 (25.59)	-	250 x 170 (9.84 x 6.69)

Chapter 2

Installation Instructions

What Is in This Chapter?

This chapter contains the following sections:

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2.2	Electrical Installation	20
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2.4	Network Settings	35

Section 2.1

Mechanical Installation

What Is in This Section?

This section contains the following topics:

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XUW Installation Arrangement	17
Assembly XUW - Mounting bracket XUZASW001	19

XUW Installation Arrangement

Installation Precautions

NOTICE

UNEXPECTED EQUIPMENT OPERATION

- To ensure maximum accuracy of detection, the XUW Vision Sensor should be protected from vibrations.
- Secure the supply and I/O cables with cable binders to prevent crushing or slipping.
- Select a position for the XUW Vision Sensor in which interfering factors such as slight differences in the position of the object or variations in illumination have little or no effect.
- Fine adjustment should not be carried out after electrical connection and start-up (PC software installation).

Failure to follow these instructions can result in equipment damage.

NOTE: The IP address set for the XUW Vision Sensor should be marked on the enclosed label. After installation, stick the label on the sensor in a clearly visible position.

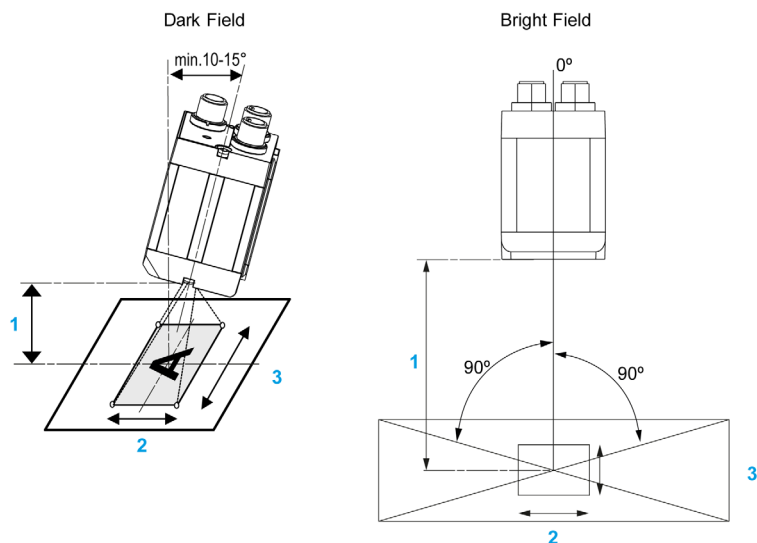
Installation

Screw the XUW Vision Sensor onto the mounting clamp XUZASW001 (supplied with the unit) and then onto a suitable object. You can use also the mounting clamp XUZASW002 or the mounting clamp XUZASW008 (for rod profile diam. 12).

The XUW Vision Sensor has two methods of illumination:

- Dark-field: which prevents direct reflections and accentuation of edges etc.
- Bright-field: which transmits light/measures tasks of the accentuation of highly-reflective objects.

On the following graphic is represented the two methods of illumination for the XUW Vision Sensor:



- 1 Working distance
- 2 Height of field of view
- 3 Width of field of view

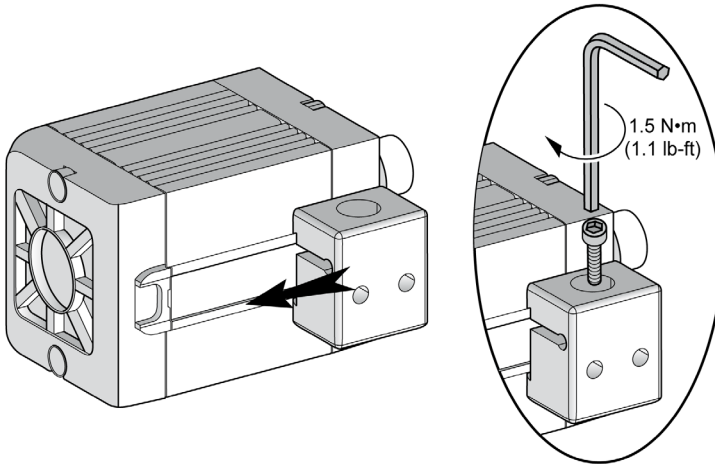
Refer to the Field of View to have more information on the object clearance.

NOTE: To avoid interfering reflection from the detection object, align the XUW Vision Sensor at an angle of 10° to 15° min. with reference to the optical axis.

Assembly XUW - Mounting bracket XUZASW001

Installation

The following picture shows how to install the mounting bracket:



To fix the XUW on a fixing system / machine housing, slide the provided dovetail mounting bracket XUZASW001 on the dovetail guide at the bottom side of the XUW. Then, fix it at the desired position with the hexagon socket in the cross hole of the mounting bracket.

Further Telemecanique mounting accessories may be attached to the mounting bracket or any other attachments may be fixed by using the tapped holes in the XUZASW001.

Section 2.2

Electrical Installation

Electrical Installation

Installation Precaution

NOTICE

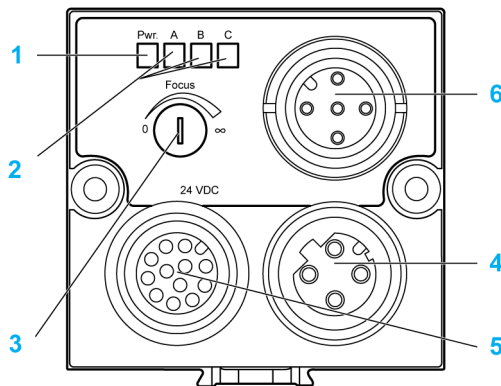
UNEXPECTED EQUIPMENT OPERATION

- The XUW Sensor should only be connected by a qualified electrician.
- Remove all electrical components from the power supply before installing the XUW Vision Sensor.
- Do not connect this module to your network until you have ensured that its IP address will be unique on the network.
- The protective caps supplied must be pushed onto the M12 sockets (LAN) which are not in use.

Failure to follow these instructions can result in equipment damage.

XUW Sensor Rear Module Connection

The following graphic shows the electrical connection on the rear of the XUW Sensor:



- 1 Operating LED
- 2 Output LEDs (see the following details)
- 3 Focus Adjustable
- 4 Power supply and digital I/O M12 connector
- 5 Ethernet M12 connector
- 6 Data (RS422) M12 connector

The following table shows the LED status:

Name	Color	Meaning	Pin / Wire Colors
Pwr.	Green	Operating voltage	-
A	Yellow	Result 1	12 / Red/Blue
B	Yellow	Result 2	07 / Black
C	Yellow	Result 3	08 / Gray

LAN Connection

NOTICE

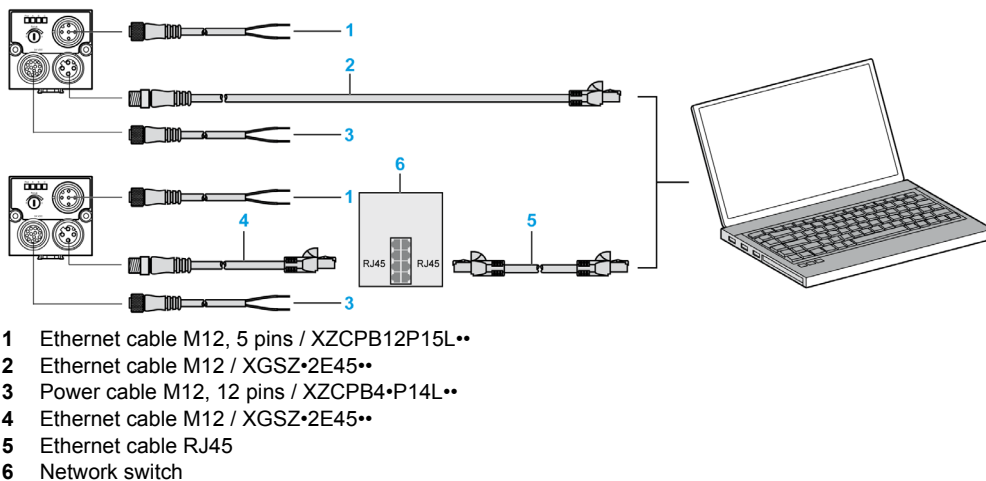
UNEXPECTED EQUIPMENT BEHAVIOR

Use only the correct network cable.

Failure to follow these instructions can result in equipment damage.

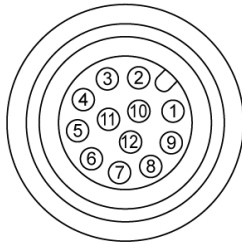
The XUW Sensor can be connected to a PC directly or via a network.

The following graphic shows the two LAN connection. The upper part represents the Direct connection of the XUW Vision sensor to a PC and the lower part the connection of the XUW Vision sensor to a PC via a network:



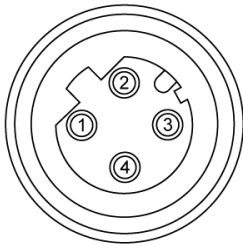
Plug Connections

The following graphic and table present the PIN assignment for the power cable:



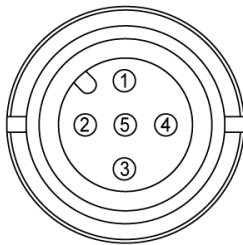
PIN	Color	Use
1	Brown	+Ub (24 Vdc)
2	Blue	GND
3	White	IN
4 ¹	Green	READY ⁴ output
5	Pink	Input / Output (Encoder -)
6	Yellow	Input / Output ⁴
7 ²	Black	Input / Output ⁴
8 ²	Gray	Input / Output ⁴
9	Red	Output
10	Purple	Input (Encoder +)
11	Gray/Pink	Valid ⁴ output ³
12	Red/Blue	Output ⁴ (100 mA ejector)
1 Ready: Sensor ready for a new trigger 2 Configurable digital inputs-outputs 3 VALID: indicated that results are available 4 PNP or NPN inputs/outputs		

The following graphic and table present the PIN assignment for the ethernet cable:



PIN	Color	PIN (RJ45)	Use
1	Yellow	1	RxD+
2	White	3	TxD+
3	Orange	2	RxD-
4	Blue	6	TxD-

The following graphic and table present the PIN assignment for the data cable (RS422):



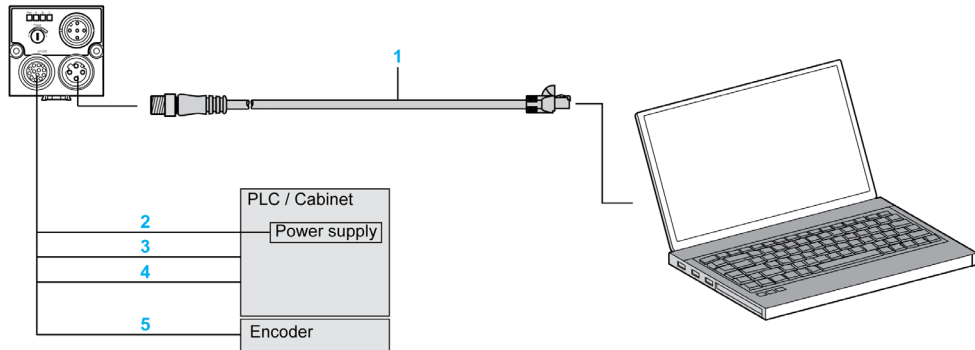
PIN	Color	Use
1	White	RxD+
2	Brown	RxD-
3	Black	TxD+
4	Blue	TxD-
5	Grey	GND

Connection Example

The following list contains the function to setup:

- Power supply
- Trigger
- 1x digital output
- Encoder
- Ethernet to PC or PLC

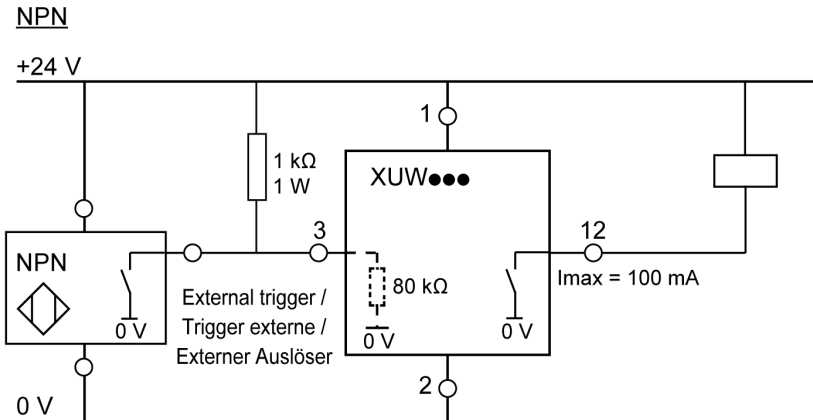
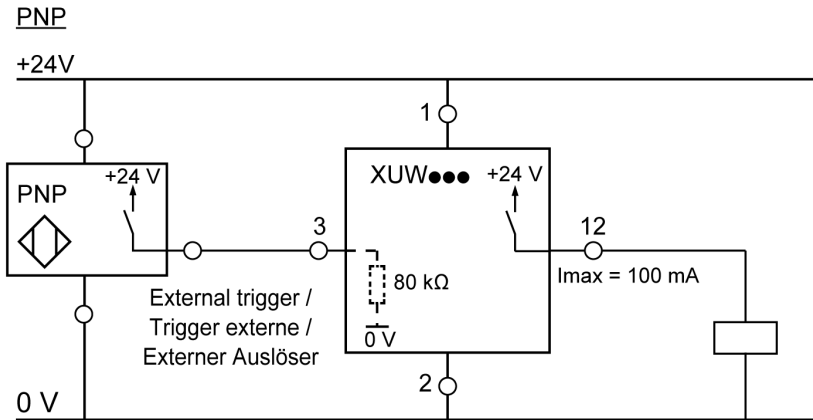
The following graphic represents an example of the connection plan and software settings:



- 1 Ethernet cable M12 to PC or PLC / XGSZ•2E45••
- 2 (PIN / Color / Use): 1 / Brown / +Ub (24 Vdc), 2 / Blue / GND
- 3 (PIN / Color / Use): 3 / White / Trigger input
- 4 (PIN / Color / Use): 12 / Red Blue / Output
- 5 (PIN / Color / Use): 5 / Pink / Encoder-, 10 / Purple / Encoder +

Wiring Diagram: PNP or NPN application

The following graphic shows the wiring diagram for PNP or NPN application:



NOTE: In PNP mode:

In-/outputs switch to +24 Vdc.

NOTE: In NPN mode:

As the inputs refer to ground, an additional pull-up resistor may be required in order to increase the input voltage to 24 Vdc when unswitched. The outputs switch to ground.

Section 2.3

Software Installation

What Is in This Section?

This section contains the following topics:

Topic	Page
Terminal Configuration	27
XUW Vision Sensor Software Installation	28

Terminal Configuration

Required Operating System

XUW Vision Sensor requires one of the following operating systems to be present on the terminal:

- Windows 2000 Edition® SP4
- Windows XP Professional Edition® SP2
- Windows Vista Business Edition® 32 bits
- Windows 7 Professional Edition® 32 and 64 bits system

Other Requirements

The following are required before installing XUW software:

- Internet Explorer V6.0 or later
- .NET 4.0 Framework, SP2
- Windows Installer V3.1 or later
- Visual C++ 2008 Runtime

Terminal Configuration

The following table provides the minimum and recommended terminal characteristics necessary to install:

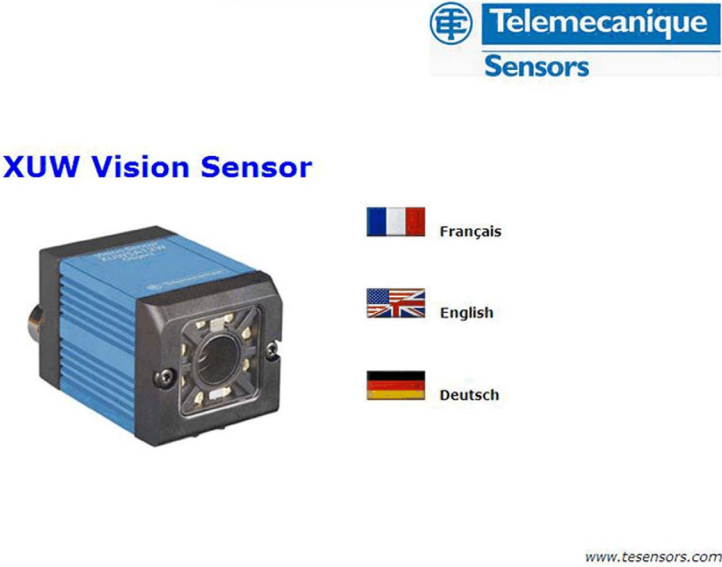
Minimum and recommended terminal configuration with Microsoft Windows 2000 Edition SP4 / Windows XP Professional Edition with SP2 / Windows Vista Business Edition 32 / Windows 7 Professional Edition_32 and 64	
System	Pentium processor 1 GHz or higher; recommended 2 Ghz
RAM	recommended 1 GBytes
Operating System	Microsoft Windows 2000 Edition SP4 / Windows XP Professional Edition with SP2 / Windows Vista Business Edition 32 / Windows 7 Professional Edition_32 and 64
Display	SVGA 1024x768 or higher resolution monitor with high color 24 bits
Other	network connection or network with TCP-IP protocol

NOTE: The XUW Vision Sensor is supplied with the IP address 192.168.100.100 and a subnet mask 255.255.255.0.

XUW Vision Sensor Software Installation

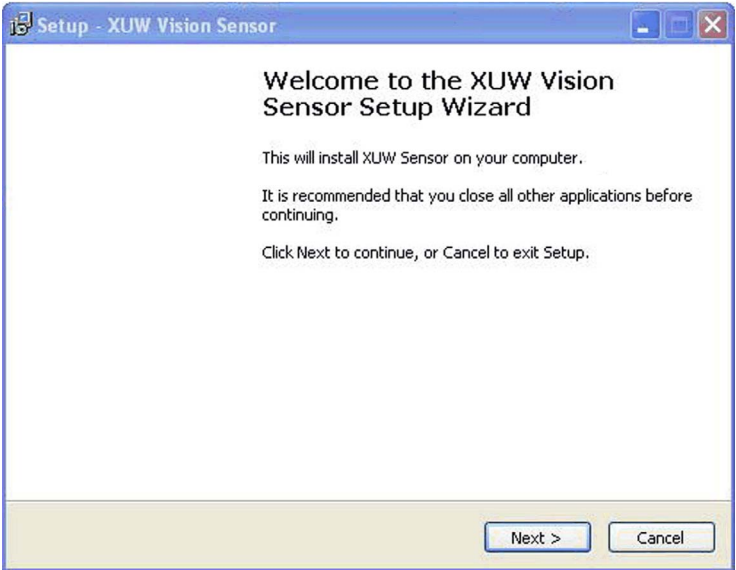
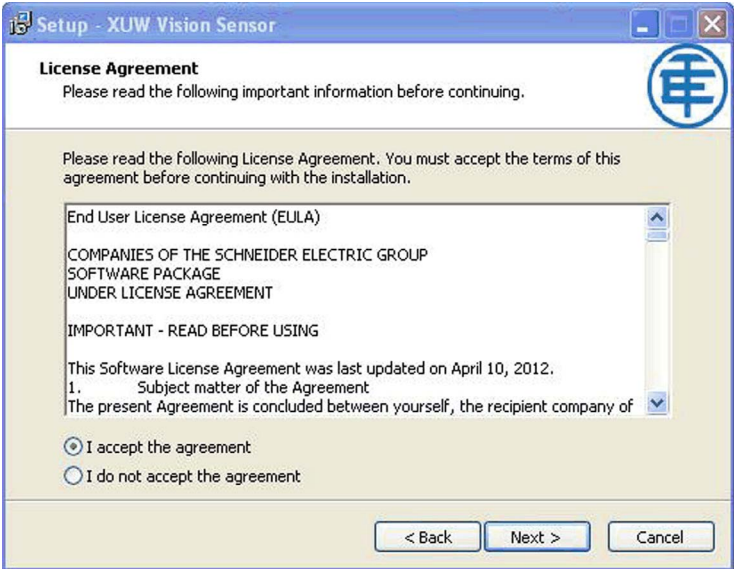
Installing XUW Vision Sensor Software

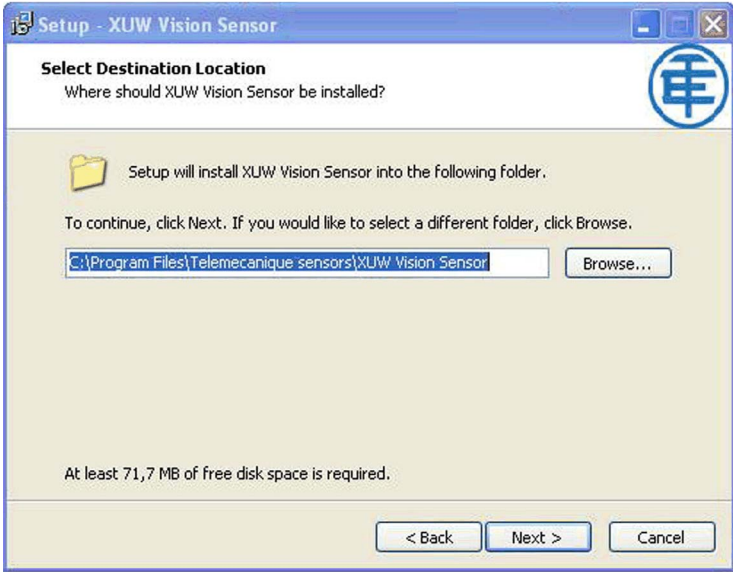
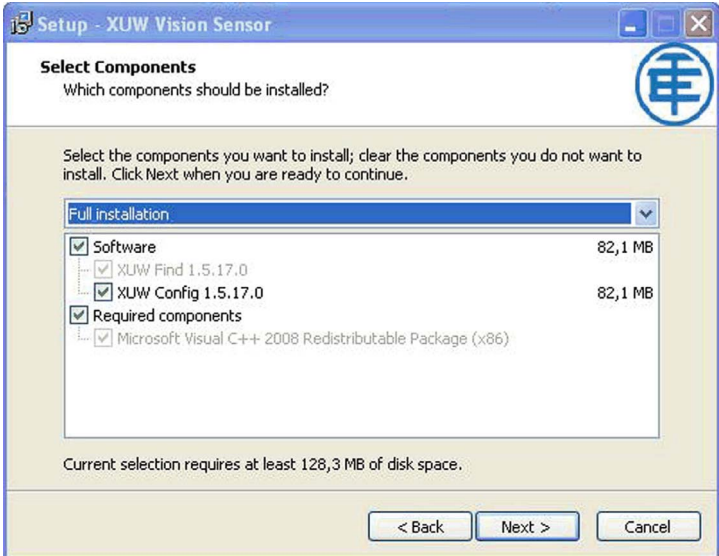
The following steps explain how to install XUW Vision Sensor Software:

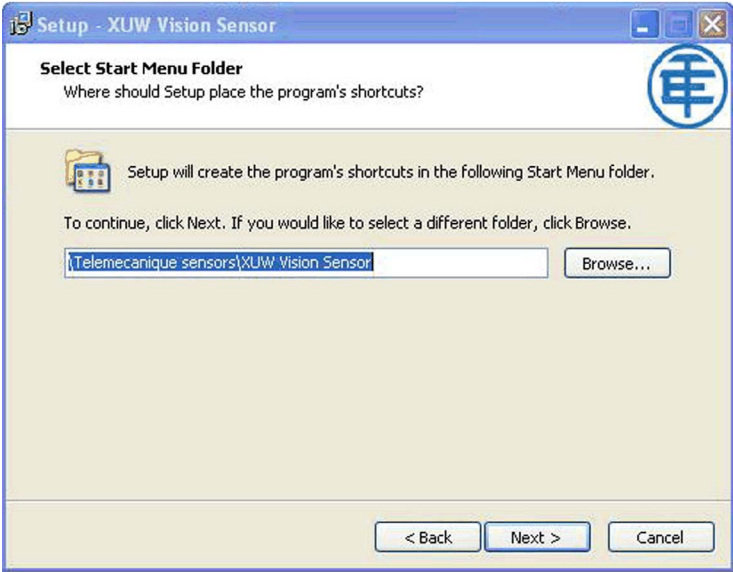
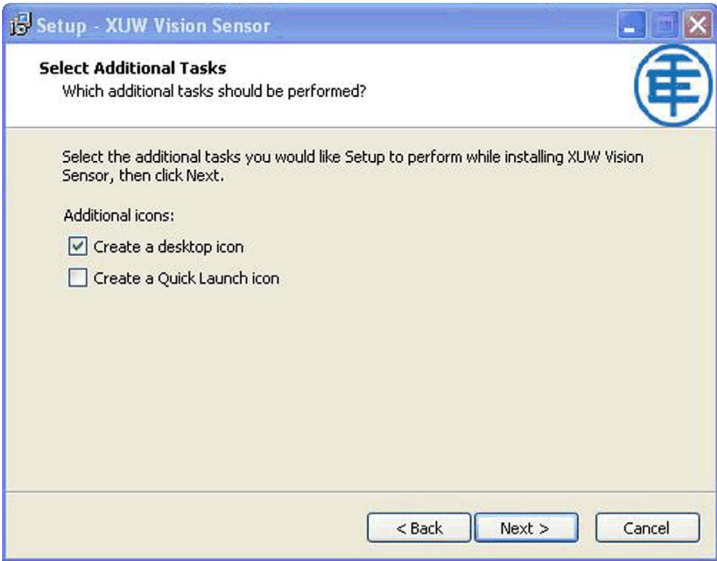
Step	Action	Result
1	Insert the XUW Vision Sensor DVD in your optical drive	The Select the Language window appears.
2	Select the required language. 	The XUW Vision Sensor main window window appears.

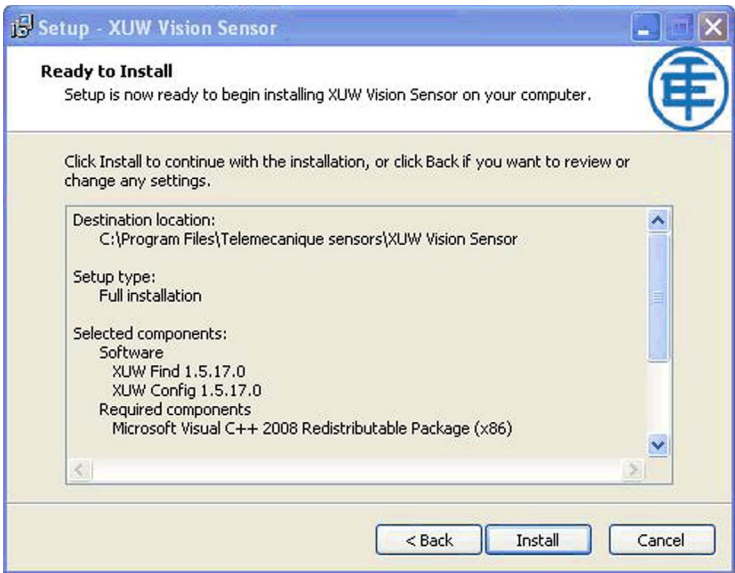
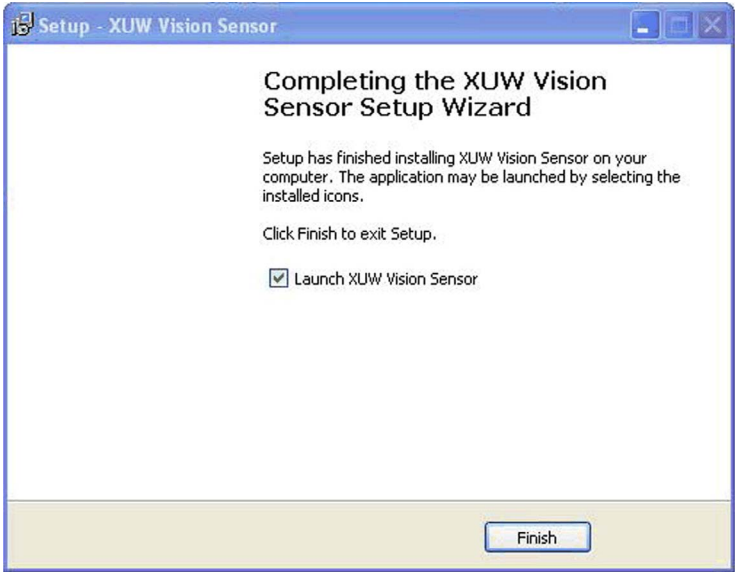
Step	Action	Result
3	Click the <i>XUW vision sensor. PC software setup</i>. 	The File Download - Security Warning window appears.
4	Click Run 	The Internet Explorer - Security Warning window appears.

Step	Action	Result
5	Click Run .  The dialog box is titled "Internet Explorer - Security Warning". It contains the text: "The publisher could not be verified. Are you sure you want to run this software?". Below this, it shows "Name: Setup_XUW_Telemecanique_Sensors.exe" and "Publisher: Unknown Publisher". At the bottom right are "Run" and "Don't Run" buttons. At the bottom left is a shield icon with a red 'X' and a warning message: "This file does not have a valid digital signature that verifies its publisher. You should only run software from publishers you trust. How can I decide what software to run? ".	The Select Setup Language window appears.
6	Select the required language and click OK .  The dialog box is titled "Select Setup Language". It contains the text: "Select the language to use during the installation:". Below this is a dropdown menu with "English" selected. At the bottom are "OK" and "Cancel" buttons.	The Welcome to the XUW Vision Sensor Setup Wizard window appears.

Step	Action	Result
7	Click Next. 	The License Agreement window appears.
8	Click I accept the agreement option and click Next. 	The Select Destination Location window appears.

Step	Action	Result
9	Click Next. NOTE: If you want to save the file in a different location, click Browse... to select the required destination location. 	The Select Components window appears.
10	Select the components that you want to install and click Next. 	The Select Start Menu Folder window appears.

Step	Action	Result
11	Click Next. NOTE: If you want to select a different folder, click Browse... to select the required folder. 	The Select Additional Tasks window appears.
12	Select the required additional tasks and click Next. 	The Ready to Install window appears.

Step	Action	Result
13	Click Install. NOTE: To review or change the settings done in the previous steps, click Back. 	The Installing window appears. After some time, the Completing the XUW Vision Sensor Setup Wizard window appears.
14	Select Launch XUW Vision Sensor option and click Finish. 	The XUW Vision Sensor software is installed successfully.

Section 2.4

Network Settings

What Is in This Section?

This section contains the following topics:

Topic	Page
Basic Settings for PC and XUW Vision Sensor	36
Direct Connection - Setting the IP Address of the PC	37
Network Connection - Setting the IP address of the XUW Vision Sensor	39

Basic Settings for PC and XUW Vision Sensor

The following instructions indicate how to change the network configuration of the PC and the XUW Vision Sensor.

<i>NOTICE</i>

UNEXPECTED EQUIPMENT OPERATION
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- | |
|--|
| <ul style="list-style-type: none">• Correct settings have to be used otherwise the network connections may be lost.• Contact the system administrator in order to determine which IP addresses are allowed in your network or locally in your PC.• Record the former settings for later use. |
|--|

Failure to follow these instructions can result in equipment damage.
--

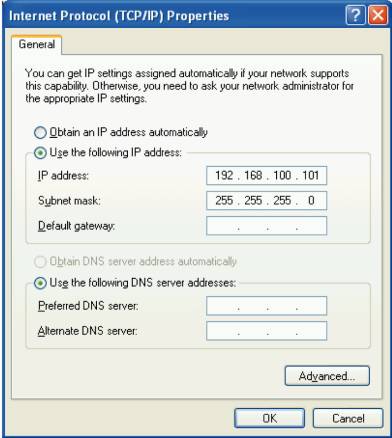
To configure the XUW Vision Sensor with a PC it is essential that a network board and the TCP/IP LAN- connection is installed on the PC (This also applies when the PC is not connected to a network). The XUW supports the automatic recognition of the Ethernet transmission rate, but 100 MBit at the most. The internet protocol IPv4 must be activated.

The XUW Vision Sensor has to alternatives to be configured and parameterized:

- Direct Connection
- Network Connection

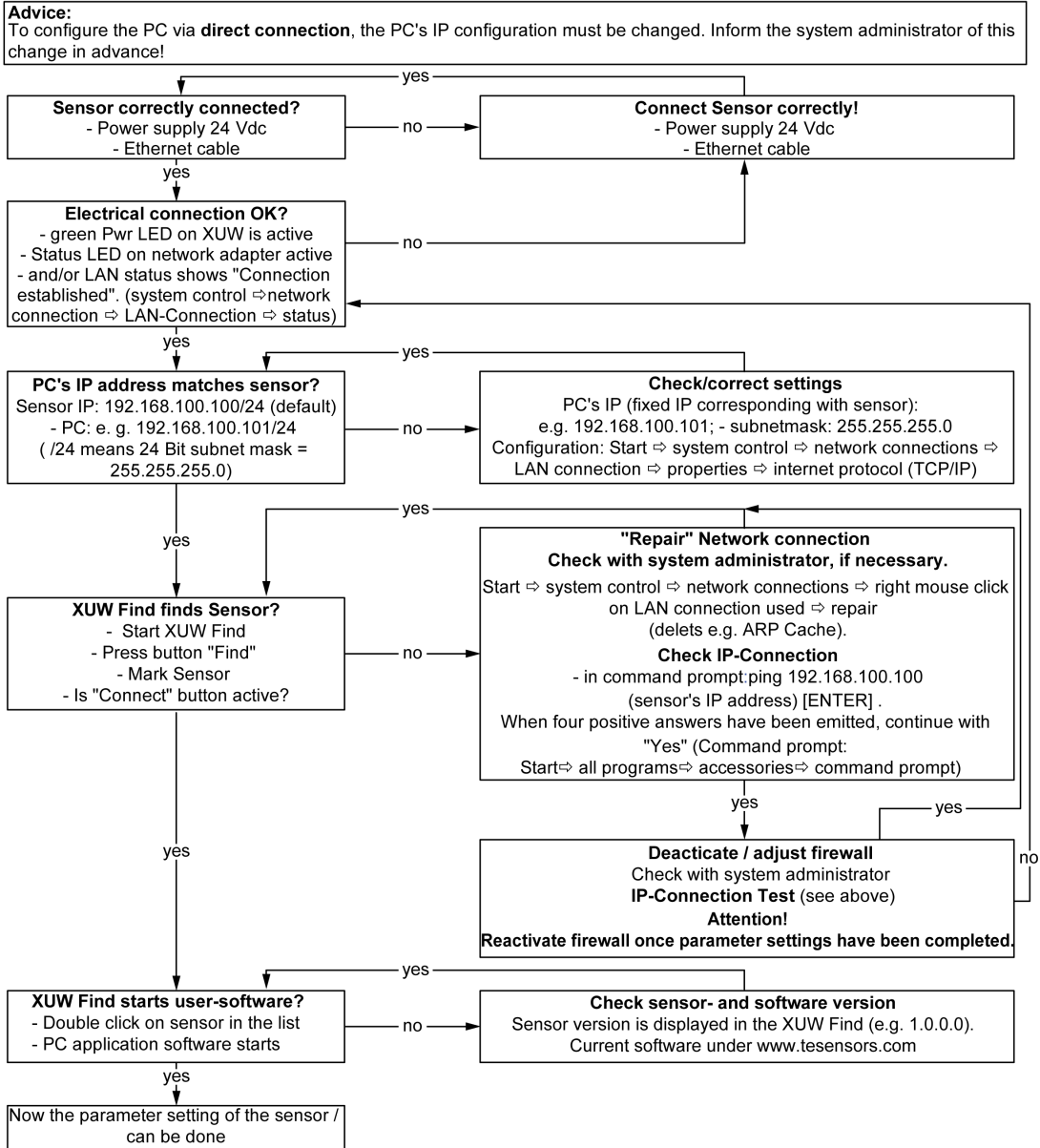
Direct Connection - Setting the IP Address of the PC

To connect the XUW Vision Sensor to a PC via Ethernet the IP addresses of both devices have to correspond. The default IP of the XUW is 192.168.100.100 with Subnet mask = 255.255.255.0. To establish a direct connection, the PC must be set to a corresponding, fixed IP address like follows.

Step	Action	Result
1	Click on Start →Control Panel →Network Connection	The Network Connection windows opens.
2	Right click on the Local Area Connection	The Local Area Connection Properties pop-up opens.
3	In the General tab select the Internet Protocol (TCP/IP) and click on Properties .	The Internet (TCP/IP) Properties opens.
4	Set the IP address and the Subnet mask address NOTE: The XUW Vision Sensor is pre-set to IP address 192.168.100.100 and subnet mask 255.255.255.0. In this case, the IP address may be set to any value between 192.168.100.1 and 192.168.100.254, with Subnet mask 255.255.255.0, with the exception of the sensor IP address (192.168.100.100).	The following graphic shows an example of the addresses to set in the PC: 

Proceeding/ Troubleshooting - Direct Connection

The following troubleshooting flowchart will help you find solutions to difficulties you might encounter during the installation of the sensor:



Network Connection - Setting the IP address of the XUW Vision Sensor

NOTICE

UNEXPECTED EQUIPMENT OPERATION

- Check with the network administrator whether the sensor address has already been assigned (IP address: 192.168.100.100 with Subnet mask 255.255.255.0).
- Contact the system administrator in order to determine which IP addresses are allowed in your network or locally in your PC.
- A 100MBit/full-duplex connection must be used when using VGA resolution and XUW View.

Failure to follow these instructions can result in equipment damage.

If the sensor IP is still free, the sensor can be connected to the network and the IP address can be set to match IP address of the PC.

Sensor IP is free:

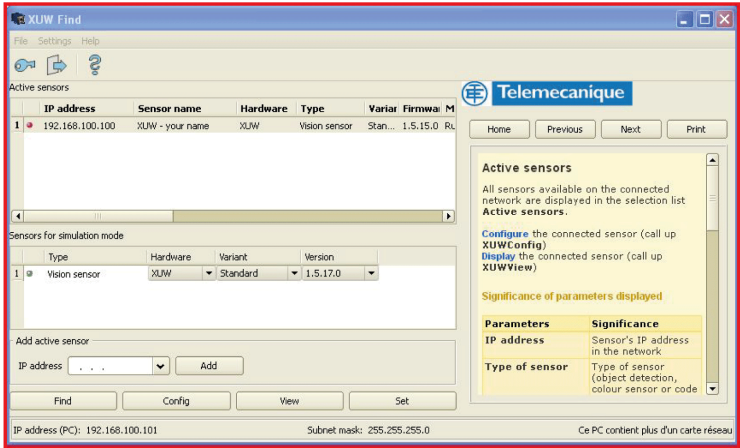
- Connect sensor to network and then set the sensor's IP to match the PC according to the administrator's specifications, as follows, beginning with 2.

Sensor IP is already assigned:

1. Connect sensor and PC directly and set an authorized IP address in the sensor
2. Connection via the network can then be carried out

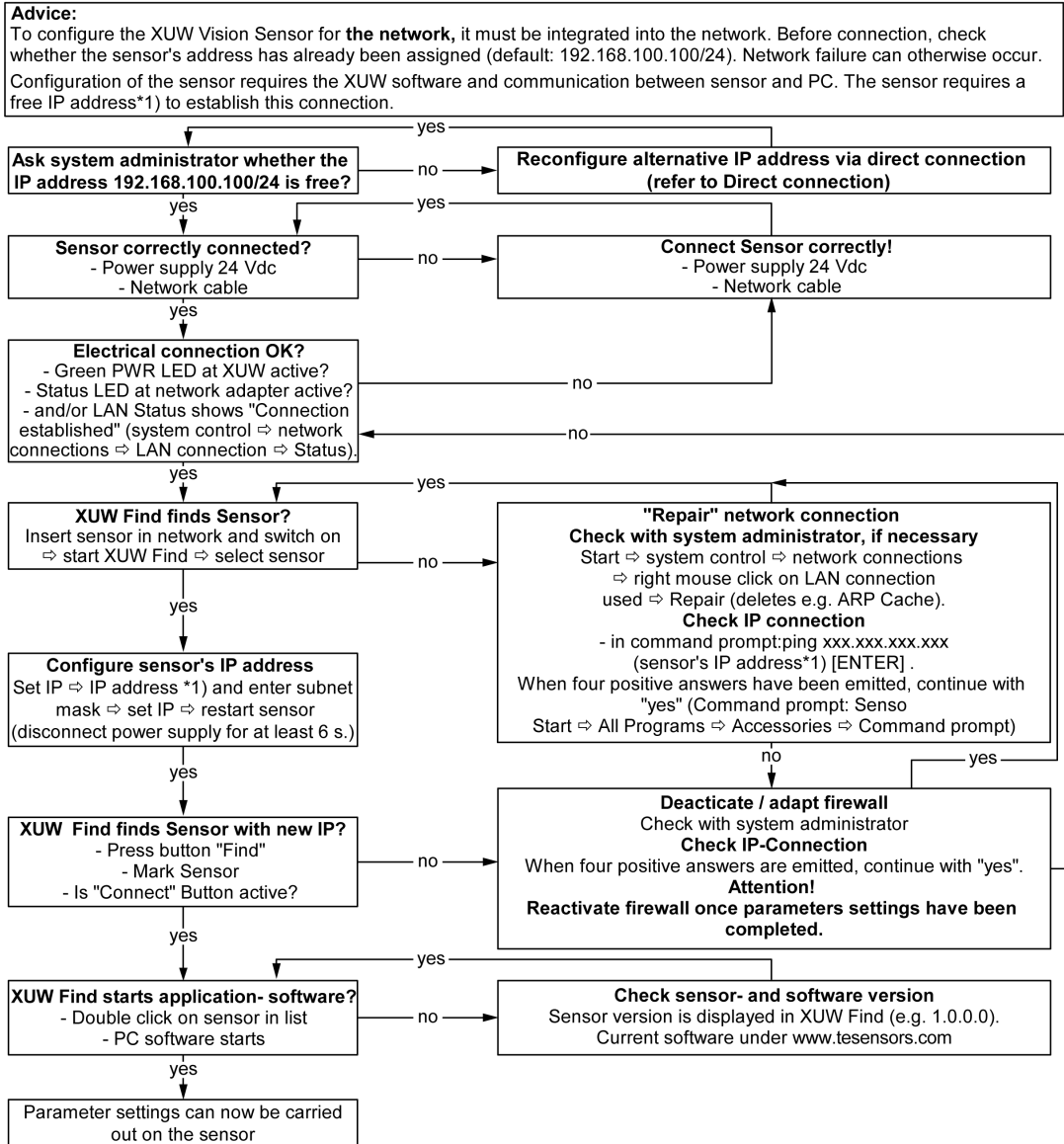
NOTE: Ensure electrical connection and installation of PC software have been completed.

To set the IP address on the XUW Vision Sensor, the following steps are to be carried out in the PC software:

Step	Action	Result
1	Start XUW Find	The XUW Find software starts.
2	Mark Sensor	The Local Area Connection Properties pop-up opens.
3	Set sensor's new IP address with Settings .	
4	Mark sensor and connect.	

Proceeding/Troubleshooting - Network Connection

The following troubleshooting flowchart will help you find solutions to difficulties you might encounter during the installation of the sensor:



*1) a suitable new, free IP address is assigned by the system administrator

Chapter 3

Operating Software

What Is in This Chapter?

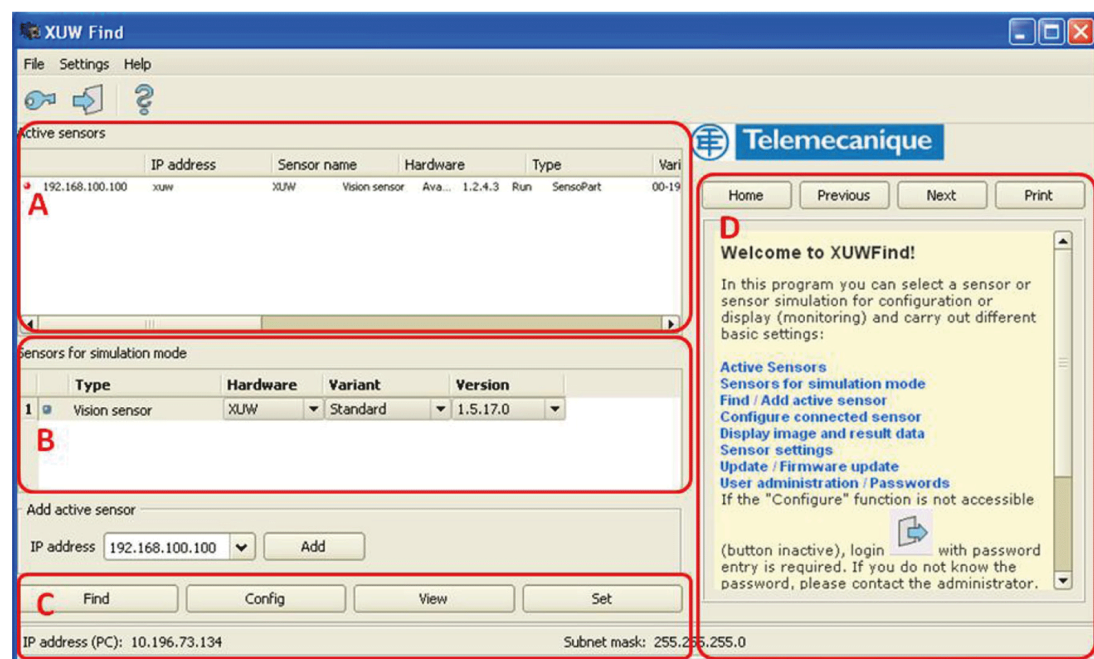
This chapter contains the following topics:

Topic	Page
XUW Find	44
XUW Config	46
Alignment for a Vertical Illumination	48

XUW Find

In this program, you can select a sensor or a sensor simulation for configuration or display (monitoring) and carry out different basic settings.

The following graphic shows the XUW Find main windows:



This table explains the operating fields:

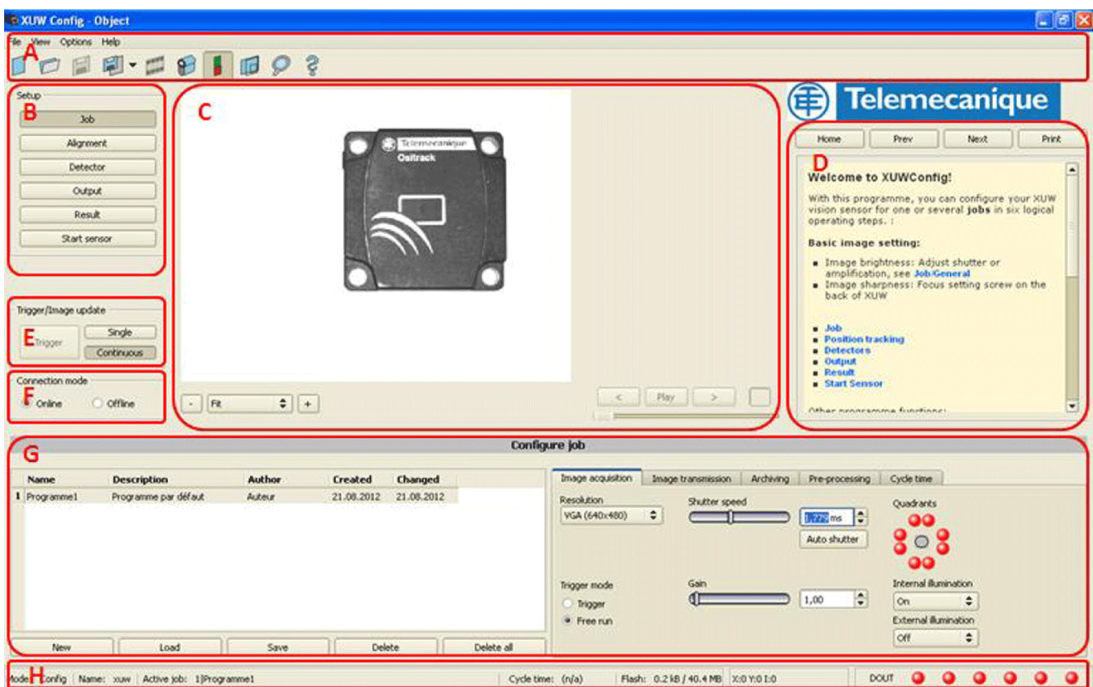
Operating Field	Name		Description
A	Active sensors		This list displays all the XUW Vision Sensors which can be controlled from the PC.
B	Sensors for simulation mode		All the sensors available for offline simulation are displayed here.
C	Function	Find	Activates another search procedure
		Configure	Configures a connected sensor or sensor simulation
		Display	Displays image or result data from a connected sensor
		Set	The sensor's network setting
D	Context help		Context-sensitive help on the current topic

NOTE: Further information can be found in the context - sensitive online help of the software.

XUW Config

With this program, you can configure your XUW vision sensor for one or several jobs in six logical operating steps. Activate the **Configure** button in the XUW Find module to start Senso Config.

The following graphic show the XUW Config main window:



This table explains the operating fields:

Operating Field	Name	Description
A	Menu and tool bar	
B	Setup navigation / Operating steps	
C	Image	Image output with graphically adjustable operating and search zones as well as zoom function and filmstrip navigation
D	Online help	Context-sensitive online help, automatically updated for each action.
E	Image acquisition	Switch-over between continuous and single image mode and software trigger.
F	Mode of connection	Switch-over between online and offline mode (sensor present or simulation without sensor).
G	Configuration window	Variable content relating to action in set-up navigation, for setting associated parameters.
H	Status bar	Displays various information about the sensor (mode, name, memory status, and so on).

NOTE: Further information can be found in the context - sensitive online help of the software.

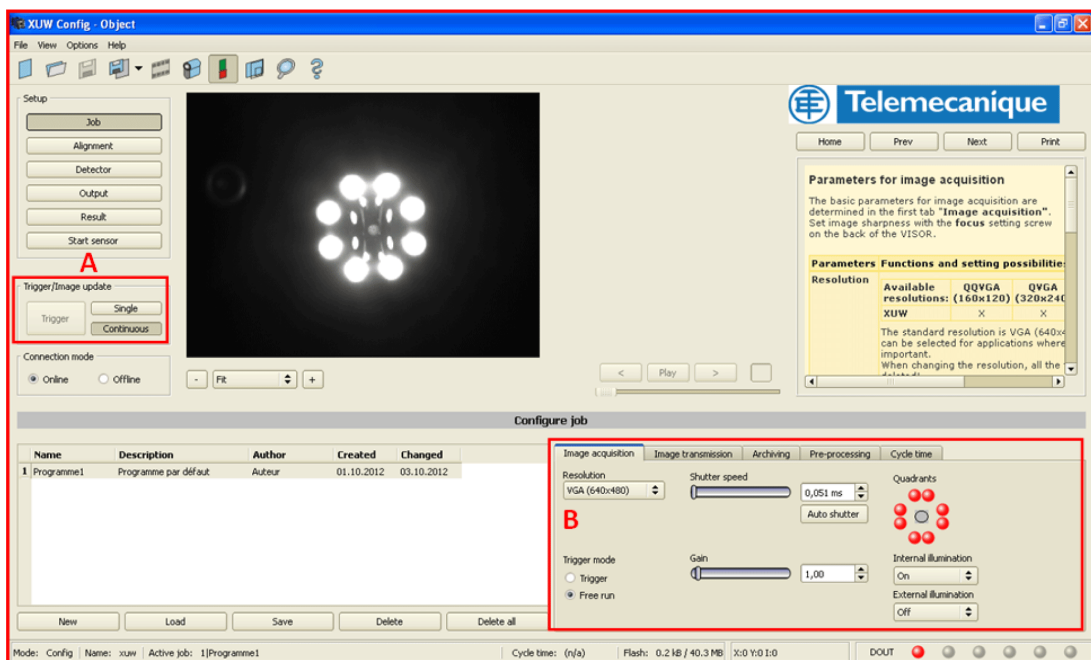
Alignment for a Vertical Illumination

In order to ensure that absolutely vertical alignment of the XUW to the object surface, put a piece of reflective foil or a mirror on top of the object and start the XUW operating software.

The following buttons have to be selected when an image is continually updated:

- in the **Trigger/Image update** square box select **Continuous**
- in the **Image acquisition** tab select in the **Trigger mode** → **Free run**

Then align the sensor to the reflective surface or mirror as vertical as possible until the integrated illumination LEDs are directly dazzling in the image of the user interface.



A Trigger/Image update

B Trigger mode

Chapter 4

Technical Data

Technical Data

Electrical Data

Operating voltage U_B	24 Vdc, – 15% / +10%
Residual waves	< 5 V
Input current (without I/O)	≤200 mA
All inputs	PNP/NPN High > U_B - 1V, Low < 3 V
Input impedance	> 20 k Ω
Encoder input	rising edge, 10... U_B
Switching outputs	PNP/NPN
Max. output current (per output	50 mA 100 mA (Pin 12)
Short-circuit protection (all outputs)	yes
Polarity inversion protection (all outputs)	yes
XUW interfaces	Ethernet (IP), Ethernet TCP/IP, RS422
Lag time	approx. 13 s after powering up

Optical Data

Integrated light	8 LEDs	
Focal distance of integrated light	6 or 12 mm (0.23 or 0.47 in.), adjustable focus	
Lens (infinitely adjustable)	6 mm (0.23 in.)	12 mm (0.47 in.)
Min. operating distance	6 mm (0.23 in.)	30 mm (1.18 in.)
Min. field of view X*Y	5 x 4 mm (0.20 x 0.16 in.)	8 x 6 mm (0.31 x 0.23 in.)

Mechanical Data

Length x Width x Height	65 x 45 x 45 mm (2.56 x 1.77 x 1.77 in.) (without connector)
Weight	approx. 160 g
Vibration/shocks	Complying with EN 60947-5-2
Operating temperature	0... 50 °C (80% air humidity, no condensation)
Storage temperature	- 20... 60 °C (80% air humidity, no condensation)
IP Code	IP 65/67
Connection	Power and I/O: M12 12 pole Ethernet: M12 4 pole Data: M12 5 pole
Casing material	ABS/aluminium/ABS
Front face material	PMMA

Function and Characteristics

Number of jobs	64
Evaluation modes	● Alignment function ● contour match with/without position detection ● pattern match with/without position detection ● area test grey level ● area test contrast ● area test brightness ● direction info, or coordinates for position detection
Minimum cycle time	● typ. 15 ms pattern matching ● typ. 30 ms contour ● typ. 2 ms area tests

Chapter 5

Care and Maintenance

Care and Maintenance

Cleaning

The XUW Vision Sensor must be cleaned with a clean and dry cloth.

Dirt on the front panel must be cleaned with a soft cloth and a small amount of plastic cleaner if necessary.

NOTICE

UNEXPECTED EQUIPMENT OPERATION

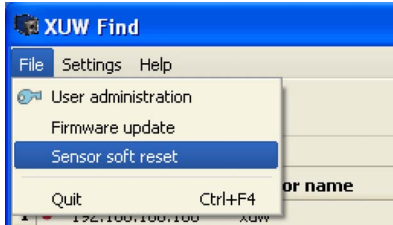
- Never use aggressive detergents such as solvents or benzine.
- Never use sharp objects.
- Do not scratch.

Failure to follow these instructions can result in equipment damage.

Waste disposal

Electronic components are subject to special waste regulations and may only be disposed of by specialist waste disposal firms.

Soft Reset

Step	Action
1	Start XUW Find software.
2	Click File → Sensor soft reset 

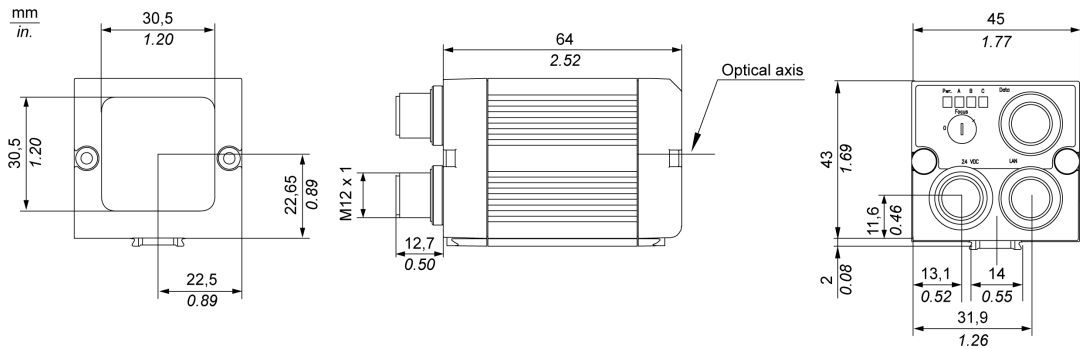
For all support about this product and its intallation, you can reach us by e-mail at customer-support@tesensors.com or contact your country customer care center.

Chapter 6

Scale Drawings

Scale Drawings

The following graphic shows the dimension of the XUW Vision sensor:



The following graphic shows the XUZASW001 mounting clamp:

