



Instructions for Use

pictor M1821

Intelligent Camera

Impress

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Validity

This manual is valid for the following devices:

Device	Order no.	Description
pictor M1821/E	4-20-331	1/1,8"CCD, 1600x1200, 20fps, mono, IR cut filter, SVGA-Out
pictor M1821/E	4-20-332	1/1,8"CCD, 1600x1200, 20fps, mono, broadband filter, SVGA-Out

Table of Contents

1. Important Information.....	6
1.1. Information about the instructions of use.....	6
1.2. Conventions of presentation.....	7
1.3. Presentation of Safety Instructions.....	9
1.4. Proper and intended use.....	10
1.5. Improper Use.....	11
1.6. Qualified Personnel.....	12
1.7. Warranty and liability.....	12
2. Safety Instructions.....	13
2.1. Safe Handling of the Device.....	13
2.2. Environmental Protection.....	14
3. Scope of Delivery and Accessories.....	15
3.1. Scope of Delivery.....	15
3.2. Accessories.....	16
4. Product Description.....	19
4.1. Devices Views.....	19
5. Product Data.....	21
5.1. Interfaces.....	23
5.1.1. Digital I/O-Interfaces.....	23
5.1.2. Ethernet interface.....	24
5.1.3. RS232 interface.....	25
5.1.4. Trigger interface.....	26
5.2. Conditions for Operation, Storage and Transport.....	28
6. Operation software vcwin pro.....	29
6.1. System Requirements.....	29
6.2. Installing, Starting and Updating operating software vcwin pro.....	30
7. Commissioning.....	31
7.1. Unpacking.....	31
7.2. Mounting.....	32
7.3. Connecting.....	34
7.3.1. Operating Voltage Supply.....	34
7.3.2. Connecting the PLC/Power cable.....	35
7.3.3. Connecting the Ethernet cable.....	38
7.3.4. Connecting the RS232 cable.....	39

7.3.5. Connecting the trigger cable.....	40
7.3.6. Connecting the video cable.....	41
7.3.7. Connecting vicolux lighting.....	42
7.3.8. Connecting the Power supply.....	44
8. Operation.....	45
8.1. Switching On and Off (Ready for Operation).....	45
8.2. Operation from the Software Interface.....	45
8.2.1. First steps.....	45
8.2.2. Interface Settings.....	46
8.2.3. Connect to the operation software.....	48
9. Maintenance and Service.....	49
9.1. Maintenance.....	49
9.2. Service.....	50
10. Decommissioning.....	51
10.1. Disconnect.....	51
10.2. Dismount.....	52
11. Disposal.....	53
11.1. Disposal.....	53
12. Appendix.....	54
12.1. EC Declaration of Conformity.....	54
12.2. Technische Zeichnungen.....	55
12.3. Spectral sensitivity.....	56
13. Indexes.....	57
13.1. List of Figures.....	57
13.2.	58
14.	62

1 IMPORTANT INFORMATION

1.1 Information about the instructions of use

This document contains technical information, important instructions for correct installation, commissioning and use, as well as product information which were up-to-date at the time of going to press.

Using this document makes it easier for you to familiarise yourself with the device and avoid malfunctions caused by improper operation.

Following the instructions of use:

- Helps to avoid risks
- Increases the reliability of the operation of the device
- Lengthens the service life of the device
- Reduces repair costs and downtimes

The instructions of use and the rules and regulations applicable at the place of used must be observed.

Storage

To ensure a save and proper application, please read the instructions of use carefully and keep for future reference.

1.2 Conventions of presentation

The formatting and the symbols in this document help you to use the instructions of use and the device quickly and safely.

Product name

The instructions of use are valid for the products listed at the beginning. If not referred to expressly by the specific product name, the products described are referred to as "devices".

Advice

ADVICE

Indicates tips for users and useful additional information.

Enumeration

Indicates a listing of issues or possibilities:

Heading or topic of the enumeration

- Example list item 1
- Example list item 2

Operating steps

Listing of work steps, the given order of which must be followed. Numbering starts at 1. for each individual sequence.

1. Example work step 1
- ➔ Result work step 1
2. Example work step 2

Cross-references

Cross-references help you to make quick reference to particular sections of the manual, providing valuable supplements of information. The cross-reference shows you the page of the relevant section. Example: *see "Conventions of presentation", Page 7*

Links

Links lead to documents outside the instructions for use. Expressly, no guarantee or liability is accepted for the accuracy and security of these documents (such as Internetpages). Links are only active in online-help and the PDF version and with a connection to the Internet. Example: *www.vision-control.com*

Spelling

Commands, menus and dialogues are highlighted in bold. The spelling **Utilities** indicated the menu **Utilities**.

References to subordinate entries are indicated by arrows. The spelling **Utilities > I/O Test** indicates the command **I/O Test** in the **Utilities** menu.

The character formatting `TEXT` Indicates instructions, commands, and names that you need to enter as shown.

Buttons are marked with square brackets. [OK] indicates the OK button.

Images and Tables

Figures and tables shown as such are numbered consecutively. Individual details in figures are marked by item numbers and lines. Each item number is explained in the legend accompanying the figure.

1.3 Presentation of Safety Instructions

Each safety instruction is introduced by a key word and colour highlighted.

The key word indicates the degree of danger. The danger and its cause are described, and then the measures to prevent conceivable consequences of the danger. These measures must be taken.

Level of risk

DANGER



This key word indicates an imminent danger with high risk, resulting in severe injuries or death if not avoided.

WARNING



This key word indicates a hazardous situation with medium risk, possibly resulting in severe injuries or death if not avoided.

CAUTION



Signal word for a hazardous situation with low risk, resulting in minor or medium injuries if not avoided.

Note on equipment damage

DAMAGE OF PROPERTY

Indicates a situation that may result in property damage, the impracticality of the device or loss of data.

1.4 Proper and intended use

The devices are designed as an industry-standard image processing system for quality assurance and process automation.

The devices may only be used if they are in technically faultless condition and only for their intended purpose, and only in accordance with the specifications in this instructions of use by authorised operative personnel, who are aware of the safety rules and hazards.

Areas of application

Use for the intended purpose is regarded as use in enclosed spaces for quality assurance and process automation in the following industries:

- Automotive
- Mechanical engineering
- Electrical engineering
- Plastics industry
- Solar industry
- Packaging industry
- Robotics
- Pharmacy
- Food industry
- Automation technology.

The device can only function correctly and safely if it is stored, transported and installed correctly, and operated carefully.

If the device is planned to be used for any other purpose or in a different environment, the express authorisation of the manufacturer must be obtained in advance. Any modifications or adaptations required may only be made by the manufacturer.

1.5 Improper Use

All unintended use and all device-related activities not described in this operating manual is to be deemed as unauthorised misuse outside the legal limits of indemnity of the manufacturer

Improper usage

Reasonably foreseeable misuse is:

- Non-compliance with the instructions for use,
- Faulty operation,
- Operating by personnel not qualified or instructed,
- Operating the device if it is not in a proper technical condition,
- Operating the device in ambient conditions differing from the corresponding specifications in the instructions of use
- Operating the device with voltages differing from the corresponding specifications in the instructions of use,
- Using spare parts which are not original parts from the manufacturer,
- Using incompatible accessory components,
- Improper maintenance and repair works,
- Unauthorised modifications to the device.

1.6 Qualified Personnel

The device may only be assembled, commissioned, operated, maintained, installed, set up, cleaned, repaired and transported by qualified skilled personnel.

Qualified personnel

A qualified person is deemed to be someone who has been trained and instructed for his/her activities with the device, and who has proven his/her capability to the purchaser. The operating personnel must be authorised by the purchaser for those activities at the device.

For the installation and operation of the device, the skilled personnel must know and comply with the applicable guidelines and standards for handling control equipment, electrical installations and working materials.

1.7 Warranty and liability

The contents of this document have been checked carefully and correspond to current legislation and best practise at the time of going to press.

However, the manufacturer shall not be liable for any damage arising from the use of this edition of the manual, and rejects any warranty derived therefrom.

Within the bounds of the legal requirements, the manufacturer shall only be responsible for the technical safety characteristics of the device if the maintenance, repairs and modifications to the device are performed by himself or by authorised skilled personnel in accordance with his instructions.

Loss of warranty

The manufacturer shall accept no liability or warranty in the event of improper use, opening of the device or incorrect maintenance.

2 SAFETY INSTRUCTIONS

Read the following applicable safety instructions carefully and completely. Follow the instructions for your own safety, the safety of other people, and to avoid damage to the device and the connected technical equipment. Hazards going beyond the general safety instructions are referred to separately at the relevant points in this manual.

2.1 Safe Handling of the Device

Electric shock

CAUTION



Risk of injury due to electric shock.

- Before starting work on the device, disconnect it from the operating voltage supply.
- Follow all applicable safety regulations for the preparation and operation of electrical devices.

Short circuit

DAMAGE OF PROPERTY

Destruction of the device as a result of a short circuit at the outputs.

- Ensure that the connections are made with the correct polarity.
 - Do not overload the outputs (heat generation).
-

Electrostatic discharge

DAMAGE OF PROPERTY

Damage to semiconductor components and modules caused by electrostatic discharge.

- Do not open the device! Sensitive electronic components and modules can be destroyed by unauthorised interference. Opening the device leads to loss of warranty.
-

Transport damage

DAMAGE OF PROPERTY

Damage to the device as a result of improper transport.

- Ship the device only in its original or adequately padded packaging.
 - Unscrew the lens and accessories before transporting the device, and attach and close all covers and lids.
 - Do not allow the device to fall.
-

2.2 Environmental Protection

Conservation of nature is one of our major tasks. Properly disposed devices avoid negative impacts on human beings and the environment and allows reusing our precious resources.

Recycling

To dispose of the device in a manner that will not harm the environment follow the instructions on "*Disposal*", Page 53.

3 SCOPE OF DELIVERY AND ACCESSORIES

Power supply and communication cables are required to operate the device. Because of the many possible configurations, the cables are listed in the accessories rather than included in the scope of delivery.

Please contact the manufacturer regarding lenses and lighting components suitable for your field of application, or select them yourself at www.vision-control.com.

3.1 Scope of Delivery

Designation	Quantity
Device pictor M1821	1 x
Product DVD with: <ul style="list-style-type: none">• Operating software vcwin pro• Instructions for use pictor M1821 as PDF• Instructions for use vcwin pro as PDF• Accesories technical data sheets as PDF	1 x
Instructions for use pictor M1821 as A5 book	1 x

Table 1: Scope of delivery

3.2 Accessories

Description	Lenght	Order no.
PLC/power cable, 12-pin HIROSE socket / open cable end	5 m	4-40-223
PLC/power cable, 12-pin HIROSE socket / open cable end	10 m	4-40-224
PLC/power cable, 12-pin HIROSE socket / open cable end	25 m	4-40-225

Table 2: Accessories PLC/power cable

Description	Lenght	Order no.
Ethernet cable, 6-pin HIROSE plug / RJ45 plug	5 m	4-40-203
Ethernet cable, 6-pin HIROSE plug / RJ45 plug	10 m	4-40-204
Ethernet cable, 6-pin HIROSE plug / RJ45 plug	20 m	4-40-205

Table 3: Accessories Ethernet cable

Description	Lenght	Order no.
SVGA cable for monitor, 10-pin HIROSE plug / 15-pin Sub-D socket	5 m	4-40-240
SVGA cable for monitor, 10-pin HIROSE plug / 15-pin Sub-D socket	10 m	4-40-241
SVGA cable for monitor, 10-pin HIROSE plug / 15-pin Sub-D socket	25 m	4-40-242

Table 4: Accessories SVGA cable for monitor

Description	Lenght	Order no.
V24 serial cable C4 (RS232), 6-pin HIROSE plug / 9-pin Sub-D socket	5 m	4-40-181
V24 serial cable C4 (RS232), 6-pin HIROSE plug / 9-pin Sub-D socket	10 m	4-40-182
V24 serial cable C4 (RS232), 6-pin HIROSE plug / 9-pin Sub-D socket	25 m	4-40-183

Table 5: Accessories V24 serial cable C4 (RS232)

Description	Lenght	Order no.
Trigger cable, 6-pin HIROSE plug / open cable end	5 m	4-40-200
Trigger cable, 6-pin HIROSE plug / open cable end	10 m	4-40-201
Trigger cable, 6-pin HIROSE plug / open cable end	25 m	4-40-202

Table 6: Accessories Trigger cable

pictor M1821
Scope of Delivery and Accessories

Description	Quantity	Order no.
Key-Pad, incl. V24 serial cable C4 (RS232), 5 m, for the monitor menu	1	4-40-207
Key-Pad, without cable	1	4-40-204
Key-Pad, V24 serial cable C4 (RS232), 5 m	1	4-40-208

Table 7: Accessories Key-Pad

Description	Quantity	Order no.
Power supply, 24V DC/0.63 A, 12-pin HIROSE-socket / 230V AC power plug	1	4-40-209

Table 8: Accessories Power supply

Properties of cable

You will find more detailed technical information about the cables on the data sheets in the product catalog under www.vision-control.com or on the Product DVD.

4 PRODUCT DESCRIPTION

4.1 Devices Views

Front view

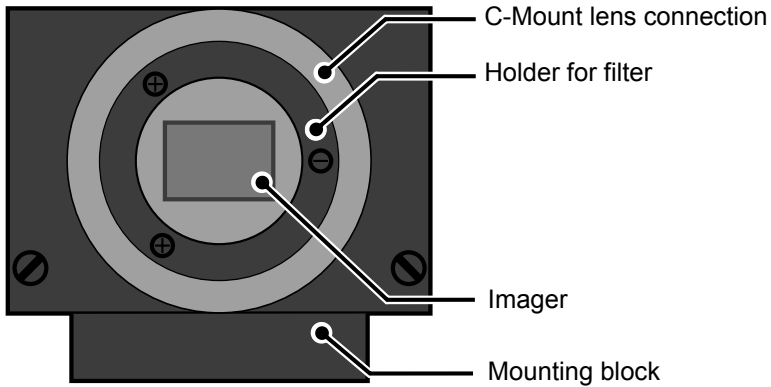


Image 1: Front view

Rear view

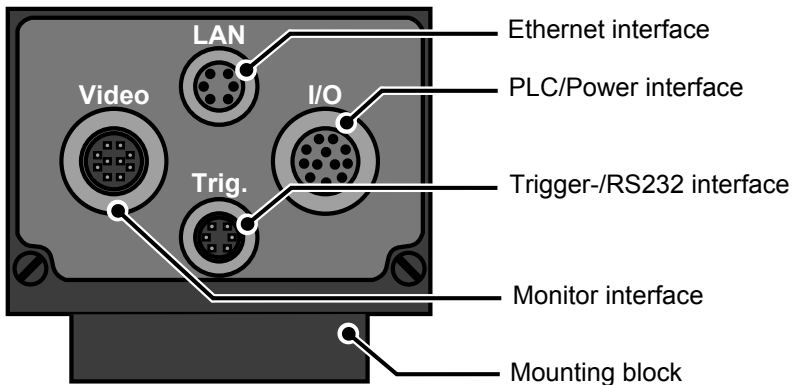


Image 2: Rear view

Bottom view

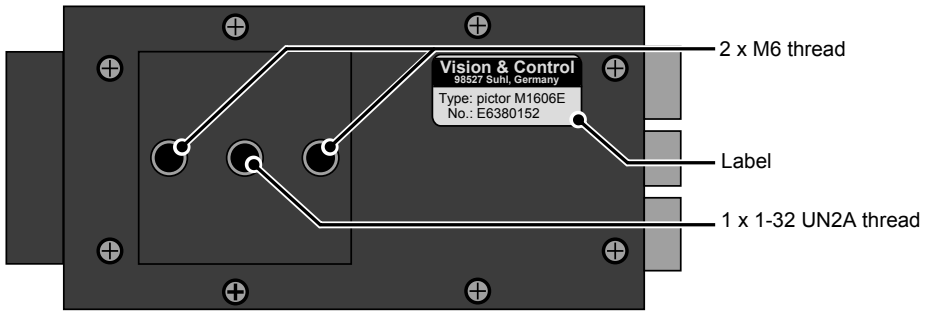


Image 3: Bottom view

5 PRODUCT DATA

Technical Data

Image Sensor

Device Order number	pictor M1821 4-20-331	pictor M1821 4-20-332
Sensor	1/1,8" CCD global shutter, progressive scan Sony ICX274AL	
Type	mono	
Filter	IR cut filter	broadband filter
Number of pixels	1600 x 1200	
Pixel size	4.4 μm x 4.4 μm	
Sensor size	8.50 mm x 6.80 mm	
max. Frame rate	10 fps	
Shutter	5 μs to 12.5 s	

Processor

Device Order number	pictor M1821 4-20-331	pictor M1821 4-20-332
Processor	8000 MIPS, 1 GHz Texas Instruments TMS320C64xx	
RAM	64 MB SDRAM	
ROM	4 MB Flash-EPROM for programs and data	
Storage media	internal 1 GB SD card for user data	

Interfaces

Device Order number	pictor M1821 4-20-331	pictor M1821 4-20-332
Communication	1 x RS232, 1 x Ethernet, 1 x TTL Trigger	
Digital I/Os	4 x Digital IN, 4 x Digital OUT	
Video out	SXGA Monitor 800 x 600	

General

Device Order number	pictor M1821 4-20-331	pictor M1821 4-20-332
Housing material	Aluminium alloy	
Mounting	At bottom: mounting block with 2 x M6 thread (outside) and 1 x 1/4" UNC thread (centre)	
Lens mount	C-Mount	
Dimensions / Weight	110 mm x 50 mm x 35 mm / 400 g	
Protection class	IP50	

5.1 Interfaces

Overview of Interfaces

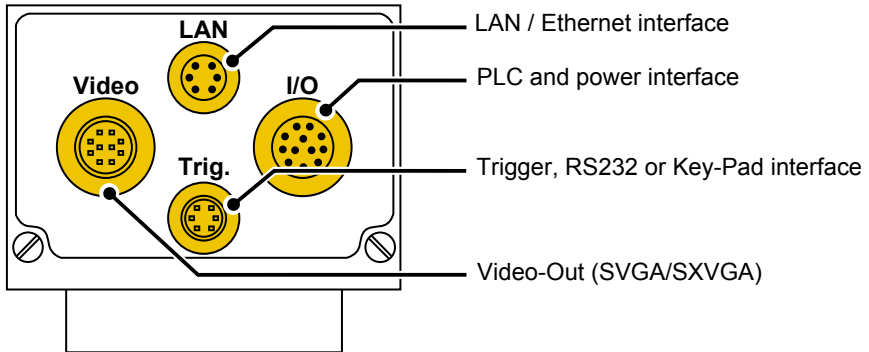


Image 4: Overview of interfaces

5.1.1 Digital I/O-Interfaces

The digital I/O interfaces are only available if the device is connected via the Power/ PLC cable. In this case, the device is connected to the digital inputs and outputs of a control unit and to the voltage supply.

Parameters Digital inputs

Parameter	Min	Nom	Max
Number of inputs			4
Input voltage (DC)	0 V	24 V	28 V
Input current at 24 V DC			3.5 mA
Input voltage Low (DC)	0 V		
Input voltage High (DC)	8 V		28 V
Overvoltage protection		present	

Parameter Digital Outputs

Parameter	Min	Nom	Max
Number of outputs			4
Power supply*	9.8 V	24 V	28 V
Switched potential	power supply		
Output current per output			500 mA
Output current all outputs			1 A
Switching power 24 V DC, 500 mA			12 W *
Protection against short circuit		present	
* external via Pin 1 and Pin 9 Digital IN			

5.1.2 Ethernet interface

The device has an Ethernet interface for communicating with a host computer or network.

- Manage up to 16 simultaneous TCP / IP connections
- Server port 8500 (initialization with vwin pro)
- Data rate: 100 Mbit

IP configuration in the as-supplied state

The device first attempts to have an IP address assigned from a DHCP. If an IP address is not assigned by a DHCP server, the device has to be configured as follows:

- Static configuration
- IP address 192.168.0.65
- Subnet mask 255.255.255.0
- Gateway 192.168.0.254

5.1.3 RS232 interface

The device has a RS232 interface for serial communication with a process control system (PLC, computer). The baud rate is set in the factory to 9.600 kbit/s. It can be adjusted from the software user interface.

The device can be parameterised with vwin pro via the RS232.

The sending of measured values via the RS232 has to be activated / parameterised by using of the vwin pro software.

Parameters RS232 interface

Parameter	Min	Nom	Max
Quantity			1
Baud rate		9.6 kbit/s	115.2 kbit/s
Protocol	depends on the software used		
Number of Bits		8	
Number of stop-bits		1	
Parity		none	
Flow control		none	
Galvanic isolation		present	

Key pad

For operation via the monitor menu the key pad (accessory) can be connected to the RS232 interface. The power supply of the key pad is done automatically by the device using the D-sub connector of the connecting cable. For details on the key pad, please refer to the corresponding data sheet.

5.1.4 Trigger interface

The device has a special trigger interface, a dedicated fast TTL trigger input (for use as image capture trigger) and a fast TTL trigger output (Strobe Trigger).

Both signals are very fast and have a very low signal to noise ratio, it is recommended to keep the cable as short as possible. Use only shielded cables for this purpose.

Parameters Trigger interface

Parameter	Min	Nom	Max
Quantity			1
Output voltage			7 V DC
Output current			50 mA
Switching level			
Input voltage Low	0 V DC		0.8 V DC
Input voltage High	2 V DC		5 V DC
Output voltage Low	0 V DC		0.4 V DC
Output voltage High	2.4 VDC		5 V DC

ADVICE

Neither the trigger input is nor the trigger output has an in-built in photo coupler.

Ensure that the electrical specifications of this section are met and provide galvanic isolation to trigger input and output if necessary.

ADVICE

Input and output are not protected against over current.

The output is neither protected against short circuit nor reverse voltage spikes from inductive loads.

Block diagram of trigger input

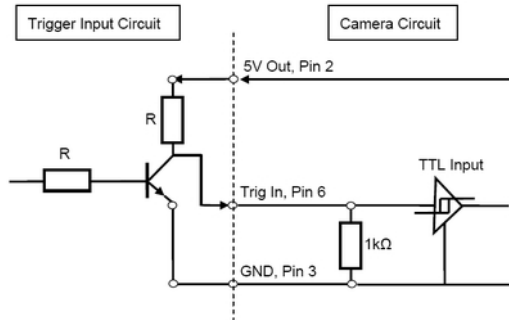


Image 5: Trigger input NPN

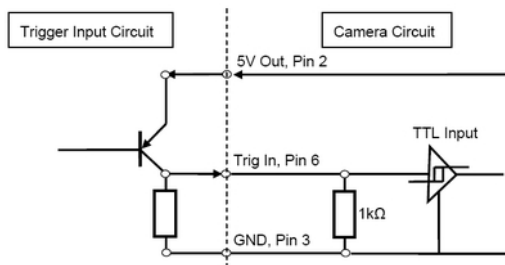


Image 6: Trigger input PNP

Block diagram of trigger output

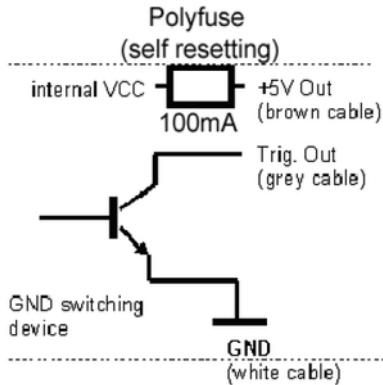


Image 7: Trigger output

5.2 Conditions for Operation, Storage and Transport

The following ambient conditions for operation, storage and transport must be maintained:

Conditions that must be maintained

Ambient conditions	Operation	Storage and transport
Temperature	0 °C to + 50 °C	- 20 °C to + 60 °C
Air humidity	20 % to 80 %	20 % to 90 %
Condensation water	not permissible	not permissible

Observe the relevant specific instructions for accessories and connected devices and components stated in the corresponding manuals and operating instructions.

6 OPERATION SOFTWARE VCWIN PRO

If the device is connected Ethernet interface, it can be immediately controlled, parameterised and configured with the vcwin pro operation software.

The devices are parameterised with the vcwin pro operation software via the Ethernet interface (recommended) or the RS232 interface. The software also enables test sequences to be created.

6.1 System Requirements

Minimum requirements of the computer

- Operating systems: Windows Vista, Windows 7, Windows 8.1- Both 32 and 64 bit versions (Windows RT is not supported)
- DVD drive (for installation from DVD) or Internet connection (for installation after download)
- Minimum 1 GB free RAM
- Monitor with a resolution of at least 800 x 600 pixels
- Ethernet interface
- Serial interface (optional for sending and receiving via RS232)

6.2 Installing, Starting and Updating operating software vcwin pro

ADVICE

Administrator rights are required to install the operating software.

Installing vcwin pro

1. Insert the supplied DVD into the drive of the host computer
2. Select option "Open Autorun menu" or double click the "start.exe" file.
3. Select language.
4. Select menu item "Software".
5. Select the operating software vcwin pro and install on the computer by clicking [Install]. Follow the instructions given by the installation program, and change the target directory if desired.

The software also installs an optional icon on the Windows Desktop, and creates entries in the start menu.

Starting vcwin pro

The operating software can be started by double clicking the icon on the Desktop or by selecting it from the start menu. Registration is not required.

Updating vcwin pro

The software version which is current at the time of delivery is always supplied with the device. There is no automatic update.

The operating software vcwin prois continually further developed to adapt and extend its scope of functions to meet customer requirements. New versions of the operating software can be downloaded from: www.vision-control.com.

7 COMMISSIONING

7.1 Unpacking

DAMAGE OF PROPERTY

Damage or destruction of the device caused by condensation and large temperature differences!

- Do not subject the device to large temperature fluctuations.
- After storage and transport, allow the device to adjust slowly to the ambient temperature at the place of use.
- Do not open the lens cover during the acclimatisation (to prevent the formation of condensation water).

ADVICE

Unpack the device in a dry, dust-free environment.

1. Lift the cardboard, together with the device, out of the carton.
2. Fold out the tucked in sides on the bottom of the cardboard.
➔ Loosening the film and forming an insertion pocket.
3. Remove the device out of the insertion pocket.
4. Dispose the packing material (see "*Disposal*", Page 53).

7.2 Mounting

DAMAGE OF PROPERTY

Cable damaged by a bending radius that is too small and the lack of a strain relief clamp.

- Comply with the specified minimum bending radius.
 - Cables must generally be mounted with a strain relief clamp.
 - Use cables corresponding to the specification (see data sheet).
-

Mounting of cables

When mounting the cable to the device, hold the device and plug the cable into the connector.

Mounting the device

To install the device, a mounting block with two tapped holes M6 and a 1-32 UN 2A thread is located at the bottom.

Distance between the tapped holes	25 mm
Maximum screwed-in depth	7 mm
Maximum tightening torque	10 Nm

Table 9: Properties of the tapped holes

Mounting holes

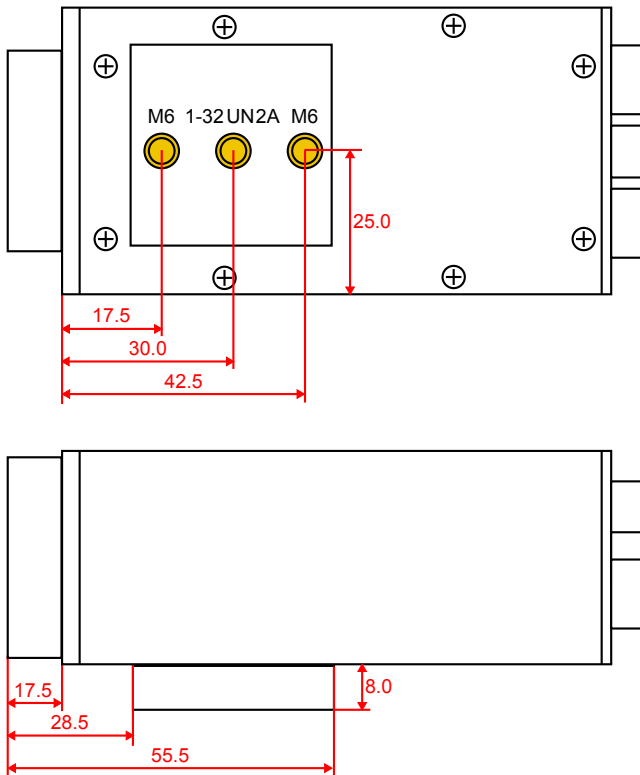


Image 8: Mounting holes for mounting the device

Mounting the Lens

1. Remove the protective film / cap.
2. Screw on the selected lens.

Working distance and recording range

The working distance, recording range and size of the image field are flexible and dependent on the selected lens.

7.3 Connecting

The operating voltage is supplied via the PLC/Power cable or the power plug. Communication takes place via the PLC/Power cable and/or Ethernet, RS232.

7.3.1 Operating Voltage Supply

The operating voltage is supplied through the PLC/Power Cable (accessories) or the power supply (accessories).

When using the power supply, the digital I/O interfaces of the device can not be used.

Requirements on the operating voltage source

- protective earth contact,
- earthing.

Parameter

Parameter	Min	Nom	Max
Operating voltage	9 V	24 V	28 V
Current consumption at 24 V DC	125 mA		350 mA
Power consumption at 24 V DC	5.5 W		

Table 10: Parameters of the operating voltage supply

ADVICE

The power supply of the camera and the power supply to the digital I/O channels are separated internally.

Connection of the operating voltage supply

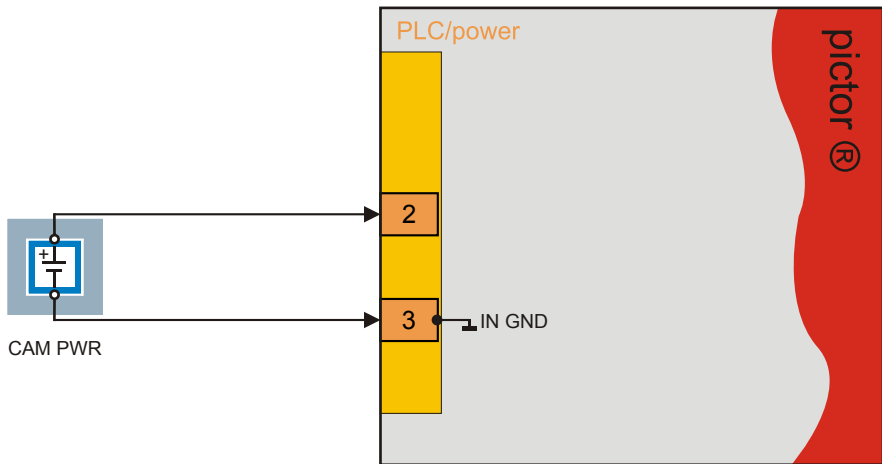


Image 9: Connection of the operating voltage supply

7.3.2 Connecting the PLC/Power cable

Perform the following steps only in de-energised state.

1. Plug the 12-pin Hirose plug of the PLC/Power cable into the I/O socket on the device.
2. Connect the open end of the PLC/Power cable to control unit.

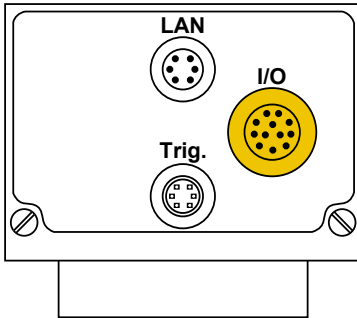


Image 10: PLC/Power cable connection

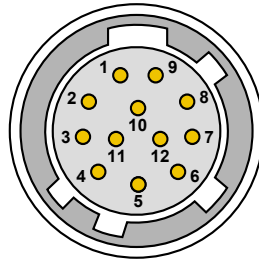


Image 11: View: socket on camera

Pin assignments PLC/Power cable

Pin	Colour	Assignment	Open cable end
1	red	24 V PLC*	+ 24 V dig. input and output
2	red / blue	+UB	Operating voltage + 24 VDC
3	black	GND	Operating voltage GND
4	pink	IN 2	Digital input 2
5	yellow	OUT 4	Digital output 4
6	green	OUT 3	Digital output 3
7	brown	OUT 2	Digital output 2
8	white	OUT 1	Digital output 1
9	grey / pink	24 V PLC*	+ 24 V dig. input and output
10	violet	IN 4	Digital input 4
11	blue	IN 3	Digital input 3
12	grey	IN 1	Digital input 1

* The PLC output voltage is separated from the supply voltage. There is a common ground for PLC output voltage and supply voltage.

Table 11: Pin assignment PLC/Power cable

7.3.3 Connecting the Ethernet cable

Perform the following steps only in de-energised state:

1. Insert the 6-pin HIROSE plug of the Ethernet cable into the LAN socket on the device.
2. Connect the RJ45 plug to a free Ethernet interface on the host computer or the network.

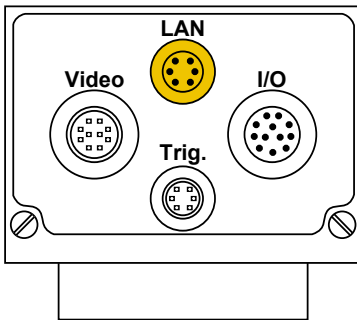


Image 12: Ethernet cable connection

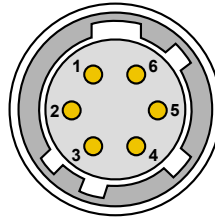


Image 13: View: socket on camera

Pin assignment Ethernet cable

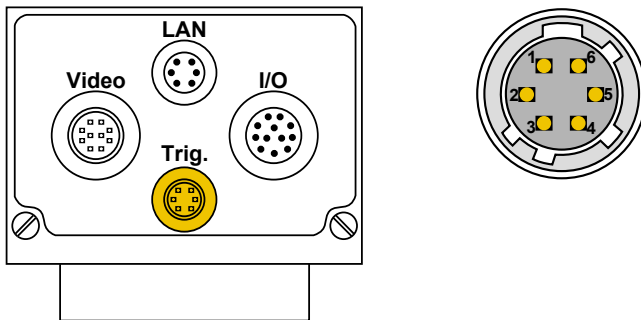
Pin	Designation	Description	RJ45 plug pin
1	TX-	Send data -	2
2	TX+	Send data +	1
3	NC	not connected	
4	NC	not connected	
5	RX-	Received data-	6
6	RX+	Received data+	3

Table 12: Pin assignment Ethernet cable

7.3.4 Connecting the RS232 cable

Perform the following steps only in de-energised state:

1. Insert the 6-pin HIROSE plug of the RS232 cable into the Trig. socket on the device.
2. Plug the D-Sub plug into a free serial port (COM) of the process control system or the key pad, and screw tight.



Pin assignment RS232 cable

Pin	Signal	Description	D-Sub pin
1	TxD	Send data	2
2	+ 5 VDC Out	Power + 5 V DC*	*
3	GND	Ground	5
4	RxD	Receive data	3
5	Trigger Out	Trigger output*	*
6	+5 V TTL	Trigger input*	*

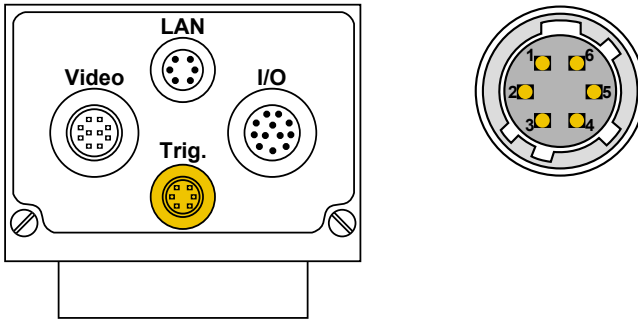
* Only for key pad.

Table 13: Pin assignment RS232 cable

7.3.5 Connecting the trigger cable

Perform the following steps only in de-energised state:

1. Insert the 6-pin HIROSE plug of the trigger cable into the Trig. socket on the device.
2. Connect the open end of the trigger cable to control unit.



Pin assignment trigger cable

Pin	Colour	Assignment	Open cable end
1	green	RS232 TxD Out	Send data
2	brown	+5 V DC Out	Power +5 V
3	white	GND	Ground
4	violet	RS232 RxD	Receive data
5	grey	Trigger Out	Output trigger
6	yellow	+5 V TTL	Input trigger

Table 14: Pin assignment trigger cable

7.3.6 Connecting the video cable

Perform the following steps only in de-energised state:

1. Insert the 10-pin Hirose plug of the video cable into the video socket on the device.
2. Connect the 15-pin D-Sub plug with a monitor.

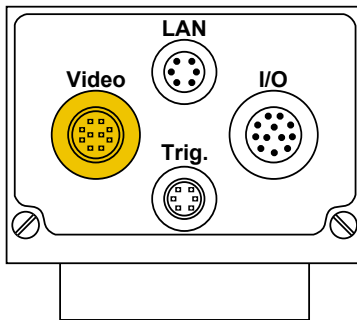


Image 14: Video cable connection

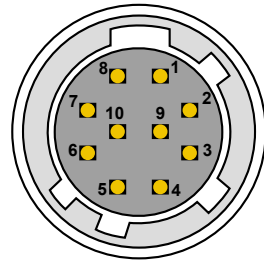


Image 15: View: socket on camera

Pin assignments video cable

Pin	Signal	Description	Pin	Signal	Description
1	G GND	Ground signal green	2	G OUT	Signal green
3	R GND	Ground signal red	4	R OUT	Signal red
5	VS GND	Ground Vertical Sync	6	VS OUT	Vertical Sync
7	HS GND	Ground Horizontal Sync	10	HS OUT	Horizontal Sync
8	B GND	Ground signal blue	9	B OUT	Signal blue

Table 15: Pin assignments video cable

7.3.7 Connecting vicolux lighting

Connecting a vicolux® lighting with TTL trigger via HIGH/LOW status transition

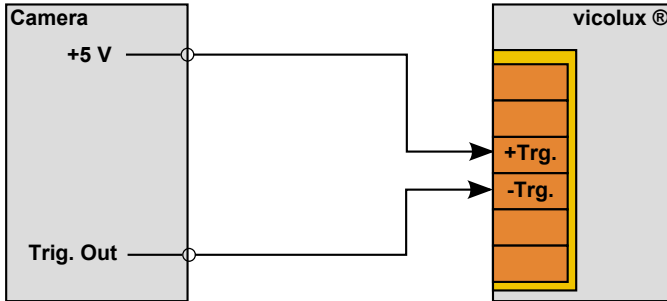


Image 16: Connection option HIGH/LOW edge

Connecting a vicolux® lighting with TTL trigger via LOW/HIGH status transition

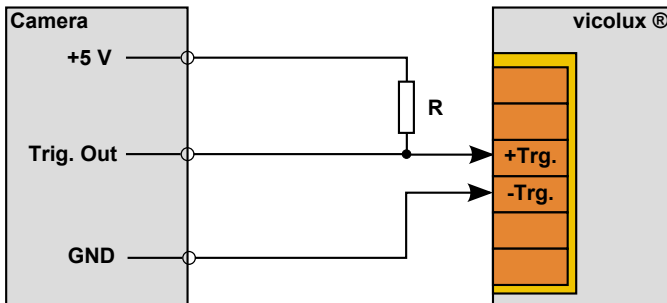


Image 17: Connection option LOW/HIGH edge

Connecting a vicolux® lighting with 24 V PLC control and LOW/HIGH edge at the Trigger Out

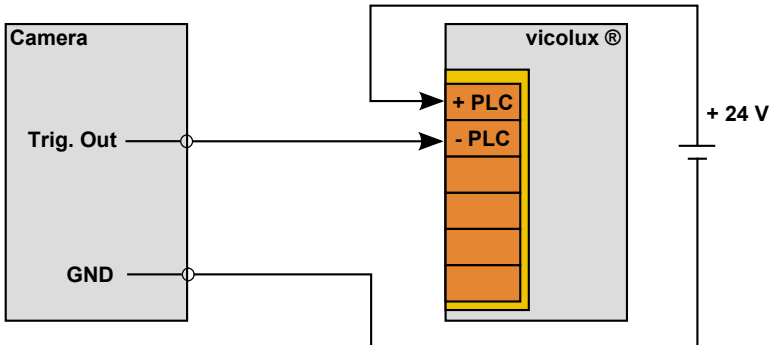


Image 18: Connection option with PLC and HIGH/LOW edge

Connecting a vicolux® lighting with 24 V PLC control and HIGH/LOW edge at the Trigger Out

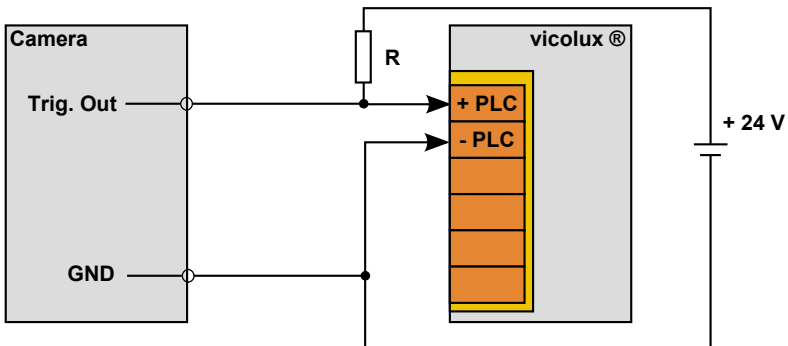


Image 19: Connection option with PLC and LOW/HIGH edge

7.3.8 Connecting the Power supply

ADVICE

When using the power supply (AC adapter), the digital I/O interfaces of the device can not be used.

Perform the following steps only in de-energised state.

1. Plug the 12-pin HIROSE connector of the power supply into the I/O socket on the device.
2. Plug the power supply into a socket.

8 OPERATION

8.1 Switching On and Off (Ready for Operation)

The device is switched on with the operating voltage supplied via the PLC/Power cable.

Disconnecting the device from the operating voltage supply switches the device off.

8.2 Operation from the Software Interface

ADVICE

To operate the device from the software, please read the corresponding instructions of use for the operation software vcwin pro.

This also describes the scope of functions and test functions of the software.

8.2.1 First steps

- 1 Connect the device to a host computer (RS232 or Ethernet cable). See: *"Connecting the RS232 cable", Page 39* / *"Connecting the Ethernet cable", Page 38*
- 2 Connect the device to a control monitor (optional). See: *"Connecting the video cable", Page 41*
- 3 Connect the device with a 24 V DC power supply. See: *"Connecting the PLC/Power cable", Page 35*
- 4 Start the operation software vcwin pro on the computer.

8.2.2 Interface Settings

Use Menu **Communication > Interface** to configure the interface for communication between the host computer and the device.

Settings made here are used in every connection with vwin pro.

Serial connection with the device

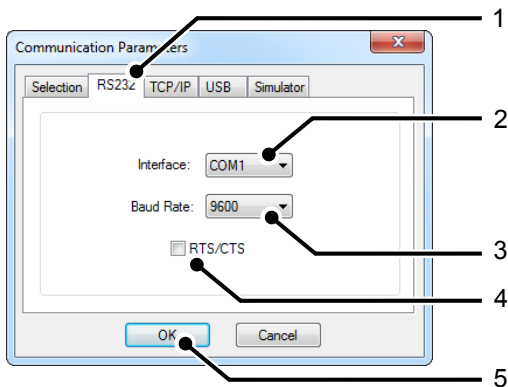


Image 20: vwin pro dialogue: Communication Parameters RS232

1. Switch to the **RS232** tab.
2. Select the the COM interface of your computer.
3. Set the baud rate to 9600. After connecting the baud rate can be adjusted.
4. Deactivate RTS/CTS (Hardware handshake of the RS232 interface).
5. Click the [OK] button to accept the values.

The device can now be connected to vwin pro.

ICP/IP connection with the device

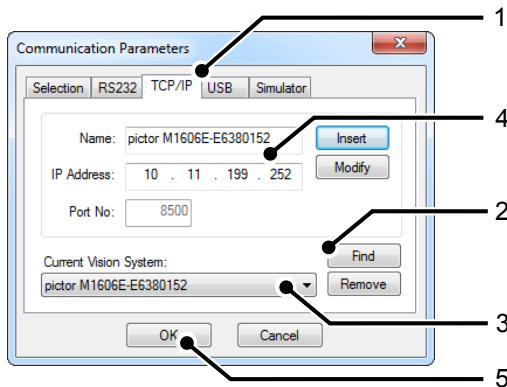


Image 21: vcwin pro dialogue: Communication Parameters TCP/IP


1. Switch to the **TCP/IP** tab.
2. With the [Search] button, all available devices, on the same subnet, are displayed (UDP broadcast to all participants).
3. Select the appropriate device.
4. Optionally, you can also enter the name and IP address of your device.
5. Click the [OK] button to accept the values.

The device can now be connected to vcwin pro.

8.2.3 Connect to the operation software

Connect the device with the operation software vcwin pro via:

- Menu: Communication > Connect
or

- Toolbar 

The initialisation of the host computer interface sets up a connection with the device via vcwin pro. The Run Mode is interrupted and the system resources are queried. vcwin pro uses the initialisation to recognise all the geometry variables, results, contour buffer, counters, image memory pages and I/O hardware available from the device connected. After initialising, the system is in Command Mode and vcwin commands may be used.

9 MAINTENANCE AND SERVICE

9.1 Maintenance

The device is maintenance-free. Depending on the operating environment, it may have to be cleaned.

Cleaning the outer face

The housing can be cleaned according to the conditions applicable to the given protection class.

Clean the outside with a damp cloth and a gentle cleanser.

Cleansers must not be applied directly to the housing, and the housing must not be bathed.

Do not use any corrosive cleansers, such as lyes, MEK cleanser (methyl ethyl ketone), benzine or similar substances!

The device must not be opened. The port sockets must be clean and dry before the device is connected and brought into operation.

Cleaning the protective glass / filter

Do not scratch and keep dust and grease off the protective glass! Do not touch the glass!

If it is heavily soiled, clean the protective glass with a cotton bud soaked in ethyl, methyl or isopropyl alcohol. The alcohol must not be applied directly to the protective glass.

Clean and care for the lenses as described in the guide for the relevant lens.

Cleaning by the manufacturer

The device can be sent to the manufacturer for cleaning (for a fee). Please contact our Technical Support.

9.2 Service

Technical Support

Please contact our Technical Support if you have any technical questions concerning our products. Competent employees will deal with your problems and questions.

We will be glad to be of service:

Monday to Thursday 8:00 to 17:00, and Friday 8:00 to 15:00.

Phone: +49 (0) 3681/ 7974 - 20

Defective device

If the device has a defect, the manufacturer can repair or exchange it. Please contact your local sales partner or Technical Support.

Firmware update

The device can be sent to the manufacturer for a firmware update (for a fee). Please contact our Technical Support.

10 DECOMMISSIONING

ADVICE

The device is decommissioned in the same way as it was commissioned, but in reverse order.

The order of the points "Disconnect" and "Dismount" is decided by the accessibility of the device when mounted in the operating environment.

10.1 Disconnect

ADVICE

Only disconnect the device when it is not processing.

1. Disconnect the device from the operating voltage supply.
2. Disconnect communication:
 - Disconnect the PLC/power cable from the control unit.
 - Remove the RJ45 plug of the Ethernet cable from the host computer.
 - Remove the D-Sub plug of the RS232 cable from the process control system.
 - Remove the D-Sub plug of the SVGA-cable from the monitor.
3. Disconnect all cables from the device.

10.2 Dismount

1. Secure or hold the device firmly.
2. Unscrew the screws holding the device in the holder.
3. If applicable, unscrew the lens.
4. Put the cover on the lens mount.

11 DISPOSAL

11.1 Disposal

The device and its accessories and packaging must be sent for environmentally compatible recycling.

Do not throw electrical devices or tools into the household waste!



According to European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in national law, unusable electric tools must be collected separately, and sent for environmentally compatible recycling.

Disposal, including that of individual components, must also always be in a way that does not harm the environment, that is it must be done in accordance with the currently valid legal regulations.

Please contact the manufacturer, your local specialist dealer or the relevant national authority for the proper disposal of old devices.

The electrical and electronic components must be sent to a specialist recycling company or to the manufacturer for proper disposal.

12 APPENDIX

12.1 EC Declaration of Conformity



Vision & Control GmbH

Mittelbergstraße 16

D-98527 Suhl, Germany

Representative: Dr. Jürgen Geffe, Managing director

We, Vision & Control GmbH Suhl, declare that the products described below

- pictor M1821/E

have been manufactured in accordance with the following standards and normative documents:

- 2004/108/EC – Electromagnetic compatibility
- DIN EN 61000-6-2:2005 – Immunity for industrial environments
- DIN EN 61326-1:2006 – Electrical equipment for measurement, control and laboratory use

Suhl, 01.03.2013

12.2 Technische Zeichnungen

Dimensions

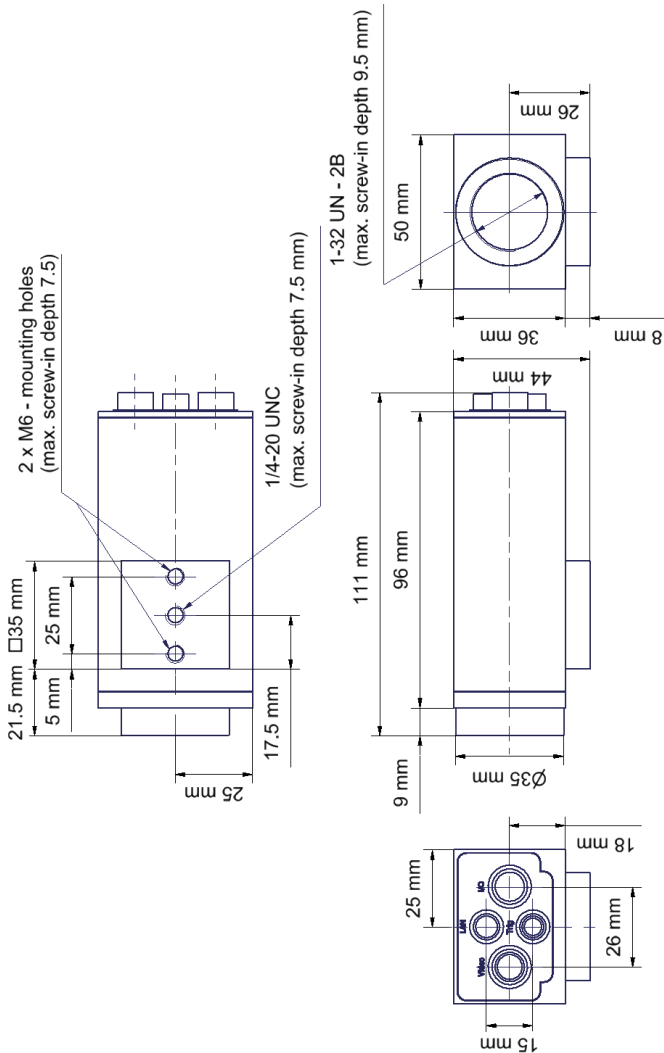


Image 22: Dimensions

12.3 Spectral sensitivity

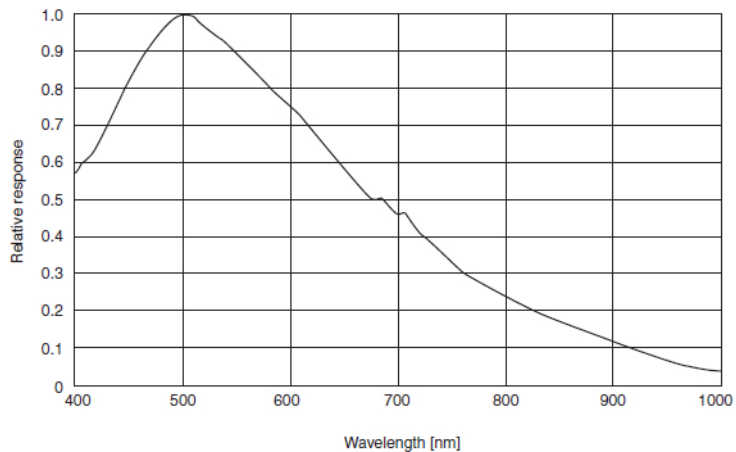


Image 23: Spectral sensitivity M1821/E

13 INDEXES

13.1 List of Figures

Image 1:	Front view.....	19
Image 2:	Rear view.....	19
Image 3:	Bottom view.....	20
Image 4:	Overview of interfaces.....	23
Image 5:	Trigger input NPN.....	27
Image 6:	Trigger input PNP.....	27
Image 7:	Trigger output.....	28
Image 8:	Mounting holes for mounting the device	33
Image 9:	Connection of the operating voltage supply.....	35
Image 10:	PLC/Power cable connection.....	36
Image 11:	View: socket on camera.....	36
Image 12:	Ethernet cable connection.....	38
Image 13:	View: socket on camera.....	38
Image 14:	Video cable connection.....	41
Image 15:	View: socket on camera.....	41
Image 16:	Connection option HIGH/LOW edge.....	42
Image 17:	Connection option LOW/HIGH edge.....	42
Image 18:	Connection option with PLC and HIGH/LOW edge.....	43
Image 19:	Connection option with PLC and LOW/HIGH edge.....	43
Image 20:	vcwin pro dialogue: Communication Parameters RS232.....	46
Image 21:	vcwin pro dialogue: Communication Parameters TCP/IP.....	47
Image 22:	Dimensions.....	55
Image 23:	Spectral sensitivity M1821/E.....	56

A

Accessories.....	16
Air humidity	28
Ambient conditions.....	28

C

Communication.....	22, 34
Connecting.....	34
Connecting the interface.....	48

D

Decommissioning.....	51
Devices Views.....	19
Digital I/O-Interfaces.....	23
Digital I/Os.....	22
Digital inputs.....	23
Digital Outputs.....	24
Dimensions	22
Dismount.....	52

E

Electrostatic discharge.....	14
Ethernet cable.....	16, 38
Ethernet interface.....	24

F

Frame rate.....	21
-----------------	----

G

General.....	22
--------------	----

H

Housing material..... 22

I

ICP/IP connection..... 47

Image Sensor..... 21

Interfaces..... 22, 23

K

Key pad..... 25

Key-Pad..... 18

L

Lens..... 33

Lens mount..... 22

M

Mounting..... 22, 32

N

Number of pixels..... 21

O

operating voltage..... 34, 45

Operating Voltage Supply..... 34

P

photo thread..... 32

Pixel size..... 21

PLC/power cable..... 16, 34, 35, 45

Power supply..... 18, 44

Processor.....	21
Product name.....	7
Protection class.....	22

R

Ready for Operation.....	45
rigger cable.....	40
RS232 cable.....	39
RS232 interface.....	25

S

Scope of Delivery.....	15
Sensor.....	21
Serial connection.....	46
Shutter.....	21
storage.....	28
SVGA cable for monitor.....	17

T

tapped holes.....	32
trademarks.....	2
transport.....	28
Trigger cable.....	17
Trigger interface.....	26

V

V24 serial cable C4 (RS232).....	17
vcwin	
Interface configuration.....	46
vcwin pro.....	25
vicolux lighting.....	42
video cable.....	41
Video out.....	22

W

Weight.....	22
Working distance.....	33

