

OCPxxxP0150E

High-performance distance sensors



EtherNet/IP™

Operating instructions

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1. Intended Use

This wenglor product should be used according to the following functional principle:

High performance distance sensors which use the principle of angle measurement determine the distance between the sensor and the object. These sensors have small working ranges (under 1 m) and recognize objects with high precision. Some sensors use a high-resolution CMOS line array and DSP signal processing. The color, shape and texture of the objects to be recognized does not affect the sensors' measurements. Even dark objects can be reliably detected against a bright background. They can be operated with very high speeds or very high resolutions. The measured value can be output as an analog value or via the interfaces. Furthermore, Teach-In, filter functions for adjusting a switching output, and an error output are available. The measuring range can be selected individually within the working range.

2. Safety Precautions

2.1. Safety Precautions

- These instructions are part of the product and must be retained during the entire service life of the product
- Carefully read the operating instructions before working with the products.
- Assembly, commissioning and maintenance of this product must be carried out by qualified personnel only.
- Tampering with or modification of the product are not allowed
- Protect the product against contamination during operation
- No safety component according to EC Machinery Directive

2.2. Laser/LED warnings



Laser class 1 (EN 60825-1)
standards and safety instructions
must be observed.

2.3. Approvals and IP Protection



RoHS

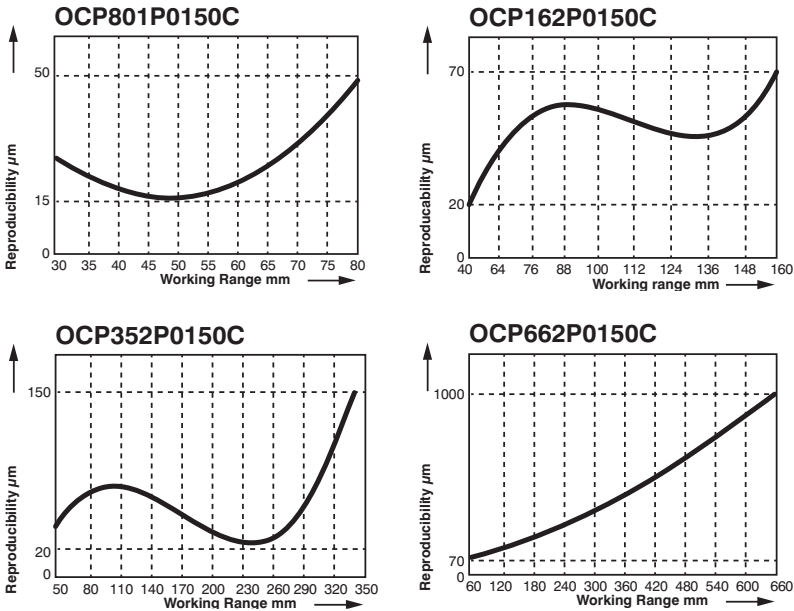
3. Technical Data

Order no.	OCP801P0150E	OCP162P0150E	OCP352P0150E	OCP662P0150E
Working range	30...80mm	40...160mm	50...350mm	60...660mm
Measuring Range	50mm	120mm	300mm	600mm
Reproducibility	15...50µm	20...70µm	20...150µm	70...1000µm
Linearity deviation	50...100µm	50...160µm	100...500µm	100...1000µm
Temperature drift	<5µm/K	<10µm/K	<20µm/K	<50µm/K
Output rate	330/s			
Light source	Laser (red)			
Wave Length	655nm			
Service life (T = 25°C)	100000h			
Laser class (EN 60825-1)	1			
Max. ambient light	10000 Lux			
Beam divergence	< 2mrad			
Light spot diameter	3.6 × 0.9 mm			
Port type	100BASE-TX			
PoE class	1			
Temperature range	-25...50°C			
Reverse Polarity Protection	yes			
Interface	Ethernet/IP™			
Protection class	III			
Adjustment	Menu (OLED)			
Housing material	Metal			
Degree of protection	IP68			
Connection	M12×1, 8-pin			
Webserver	yes			
Control panel no.	X2, T13			

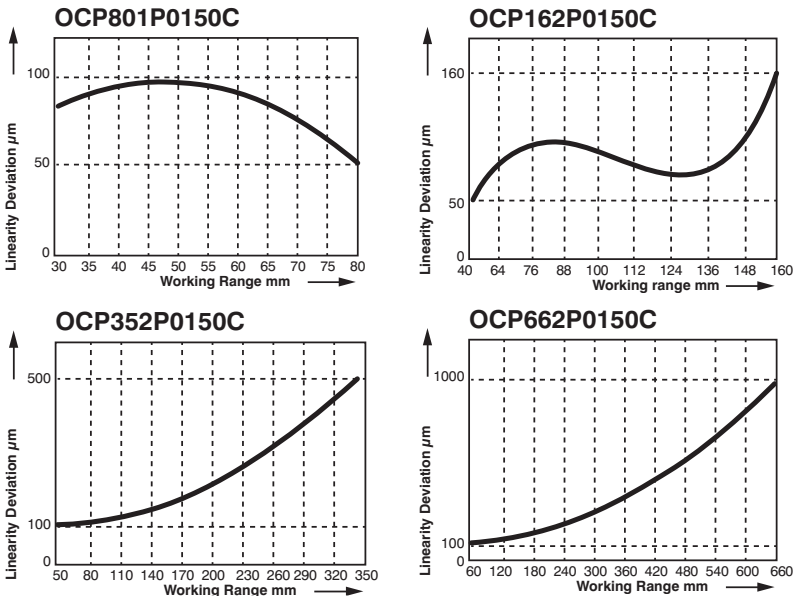
Cover material: Kodak white 90% remission

The warm-up phase takes approximately 30 minutes. In the beginning of this period the linearity deviation and the reproducibility may differ by a factor of up to 10. The values will improve in the form of an exponential function during the warm-up phase until the technical specifications are achieved.

Typical reproducibility curves in the working range

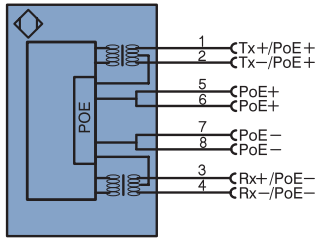


Typical linearity deviation curves in the working range




3.1. Connection diagram

001



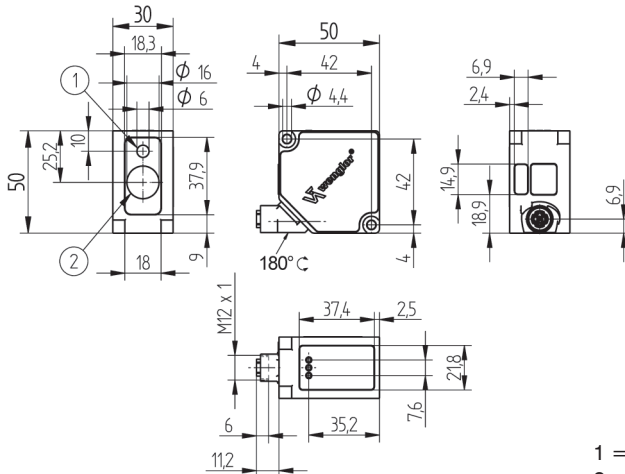
Legend

+	Supply Voltage +
-	Supply Voltage 0 V
~	Supply Voltage (AC Voltage)
A	Switching Output (NO)
\bar{A}	Switching Output (NC)
V	Contamination/Error Output (NO)
\bar{V}	Contamination/Error Output (NC)
E	Input (analog or digital)
T	Teach Input
Z	Time Delay (activation)
S	Shielding
RxD	Interface Receive Path
TxD	Interface Send Path
RDY	Ready
GND	Ground
CL	Clock
E/A	Output/Input programmable
	IO-Link
PoE	Power over Ethernet
IN	Safety Input
OSSD	Safety Output
Signal	Signal Output
BL-D+/-	Ethernet Gigabit bidirect. data line (A-D)
EN095422	Encoder 0-pulse 0-0 (TTL)

PT	Platinum measuring resistor
nc	not connected
U	Test Input
\bar{U}	Test Input inverted
W	Trigger Input
W-	Ground for the Trigger Input
O	Analog Output
O-	Ground for the Analog Output
BZ	Block Discharge
AWV	Valve Output
a	Valve Control Output +
b	Valve Control Output 0 V
SY	Synchronization
SY-	Ground for the Synchronization
E+	Receiver-Line
S+	Emitter-Line
\pm	Grounding
SnR	Switching Distance Reduction
Rx+/-	Ethernet Receive Path
Tx+/-	Ethernet Send Path
Bus	Interfaces-Bus A(+)/B(-)
La	Emitted Light disengageable
Mag	Magnet activation
RES	Input confirmation
EDM	Contactur Monitoring

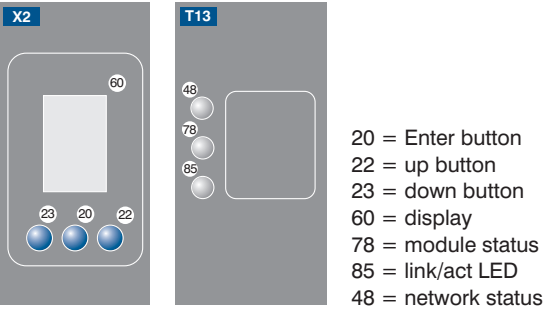
EN095422	Encoder A/ \bar{A} (TTL)
EN095422	Encoder B/ \bar{B} (TTL)
ENa	Encoder A
ENb	Encoder B
AMIN	Digital output MIN
AMAX	Digital output MAX
AOx	Digital output OK
SY In	Synchronization In
SY OUT	Synchronization OUT
OLt	Brightness output
M	Maintenance
FSV	reserved
Wire Colors according to IEC 60757	
BK	Black
BN	Brown
RD	Red
OG	Orange
YE	Yellow
GN	Green
BU	Blue
VT	Violet
GY	Grey
WH	White
PK	Pink
GNYE	Green/Yellow

3.2. Housing dimensions



1 = transmitter diode
2 = receiver diode

3.3. Control panel



Description	Status	Function
MS (Module Status)	Off	–
	Green off	Operate status
	Green flashing	Standby
	Red	Serious error
	Red flashing	Device error
NS (Network Status)	Off	No IP address
	Green off	CIP connection
	Green flashing	IP configured, no CIP connection
	Red	Duplicated IP address
	Red flashing	CIP connection timeout
L/A	Off	No connection established
	Green	Device connected, connection established
	Green flashing	Device connected, connection established, communication active

3.4. Complementary products

wenglor offers Connection Technology for field wiring.

Suitable mounting technology no.

380

Suitable connection technology no.

50

Midspace adapter Z0029

Junction with PoE ZAC50N0x

4. Assembly instructions

During operation of the sensor the corresponding electrical and mechanical regulations, standards and safety rules must be observed. The sensors must be protected against mechanical impact. The sensor has optimal extraneous light properties if the background is within the work area.

5. Initial Operation

5.1. Operation using a controller without EDS file use

If you want to commission the device when connected to a control system, please perform the following steps as described by means of example:

- Connect the sensor to a switch with PoE using a suitable cable M12 x 1; 8-pin. If using a switch without PoE please use the adapter (Z0029) for the adequate supply voltage. Once the supply voltage has been established the display at the sensor will start.
- Create a new project in the controller
- Add a new module to this project
- When selecting the communication module "General Ethernet module" should be used
- The properties of the new module should match the connection parameters of the relevant product. In the example of the sensor the communication format selected should be "Data SINT". To be able to access the sensor in the network an IP address must be assigned in addition. In delivery condition this is requested by the product via a DHCP server.
- Creating the Config Assembly (not mandatory). Default Config = I/O ports to input, active performance monitoring, all ports are released for PoE
- After the program has been created, connect to the controller and load program

For a detailed description for different controllers and for installation of the files or project planning of the network refer to the help files of the relevant controller. wenglor provides a short exemplary instruction for commissioning of an EtherNet/IP™ device (www.wenglor.com → **Products** → **Product search (order number)** → **General instructions**).

5.2. Delivery condition

		OCPxxxP0150E
Display	Mode	Process
	Intensity	Screen saver
Filter		1
Resolution		high
Exposure		DCM
Output rate		Normal
Laser		on
Language		English
Password	Activate	off
	Change	0

6. Functional description OLED display

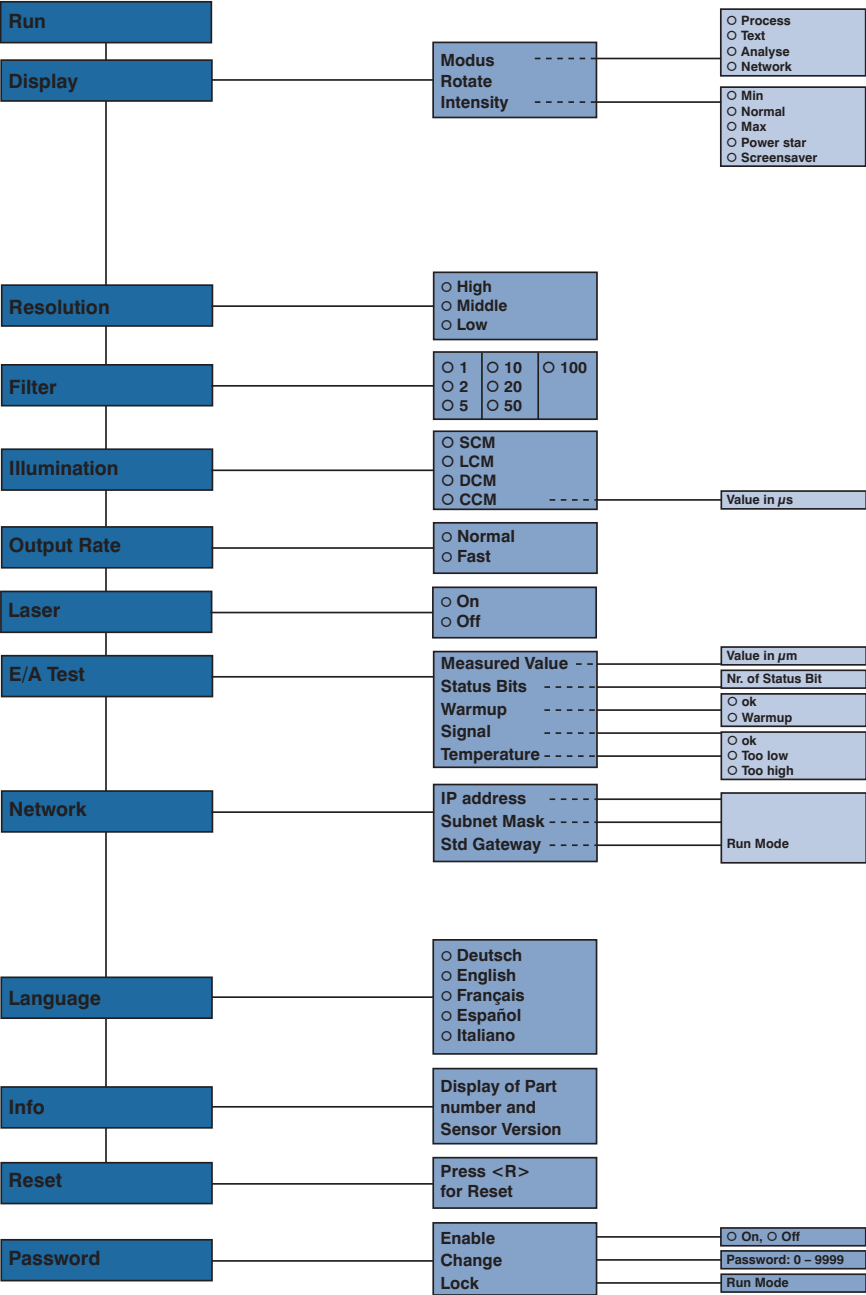




Fig. 1: Menu set language

Press button to navigate:

- ▲ : Navigate to top.
- ▼ : Navigate to bottom.
- ↵ : Enter button.

Press the Enter button to confirm the selection.

Meaning of the menu items:

- ◀ Back : one level up in the menu.
 - ◀◀ Run : switch to display mode.
- Switch to the configuration menu by pressing any button.

Note: If no setting is made in the configuration setting for a duration of 30s, the sensor automatically jumps back into the display view.

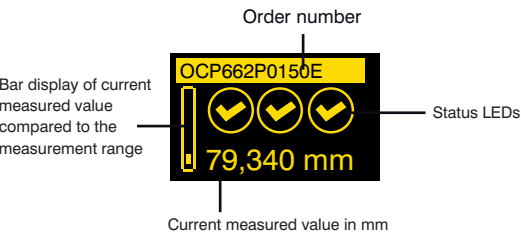
By pressing the button once again, the sensor jumps back to the menu view used last. If any setting is made, the setting will be applied when exiting the configuration menu.

Important: To avoid damage to the buttons please do not use any sharp objects for setting.

Below is an explanation of the functions of each menu item.

6.1. Run

Sensor switches to display mode.



Explanation of symbols of status LEDs:

Symbol	Meaning	Condition 1	Condition 2	Condition 3
Symbol 1	Warm-up	ok	wait	–
Symbol 2	Signal strength	ok	too low (contamination)	too high
Symbol 3	Temperature	ok	too high	too low

6.2. Display

Display	Display set-up
Mode	Mode: Select display mode (see chapter 7.2.1).
Rotate	Rotate: Rotate display by 180°. Pressing the button „↵“ will rotate the display by 180°. Pressing this button again will undo the rotation.
Intensity	Intensity: Adjusting the display intensity (see chapter 7.2.2).
◀ Back	
◀◀ Run	

6.2.1. Display mode

The sensor display always shows the measured value in mm and the oder number. In the menu item "Display mode" the following additional displays can be selected:

Mode	Display set-up
○ Process	Process: Display of status LEDs for warm-up, signal strength, and temperature.
○ Text	Text: Display of a free text which can be sent to the sensor via the controller.
○ Analysis	Analysis: Display of signal strength in percent and measurement rate in 1/s.
○ Network	Network: Display of EtherNet/IP™-LED's, NS, MS, and L/A. For the function of these LEDs see chapter 4.3.

6.2.2. Display intensity

Intensity	Adjusting the display intensity	
○ Min	Min:	The intensity of the display is set to a minimum value.
○ Normal	Normal:	The intensity of the display is set to a medium value.
○ Max	Max.:	The intensity of the display is set to a maximum value.
○ Energy saving	Energy saving:	The display will switch off if no button has been pressed for one minute and switches back on when a button is pressed.
○ Screen saver	Screen saver:	The colors of the display are inverted every minute.

6.3. Resolution

The resolution defines the number of pixels used by the CMOS line. The higher the resolution is set the smaller the detectable changes of an object and the slower the output rate of the sensor in case of a change of the measured values.

Resolution	Display set-up	
○ High	High:	high resolution, low output rate.
○ Medium	Medium:	medium resolution, medium output rate.
○ Low	Low:	low resolution, high output rate.
◀ Back		
⏪ Run		

6.4. Filter

The filter (filter size) is the number of measured values the sensor uses for averaging. The larger the filter, the slower the response time of the sensor in case of a change of the measured values. A larger filter improves the reproducibility of the sensor.

Filter	Number of values for averaging.
○ 1	If 1 is selected the measured value is output directly without averaging. If a value higher than 1 is selected then the sensor calculates an average for the selected number of x measured values.
○ 2	
○ 5	
○ 10	
○ 20	
○ 50	
○ 100	
◀ Back	
⏪ Run	

6.5. Exposure

The sensor automatically adjusts its exposure time or light pulse length to the object to be detected up to a maximum value. In the preset DCM (Default Capture Mode) the sensor has a fixed, maximum possible exposure time. For example, in case of black or shiny objects it may make sense to increase this time. The reduction of the exposure time may be appropriate if the sensor is directed to light sources. In case of demanding applications it can be controlled using different modes or manually.

Exposure	Setting exposure times
<div><div><div>○ SCM</div><div>○ LCM</div><div>○ DCM</div><div>○ CCM</div><div>◀ Back</div><div>⏪ Run</div></div></div>	<div><div><div>SCM (Short Capture Mode): The sensor exposure time can be reduced for dark and/or high-gloss objects (e.g. black glossy finishes) to reduce the decrease of the measurement rate.</div><div>LCM (Long Capture Mode): The sensor exposure time can be increased for dark and/or high-gloss objects (e.g. black glossy finishes) to achieve a more accurate measurement.</div><div>DCM (Default Capture Mode): Preset exposure time for standard applications.</div><div>CCM (Custom Capture Mode): The sensor exposure time can be set manually between 100...8000µs.</div></div></div>

6.6. Output rate

The output rate indicates the update frequency of the measured value at the output per second.

Output rate	Setting the output rate
<div><div><div>○ Normal</div><div>○ Fast</div><div>◀ Back</div><div>⏪ Run</div></div></div>	<div><div><div>Normal: The output rate is 100/s. This means that a new measured value is output every 10ms.</div><div>Fast: The output rate is 330/s. This means that a new measured value is output every 3ms.</div><div>Note: If this mode is activated the OLED display will switch off. It will switch back on automatically once a button has been pressed.</div></div></div>

6.7. Laser

In the menu item "Laser" the emitted light can be switched on or off.

Laser	Switching the emitted light on or off
<div><div><div>○ On</div><div>○ Off</div><div>◀ Back</div><div>⏪ Run</div></div></div>	<div><div><div>On: Emitted light switched on.</div><div>Off: Emitted light switched off, the sensor does no longer deliver measured values.</div></div></div>

6.8. I/O test

This function manually changes the output of the sensor. It can be used to test whether the further process functions as required. The test is terminated automatically when exiting the test menu. This also occurs automatically if no button has been pressed for a period of 10 minutes.

I/O test	Testing the sensor outputs
Measured value	Measured value: Specification of a measured value in μm .
Status bits	Status bits: By pressing the button "+" or "-" the number of the status bit to be set can be selected (see list of status bits).
Warm-up	Warm-up: Setting the warm-up to "ok" or "warm-up".
Signal strength	Signal Strength: Setting the signal strength to "ok", "too low" or "too high".
Temperature	Temperature: Setting the temperature to "ok", "too low" or "too high".
◀ Back	
⏪ Run	

List of status bits:

Number	Function	Description when the bit is set	Measured value output
1	General error	One of the following bits is set.	—
2	Object distance too small	The current measured value is below the working range.	Measurement range minimum
3	Object distance too large	The current measured value is above the working range.	Measurement range maximum
4	No signal	The sensor does not detect any object in the working range.	Measurement range maximum
5	Signal strength too low	The sensor is not returned enough light from an object (e.g. very dark surface). This results in a decrease in the quality of the measured value.	Current measured value
6	Signal strength too high	The sensor is returned too much light from an object (e.g. reflector). This results in a decrease in the quality of the measured value.	Current measured value
7	Warm-up process	The sensor is in the warm-up phase and the quality of the measured value is still outside the technical specifications. See page 5 bottom.	Current measured value
8	Temperature too high	The sensor is at the upper limit of its temperature range. If the temperature continues to increase the sensor may be destroyed.	Current measured value
9	Temperature too low	The sensor is at the lower limit of its temperature range. If the temperature continues to decrease the sensor may be destroyed.	Current measured value

6.9. Network

Network	Settings of the Network Parameters	
IP-Address	IP-Address:	Display of the set IP-Address
Subnet Mask	Subnet Mask:	Display of the set Subnet Mask
DHCP	DHCP:	Display DHCP ON or DHCP OFF
Std Gateway	Std Gateway:	Display of the set standard gateway
MAC Address	MAC Address:	Display of the default MAC Address
Net Reset	Net Reset:	Reset network settings to the default settings
◀ Back		
⏪ Run		

6.10. Language

In the menu item "Language" the menu language can be changed. Upon initial commissioning and after every reset the operator is asked for their required language.

Language	Setting the menu language
<input type="radio"/> Deutsch	After selection the menu immediately appears in the selected language.
<input type="radio"/> English	
<input type="radio"/> Français	
<input type="radio"/> Español	
<input type="radio"/> Italiano	
◀ Back	
⏪ Run	

6.11. Info

The menu item "Info" shows the following information about the sensor:

Info	
Order number	
Software version	
Serial number	

6.12. Reset

In the menu item "Reset" all sensor setting apart from the network settings can be reset to the delivery condition. The settings of the delivery conditions can be found in chapter 6.2.

Reset	Resetting to the delivery condition
Press <R> for reset	By pressing the button "R" the sensor settings made will be reset to the delivery condition.

6.13. Password

The password protection avoids an accidental amendment of the adjusted data.

Password	Setting the password function
Activate Change Lock ◀ Back ⏪ Run	<p>Activate: Switching the password protection on or off. If the password protection is activated, the operation of the sensor will be locked after interruption of the power supply and not released until successful entry of the password.</p> <p>Change: Changing the password.</p> <p>Lock: If the sensor is locked this will result in immediate locking of the operation, if activate password is set to "on".</p>

If the password function is activated the password must always be entered before operating the sensor. After entry of the correct password using the buttons "+" and "-" the menu is enabled and the sensor can be operated.

- In delivery condition the password function is disabled.
- The value range of the password number ranges from 0000...9999

Note: The password is not permanently stored.

7. Detailed description of the object models for EtherNet/IP™ devices

7.1. Identity object (0x01)

This object provides the identification of the device.

Identity object (object class ID 0x01)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code	Name	
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
1	Vendor ID	Get
2	Device type	Get
3	Product code	Get
4	Revision	Get
5	Status	Get
6	Serial number	Get
7	Product name	Get
Instance services		
Code	Name	
0x01	Get_Attribute_All	
0x0E	Get_Get_Attribute_Single	
0x05	Reset	

7.2. Message router object (0x02)

The message router defines the connection paths to other objects and allows access to the objects via these paths.

Message router object (object class ID)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
4	Optional attribute list	Get
5	Optional service list	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
1	Object_list	Get
2	Number available	Get
Instance services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	

7.3. Assembly object (0x04)

The assembly object links attributes of different objects to allow for their transmission as a whole via a single connection.

The following assemblies are available:

- Input assembly (producing) 0x65
- Config assembly 0x64

Assembly object (object class ID 0x04)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x0E		Get_Attribute_Single
Instance attributes		
ID	Name	Access
3	Data	Get/set
4	Size	Get
Instance services		
Code		Name
0x0E		Get_Attribute_Single
0x10		Set_Attribute_Single
0x18		Get_Member
0x19		Set_Member

7.4. Connection manager object (0x06)

This object manages internal resources for maintaining explicit and implicit connections.

Connection manager object (object class ID 0x06)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
4	Optional attribute list	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
1	Open requests	Get/set
2	Open format rejects	Get/set
3	Open resource rejects	Get/set
4	Open other rejects	Get/set
5	Close requests	Get/set
6	Close format rejects	Get/set
7	Close other rejects	Get/set
8	Connection timeouts	Get/set
Instance services		
Code	Name	
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
0x54	Forward_Open	
0x4E	Forward_Close	
0x52	Unconnected_Send	

7.5. Port object (0xF4)

This object describes the existing CIP ports of the device.

Port object (object class ID 0xF4)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
8	Entry port	Get
9	Port instance info	Get
Class services		
Code	Name	
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
1	Port type	Get
2	Port number	Get
3	Link object	Get
4	Port name	Get
7	Node address	Get
Instance services		
Code	Name	
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	

7.6. TCP/IP interface object (0xF5)

This object implements mechanisms for configuration of the TCP/IP layer such as, for example, IP address, subnet mask, and gateway address.

TCP/IP interface object (object class ID 0xF5)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
1	Status	Get
2	Configuration capability	Get
3	Configuration control	Get/set
4	Physical link object	Set
5	Interface configuration	Get/set
6	Host name	Get/set
10	Select ACD	Get/set
11	LastConflictDetected	Get/set
Instance services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
0x02	Set_Attribute_All	
0x10	Set_Attribute_All	

7.7. Ethernet link object (0xF6)

This object configures the connection-specific properties (MAC-ID, Transmission rate etc.) of the Ethernet interfaces.

Ethernet link object (object class ID 0xF6)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x01		Get_Attribute_All
0x0E		Get_Attribute_Single
Instance attributes		
ID	Name	Access
1	Interface speed	Get
2	Interface flags	Get
3	Physical address	Get
6	Interface control	Get/set
7	Interface type	Get
8	Interface state	Get
10	Interface label	Get
Instance services		
Code		Name
0x01		Get_Attribute_All
0x0E		Get_Attribute_Single
0x10		Set_Attribute_Single

7.8. QoS object (0x48)

The QoS (Quality of Service) object can be used to configure the DSCP values of the different outgoing message priorities.

QoS object (0x48)		
Class attributes		
ID	Name	Access
1	Revision	Get
2	Max instance	Get
3	Number of instances	Get
6	Maximum ID number class attributes	Get
7	Maximum ID number instance attributes	Get
Class services		
Code		Name
0x01	Get_Attribute_All	
0x0E	Get_Attribute_Single	
Instance attributes		
ID	Name	Access
4	DSCP urgent	Get/set
5	DSCP scheduled	Get/set
6	DSCP high	Get/set
7	DSCP low	Get/set
8	DSCP explicit	Get/set
Instance services		
Code		Name
0x0E	Get_Attribute_Single	
0x10	Set_Attribute_Single	

7.9. Vendor-specific object (0x64)

7.9.1. Configuration assemblies

Configuration assembly (assembly instance ID 0x64) for OCP								
Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Filter							
1	Reserved			Display rotate	Button lock	Webserver lock	Output rate	Emitted light
2	Display intensity							
3	Display mode							
4	Display language							
5	Display text (string length)							
6	Display text (char 1 of 19)							
n	...							
24	Display text (char 19 of 19)							
25	Resolution							
26	Exposure time (bit 0-7)							
27	Exposure time (bit 8-15)							
28	Exposure mode							
29	Reserved ¹							

1) The reserved byte at position 29 is required as padding. The length field of the connection path is word based thus only allowing an even number of bytes for the configuration assembly.

7.9.2. Static input assembly

The input assembly (input from the point of view of the controller) contains the process data of the sensors.

Static input assembly (assembly instance ID 0x65) for OCP and OY2TA								
Byte	Bit 7	Bit 6	Bit 5	Bit 4	Bit 3	Bit 2	Bit 1	Bit 0
0	Measured value (bit 0-7)							
1	Measured value (bit 8-15)							
2	Measured value (bit 16-23)							
3	Measured value (bit 24-31)							
4	Status (bit 0-7)							
5	Status (bit 8-15)							

7.9.3. Vendor object

This object allows for access to all sensor-specific data.

Vendor object (object class ID 0x64)					
Class attributes					
ID	Name	Access			
No class instance available. Attribute 1 not required due to revision == 1					
Class services					
Code	Name				
No class instance available.					
Instance attributes					
ID	Name	NV	EIP data type	Access	Values/default
1	Measured value	V	DINT (32bit)	Get	(Little Endian encoded)
2	Status	V	WORD (16bit)	Get	Bit is "1" = status is active Bit1: General error Bit2: Dist. to object too small Bit3: Dist. to object too big Bit4: No signal Bit5: Signal too weak Bit6: Signal too strong Bit7: Warm-up procedure Bit8: Temperature too high Bit9: Temperature too low (Little Endian encoded)

ID	Name	NV	EIP data type	Access	Values/default
3	Filter	V	USINT (8bit)	Get/set	0 = Filter size 1 (dflt) 1 = Filter size 2 2 = Filter size 5 3 = Filter size 10 4 = Filter size 20 5 = Filter size 50 6 = Filter size 100
4	Emitted light	V	BOOL (8bit)	Get/set	0 = ON (dflt) 1 = OFF
5	Display text	V	SHORT_STRING (20byte)	Get/set	default: empty (all zeros) Max length: 19 Characters Byte 0: Length of string
6	Resolution	V	USINT (8bit)	Get/set	0 = Resolution high (dflt) 1 = Resolution medium 2 = Resolution low
7	Exposure mode	V	USINT (8bit)	Get/set	0 = Mode SCM 1 = Mode LCM 2 = Mode DCM (dflt) 3 = Mode CCM
8	Exposure time	V	UINT (8bit)	Get/set	Max. exposure time [μ s] Range 100 ... 8000 default: 1000 (Little Endian encoded)
9	Output rate	V	BOOL (8bit)	Get/set	0= normal (display on) (dflt) 1 = fast
10	Webserver lock	V	BOOL (8bit)	Get/set	0 = enabled (dflt) 1 = blocked
11	Button lock	V	BOOL (8bit)	Get/set	0 = enabled (dflt) 1 = blocked
12	Display rotate	V	BOOL (8bit)	Get/set	0 = not rotated (dflt) 1 = rotated
13	Display intensity	V	USINT (8bit)	Get/set	0 = Min 1 = Normal 2 = Max 3 = Power saver mode 4 = Screensaver (dflt)
14	Display mode	V	USINT (8bit)	Get/set	0 = Process (dflt) 1 = Analysis 2 = Text 3 = Network

15	Display language	V	USINT (8bit)	Get/set	0 = Deutsch 1 = English (dfit) 2 = Francais 3 = Espanol 4 = Italiano
16	Physical unit	V	ENGUNIT (16bit)	Get	Constant: 0x2204 (μm) ³ (Little Endian encoded)

Instance services	
Code	Name
0x01	Get_Attribute_All
0x0E	Get_Attribute_Single
0x10	Set_Attribute_Single

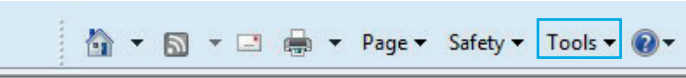
8. Web-based configuration

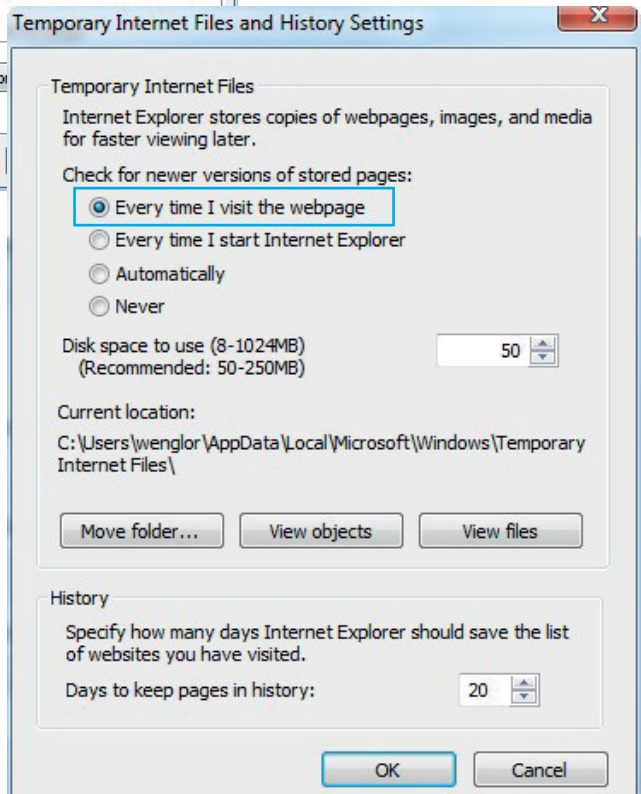
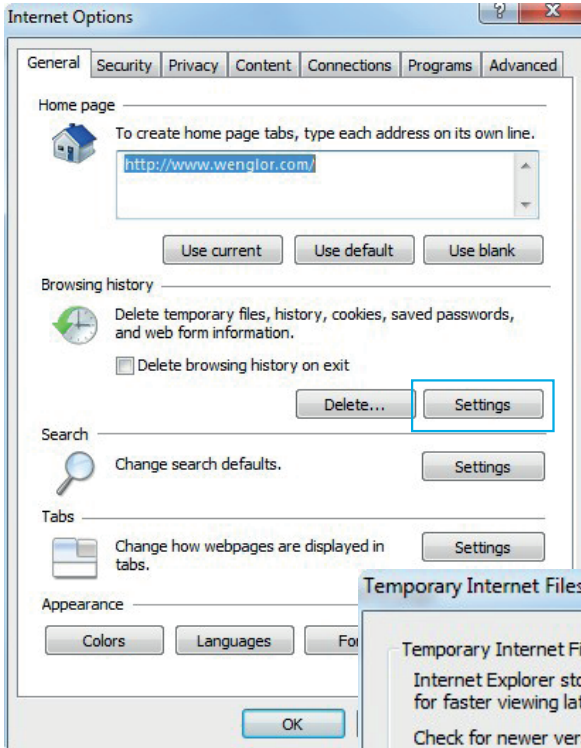
The device is equipped with a web-based set-up interface which operates independent of the operating system. Parameterizing of the device can conveniently be done using a standard web browser. In delivery condition the device expects the IP address from a DHCP server. The web-based set-up interface is not required for normal operation on the controller.

Note:
If operated on a controller the settings changed via the website will be overwritten by the controller.

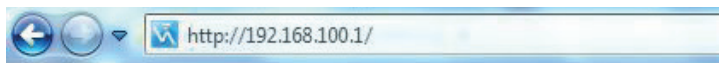
8.1. Opening the administration interface

Launch the web browser. Enter the manually configured IP address of the switch in the address bar of your browser and press the enter button. In order to ensure that the browser displays the current webpage settings the corresponding webpage must always be reloaded automatically in case of changes. This setting must be changed individually for every browser and is explained using the example of Internet Explorers. For this purpose go to **Tools → Internet options → Browsing history → Settings** and select **Every time I visit the webpage**. Otherwise changes to the homepage may not be displayed correctly.





In order to now be able to open the website of the device (in the example OCP662P0150E), the IP address must be entered in the address bar of the browser as described



The overview page **Device general** is not password protected. If the pages of the device or port settings are opened a password query appears.

The following user data are preset in delivery condition:

User name: admin

Pass word: admin

The password can be changed on the page **Device settings**, but not permanently stored.

8.2. Page structure



The screenshot displays the Wenglor web interface for the OCP662P0150E device. The sidebar on the left contains a menu with four items: 'General device' (selected), 'Device settings', 'Measured value settings', and 'Device test'. The main content area is titled 'General device' and features a 3D image of the blue sensor unit. Above the image is a small inset showing three green checkmarks and the text '77.85 mm'. Below the image is a table with the following specifications:

Part number	OCP662P0150E
Product version	V1.1.0
Producer	wenglor sensoric GmbH
Description	Reflex Sensor with Background Suppression
Serial number	500014310
MAC Address	54-4a-05-00-09-19
Real-time Ethernet status	offline
Device type	0x000c

On the right side of the interface, there is a yellow header with the model 'OCP662P0150E', three green checkmarks, and a measurement value of '77.85 mm'.

The webpage is divided in the following 4 areas:

1. **Language selection:** The language selection is used to change the webpage from English (delivery condition) to German, French, Spanish oder Italian.
2. **Display:** On every page the current display is shown as on the device itself.
3. **Category selection:** The web-based settings are divided into four categories.
 - **Device general:** Overview page with general information regarding the device
 - **Device settings:** Network and display settings of the device
 - **Measured value settings:** Settings to influence the measured value of the device
 - **Device test:** Manual changes to the sensor output in order to test the process
4. **Page content:** Depending on the selected category the relevant page content is displayed.

8.3. Device general



Sensors for your success

English

General device

Device settings

Measured value settings

Device test

General device



79340 mm

Part number	OCP662P0150E
Product version	V1.1.0
Producer	wenglor sensoric GmbH
Description	Reflex Sensor with Background Suppression
Serial number	500014310
MAC Address	54-4a-05-00-09-19
Real-time Ethernet status	offline
Device type	0x000c


OCP662P0150E

✓✓✓

77.85 mm

After the connection has been established, the overview page "Device general" is displayed.

8.4. Device settings



Sensors for your success

English

General device

Device settings

Measured value settings

Device test

Device settings

Network settings

Get IP address automatically

Use following IP addresses:

IP-address

Subnet mask

Standard gateway

192.168.100.1

255.255.255.0

0.0.0.0

Send

Network reset

Reset

Display settings

Language

Rotate display

Display intensity

Display mode

English

OFF

Screensaver

Process

Password

Change

OCP662P0150E

✓✓✓

77.85 mm

Network settings

If the device is not operated on a controller it is possible to change the network settings. By default, IP address assignment is done via a DHCP server. In delivery condition, the network setting is set to "Obtain IP address automatically". If an individually set IP address is to be used the menu item "Use the following IP address" must be selected. The network settings are saved by pressing the button "Send". For the changes to the network settings to be applied it is necessary to disconnect the sensor from the power supply for a short time.

WARNING: Only be entering the correct network settings error-free operation of the product can be ensured. Any incorrect entry of values may result in the device no longer being accessible in the network.

It must be ensured that supply power is not interrupted while making changes to network settings. Furthermore, supply power must maintained for at least an additional 5 seconds after the network settings have been saved to memory.

Display settings

For a functional description of display settings see 7.2.

Changing the password

<input type="password"/>	<input type="button" value="Change"/>
--------------------------	---------------------------------------

An additional window opens where the new password can be entered.

Please note: The password is not permanently stored.

8.5. Measured value settings



Sensors for your success

English

<ul style="list-style-type: none"> General device Device settings Measured value settings Device test 	<p>Measured value settings</p> <table> <tr> <td>Set resolution</td> <td>High</td> <td><input type="button" value="Apply"/></td> </tr> <tr> <td>Filter</td> <td>1</td> <td></td> </tr> <tr> <td>Lighting mode</td> <td>DCM</td> <td></td> </tr> <tr> <td>Illumination</td> <td>1000</td> <td><input type="button" value="Apply"/></td> </tr> <tr> <td>Emitted light</td> <td>ON</td> <td></td> </tr> <tr> <td>Reset sensor settings</td> <td colspan="2"><input type="button" value="Reset"/></td> </tr> </table>	Set resolution	High	<input type="button" value="Apply"/>	Filter	1		Lighting mode	DCM		Illumination	1000	<input type="button" value="Apply"/>	Emitted light	ON		Reset sensor settings	<input type="button" value="Reset"/>		<p>OCP662P0150E</p> <p>✓ ✓ ✓</p> <p>77.83 mm</p>
Set resolution	High	<input type="button" value="Apply"/>																		
Filter	1																			
Lighting mode	DCM																			
Illumination	1000	<input type="button" value="Apply"/>																		
Emitted light	ON																			
Reset sensor settings	<input type="button" value="Reset"/>																			

Resolution

For a functional description of the resolution see chapter 7.3.

Filter

For a functional description of the filter see chapter 7.4.

Exposure

For a functional description of the exposure see chapter 7.5.


Emitted Light

For a functional description of the emitted light see chapter 7.7.

Sensor settings reset

A reset restores the factory settings of the display and measured value settings.

Device test


 Sensors for your success English

- General device
- Device settings
- Measured value settings
- Device test

Device test

Simulation of	
Measured value	100000 μm Apply
Warmup	Off
Signal	Too low
Temperature	Off
Test mode	Switch off Remaining test mode time 9.54 min

OCP662P0150E



100.00 mm

Remaining test mode time 9.54 min

For a functional description of the device test see chapter 7.8.

The test is activated if at least one parameter is changed.

The duration of the test is limited to 10 minutes. After this time the test is terminated automatically. The remaining duration of the test is shown below the "Switch off" button and below the display window. The test can be terminated prematurely by clicking on "Switch off".

Please note: Settings are also preserved in the online state.

9. Maintenance Instructions

- This wenglor sensor is maintenance-free
- It is recommended to regularly clean the lens and the display and to check the connections
- When cleaning the device do not use solvents or cleaning agents which might damage the device

10. Environmentally sound disposal

wenglor sensoric GmbH does not take back unusable or irreparable products. The products must be disposed of in accordance with the applicable local waste disposal regulations apply.

11. EU Declaration of Conformity

The EU declaration of conformity can be found on our website at www.wenglor.com in download area.

The wenglor sensoric GmbH hereafter called wenglor for short, points out that notes and information in this operating manual may be subject to constant development and technical changes and are therefore only published under reservation.

This operating manual does not represent a promise by wenglor with regard to the described processes or specific product characteristics. wenglor does not assume liability for printing errors or textual errors. wenglor shall only assume liability if it can be proved that wenglor had knowledge about for the errors in question at the time of creating the operating manual. This operating manual is only a general description of technical processes whose implementation does not apply to every individual application. If you have specific questions regarding this, you can always contact our technical support.

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