

- Messen
- Prüfen
- Kontrollieren
- Sortieren
- Positionieren
- Vollständigkeitskontrolle
- Vorhandenseinskontrolle
- Oberflächeninspektion
- Teileprüfung
- Werkzeugvoreinstellung
- 3D Sehen
- 3D Erkennung
- Robot Vision
- Markierungskontrolle
- Koplanarität
- BGA-Prüfung
- Konturprüfung
- Fehler- und Verschmutzungserkennung
- OCR / OCV
- Zeichenerkennung
- Code Lesen
- Faden- und Stoffprüfung
- Papier- und Folienprüfung
- Metallprüfung
- Displayprüfung LCD, LED, OLED
- Mustervergleich
- Blasenkontrolle
- Robotersteuerung
- Bohrer Vermessung
- Thermografie
- Plastik-Inspektion
- 2D
- und vieles mehr...**

EyeCheck 1000 & 900



Description:

The EyeCheck 900 & 1000 series is an extremely compact and powerful smart camera, which can be easily integrated into existing systems. The cameras are available in color and gray and with the EyeVision image processing software, they can detect fine-grained patterns, which cannot be detected even by several sensor barriers or common sensors. The integrated evaluation software EyeVision allows the EyeCheck 900 & 1000 a very short period of adjustment and setup time.

The EyeCheck 900 & 1000 are very robust and with protection class IP67 suitable for rough environments.

The combination with the EyeVision Software offers an immense reduction in development time and maintenance costs of the machine vision systems. The creation of the inspection programs is easily compatible to customer needs, as EyeVision is a powerful and flexible software with a graphical user interface even for complex 2D and 3D applications.

The EyeVision software can handle every task, such as the detection of production differences, quality and color deviations, tracking of component parts, part recognition and differentiation, part sorting, pick-and-place, reader functions (bar code, DMC, QR, OCR/OCV), reject control, supervision of tolerances, label and surface inspection, pattern matching, etc.

The EyeCheck 900 & 1000 can be used in industries such as automotive, electronic, pharmaceutical, cosmetics, packaging, food and beverage industries as well as semiconductor industry and machine construction.

For more information visit our website: www.evt-web.com.

Please contact us if you have questions: **+49 (0) 721 668 004 23 0**



Technical Data

Memory:	
DDR RAM	128 MB
FLASH	128 MB
Interfaces:	Ethernet (LAN)
	RS422, RS232 (not EC900, EC910, EC1000, EC1010)
	EtherNet / IP
	PROFINET
Digital I/Os	2 In- / 4 Outputs, 4 wählbare In- / Outputs
Protection Class	IP 65 bis IP 67
Current consumption (without light & IO)	≤ 120 mA
Current consumption (ohne IO)	≤ 200 mA
Power supply	18 ... 26.4 VDC
Ambient temperature:	Operating: 0 ... +50 °C (at 80% air humidity)
	Storage: - 20 ... + 60 °C (at 80% air humidity)
Weight	approx. 160 g
Dimensions without lens (W x H x L)	65 x 45 x 45 mm (without connector)

1. Overview

EyeCheck 9xx

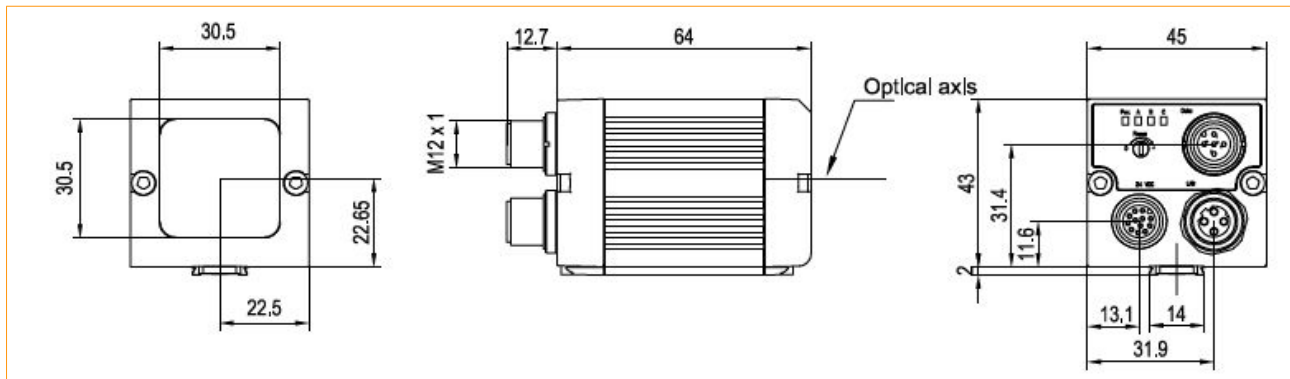
Model	Resolution	Focal Length	Integrated illumination	Processor
EC900	640 x 480	6, 12, 25 mm	white, red or infrared LEDs	600 MHz
EC901	640 x 480	C-Mount	none	600 MHz
EC910	736 x 480	6, 12, 25 mm	white, red or infrared LEDs	600 MHz
EC911	736 x 480	C-Mount	none	600 MHz

EyeCheck 1xxx

Model	Resolution	Focal Length	Integrated illumination	Processor
EC1000	640 x 480	6, 12, 25 mm	white, red or infrared LEDs	1 GHz
EC1001	640 x 480	C-Mount	none	1 GHz
EC1010	736 x 480	6, 12, 25 mm	white, red or infrared LEDs	1 GHz
EC1011	736 x 480	C-Mount	none	1 GHz
EC1100	768 x 582	12 mm	white, red or infrared LEDs	1 GHz
EC1101	768 x 582	C-Mount	none	1 GHz
EC1200	1024 x 768	12 mm	white, red or infrared LEDs	1 GHz
EC1201	1024 x 768	C-Mount	none	1 GHz
EC1300	1280 x 1024	12 mm	white, red or infrared LEDs	1 GHz
EC1301	1280 x 1024	C-Mount	none	1 GHz

2. EyeCheck: EC1100, EC1200, EC1300

Focal Length: 12 mm



Optical Data

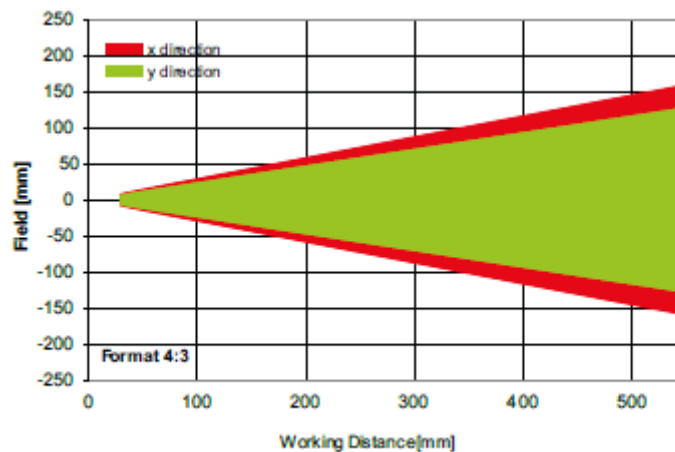
CMOS sensor	1/1.8" monochrome
Integrated lens, focal length	12 mm, adjustable focal position
Adjustment range	30 mm to infinity
Integrated illumination	white, red or infrared LEDs
Minimum field of view X x Y	16 x 13 mm ²

Electrical Data

Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Encoder input	High > 4V
Interfaces	Ethernet (LAN), RS422, RS232, EtherNet / IP, PROFINET
Inputs / Outputs	2 Inputs, 4 Outputs, 4 selectable inputs/outputs

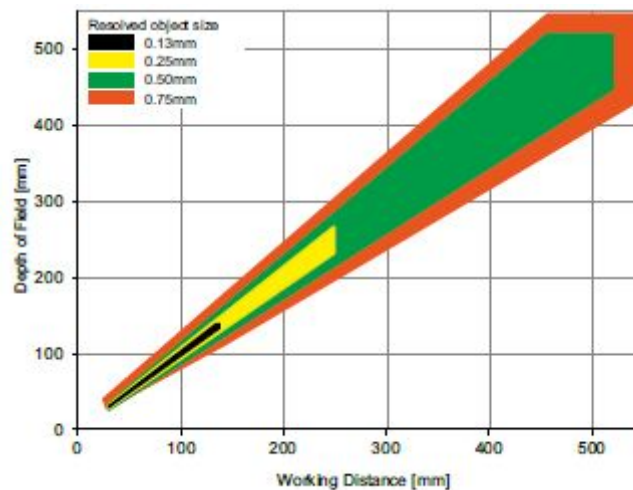
Mechanical Data	
Dimensions	65 x 45 x 45 mm (without plug)
Enclosure rating	IP 67
Material housing	Aluminium, plastic
Material front screen	Plastic
Ambient temperature: operation	0 ... +50° C (80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-polig, Ethernet M12, 4-polig Data M12, 5-polig
Vibration and impact resistance	EN 60947-5-2

Field of View



Focal length: 12 mm

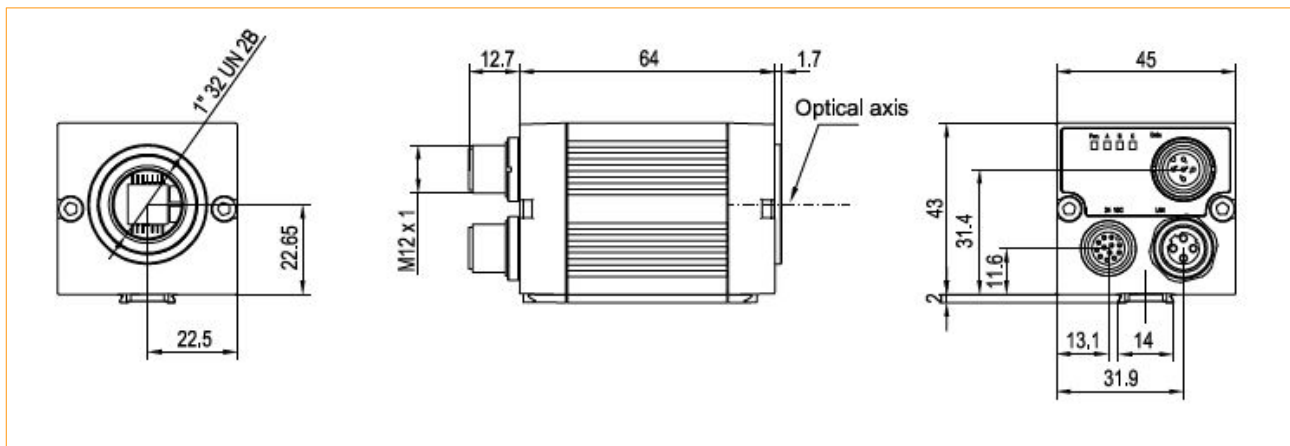
Depth of field: Normal



Focal length: 12 mm Depth of focus: Normal

3. EyeCheck: EC1101, EC1201, EC1300

C-Mount



Optical Data

CMOS sensor	1/1.8" monochrome
Integrated lens, focal length	C-Mount
Adjustment range	Depends on lens
Integrated illumination	none
Minimum field of view X x Y	Depends on lens

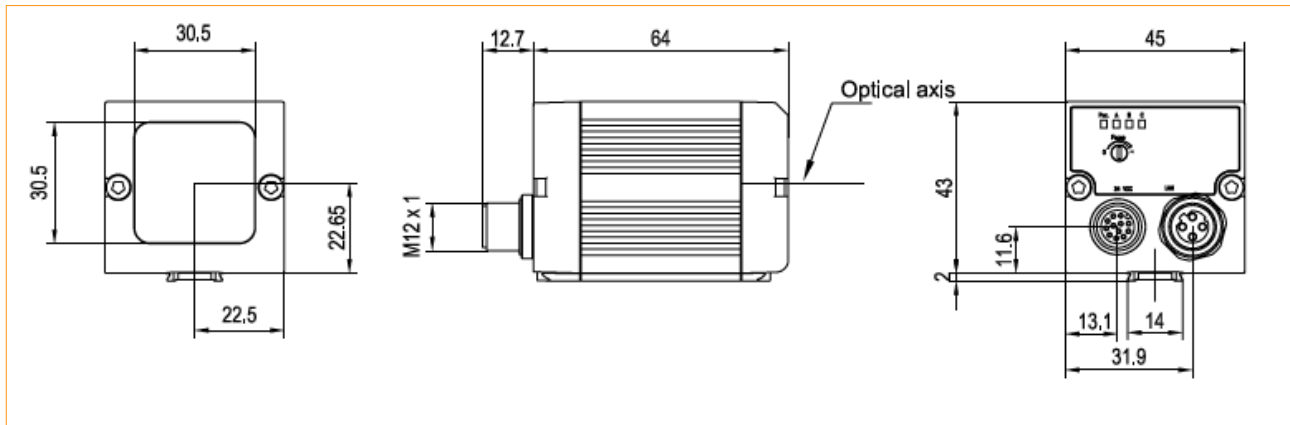
Electrical Data

Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Encoder input	High > 4V
Interfaces	Ethernet (LAN), RS422, RS232, EtherNet / IP, PROFINET
Inputs / Outputs	2 Inputs, 4 Outputs, 4 selectable inputs/outputs

Mechanical Data	
Dimensions	65 x 45 x 45 mm ³ (without plug)
Enclosure rating	IP 65
Material, housing	Aluminium, plastic
Material, front screen	plastic
Ambient temperature: operation	0 ... +50° C (at 80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (at 80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-pin, Ethernet M12, 4-pin Daten M12, 5-pin
Vibration and impact resistance	EN 60947-5-2

4. EyeCheck: EC900, EC910, EC1000, EC1010

4.1. Focal length: 6 mm



Optical Data

CMOS sensor	1/3", monochrome
Integrated lens, focal length	6 mm, adjustable focal position
Adjustment range	6 mm to infinity
Integrated illumination	White, red, infrared LEDs
Minimum field of view X x Y	5 x 4 mm ²

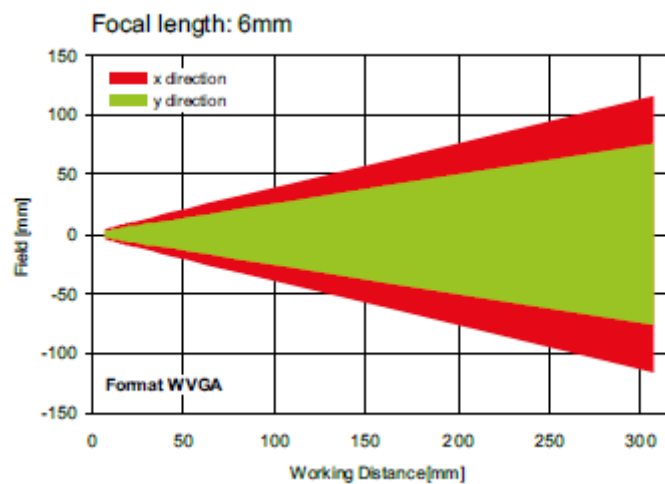
Electrical Data

Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection U _B / Short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Interfaces	Ethernet (LAN), EtherNet / IP, PROFINET
Inputs/Outputs	2 inputs, 4 outputs, 2 selectable inputs/outputs

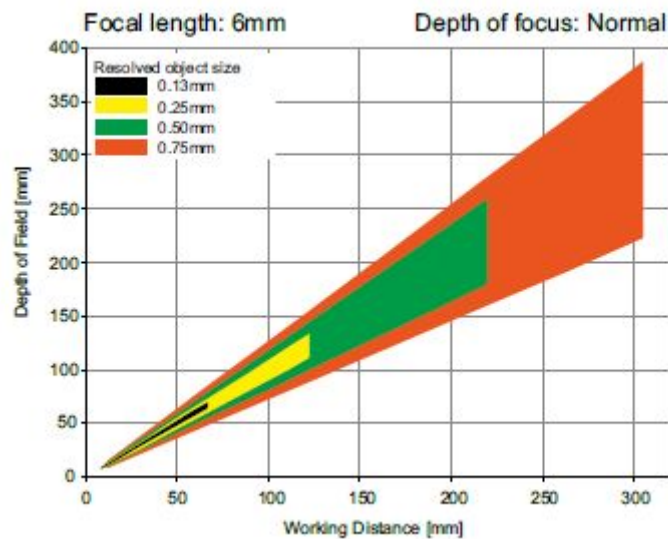
Mechanical Data

Dimensions	65 x 45 x 45 mm ³ (without plug)
Enclosure rating	IP 67
Material, housing	Aluminium, plastic
Material, front screen	Plastic
Ambient temperature: operation	0 ... +50° C (at 80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (at 80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-pin, Ethernet M12, 4-pin
Vibration and impact resistance	EN 60947-5-2

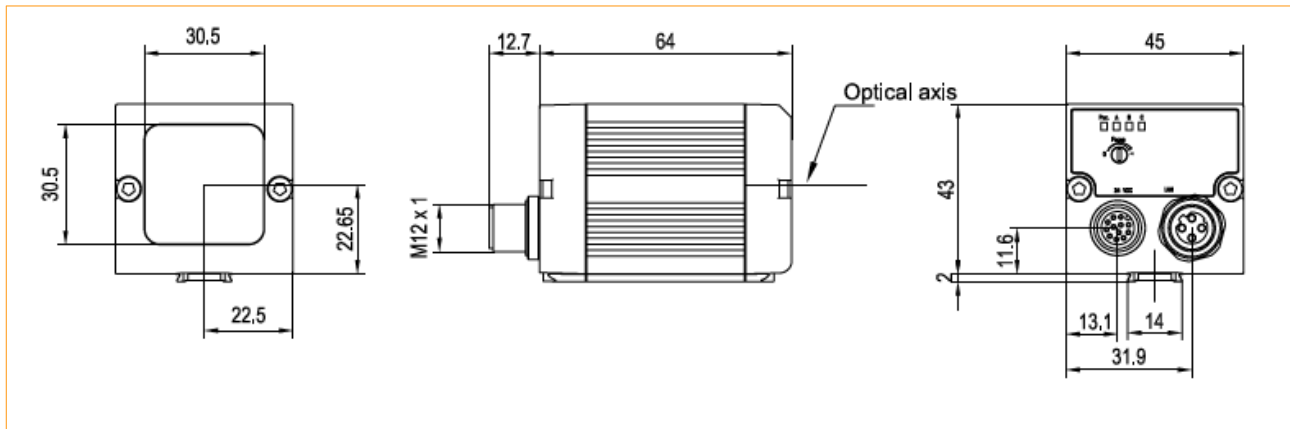
Field of View



Depth of Field: Normal



4.2. Focal length: 12 mm



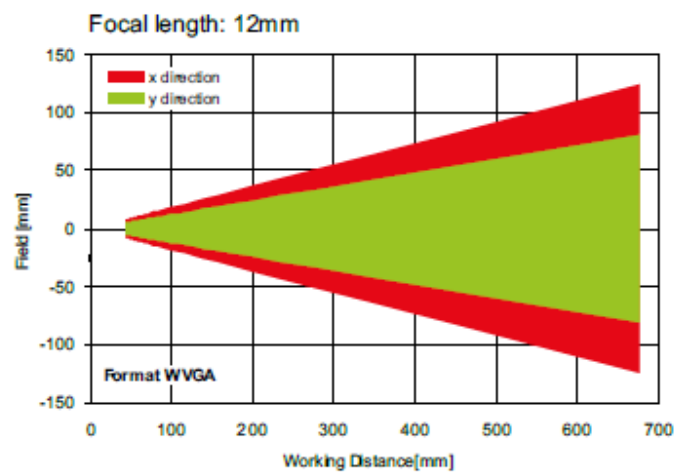
Optical Data	
CMOS sensor	1/3", monochrome
Integrated lens, focal length	12 mm, adjustable focal position
Adjustment range	30 mm to infinity
Integrated illumination	White, red, infrared LEDs
Minimum field of view X x Y	8 x 6 mm ²

Electrical Data	
Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection, U _B / short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Interfaces	Ethernet (LAN), EtherNet / IP, PROFINET
Inputs / outputs	2 inputs, 4 outputs, 2 selectable inputs/outputs

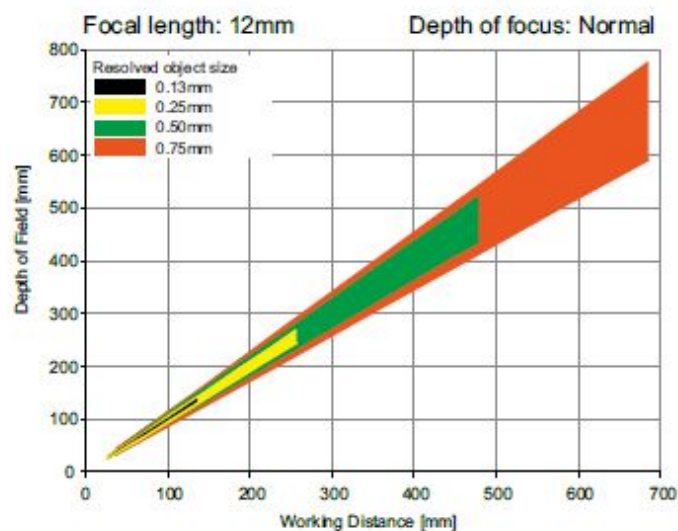
Mechanical Data

Dimensions	65 x 45 x 45 mm ³ (without plug)
Enclosure rating	IP 67
Material, housing	Aluminium, plastic
Material, front screen	plastic
Ambient temperature: operation	0 ... +50° C (at 80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (at 80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-pin, Ethernet M12, 4-pin Data M12, 5-pin
Vibration and impact resistance	EN 60947-5-2

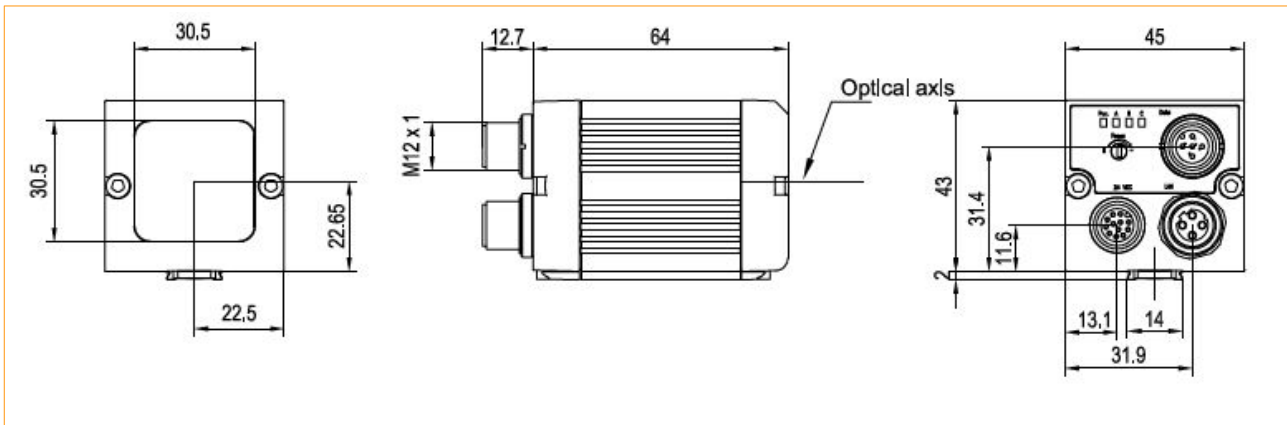
Field of View



Depth of field: Normal



4.3. Focal length: 25 mm



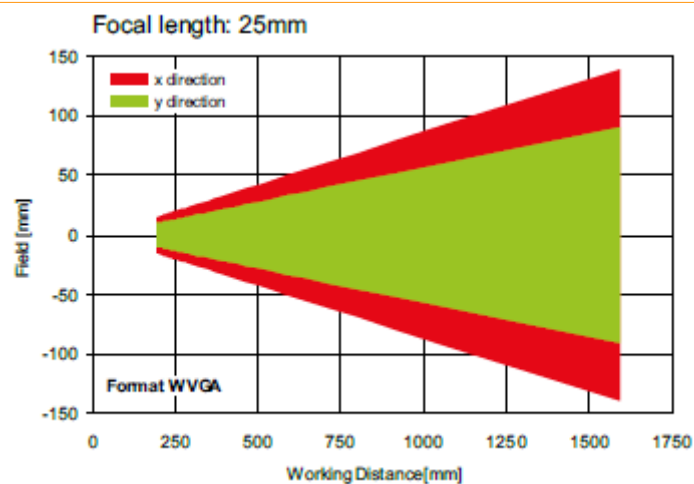
Optical Data	
CMOS sensor	1/3", monochrome
Integrated lens, focal length	25 mm, adjustable focal position
Adjustment range	140 mm to infinity
Integrated illumination	White, red, infrared LEDs
Minimum field of view X x Y	18 x 14 mm ²

Electrical Data	
Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection U _B / short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Encoder Input	High > 4V
Interfaces	Ethernet (LAN), EtherNet / IP, PROFINET
Inputs / Outputs	2 inputs, 4 outputs, 4 selectable inputs / outputs

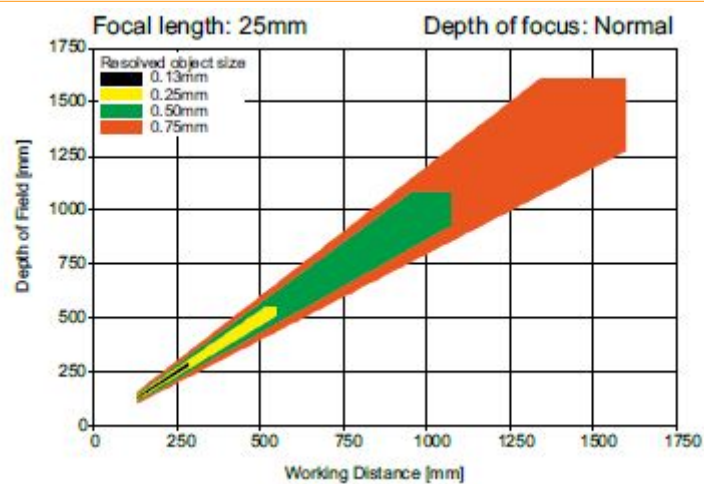
Mechanical Data

Dimensions	65 x 45 x 45 mm ³ (without plug)
Enclosure rating	IP 67
Material, housing	Aluminium, plastic
Material, front screen	plastic
Ambient temperature: operation	0 ... +50° C (at 80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (at 80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-pin, Ethernet M12, 4-pin Data M12, 5-pin
Vibration and impact resistance	EN 60947-5-2

Field of View

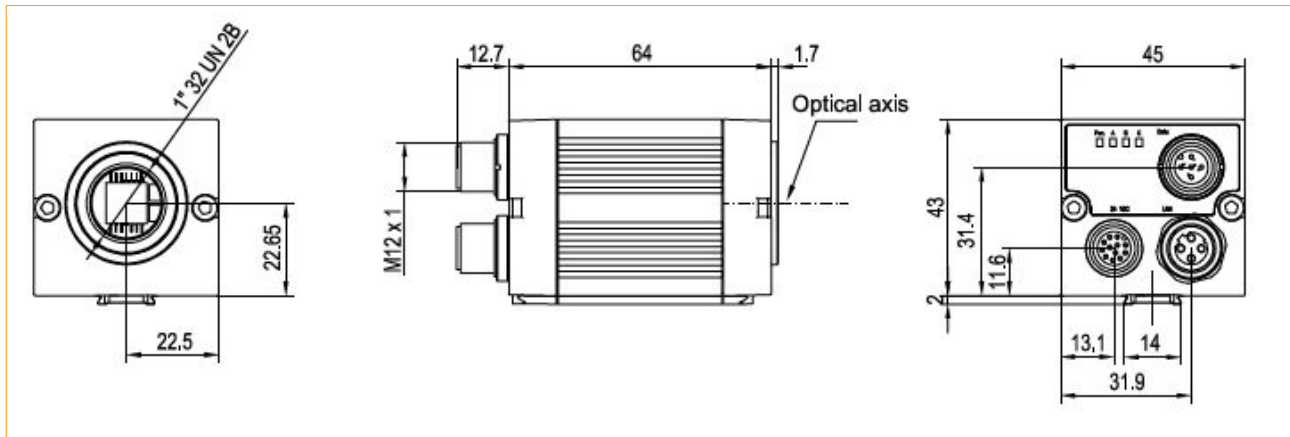


Depth of Field



5. EyeCheck: EC900, EC910, EC1001, EC1011

C-Mount



Optical Data

CMOS Sensor	1/3", monochrome
Integrated lens, focal length	C-Mount
Adjustment range	Depends on lens
Integrated illumination	none
Minimum field of view X x Y	Depends on lens

Electrical Data

Operating voltage +U_B	18 ... 26.4 VDC
Current consumption (without illumination and I/O)	≤ 120 mA
Current consumption (without I/O)	≤ 200 mA
Protective circuits	Reverse-polarity protection U _B / short-circuit protection of all outputs
Power On Delay	ca. 13 s after Power on
Outputs	PNP/NPN (switchable)
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP/NPN High > U _B -1V, Low < 3V
Input resistance	> 20 kΩ
Encoder Input	High > 4V
Interfaces	Ethernet (LAN), RS422, RS232, EtherNet / IP, PROFINET
Inputs / Outputs	2 inputs, 4 outputs 4 selectable inputs / outputs

Mechanical Data	
Dimensions	65 x 45 x 45 mm ³ (without plug)
Enclosure rating	IP 65
Material, housing	Aluminium, plastic
Material, front screen	plastic
Ambient temperature: operation	0 ... +50° C (at 80 % air humidity)
Ambient temperature: storage	- 20... + 60° C (at 80 % air humidity)
Weight	ca. 160 g
Plug connections	Supply and I/O M12, 12-pin, Ethernet M12, 4-pin Data M12, 5-pin
Vibration and impact resistance	EN 60947-5-2