V10 Eyesight

Vision system for complex image-processing applications, 6 mm

CE
IP 67
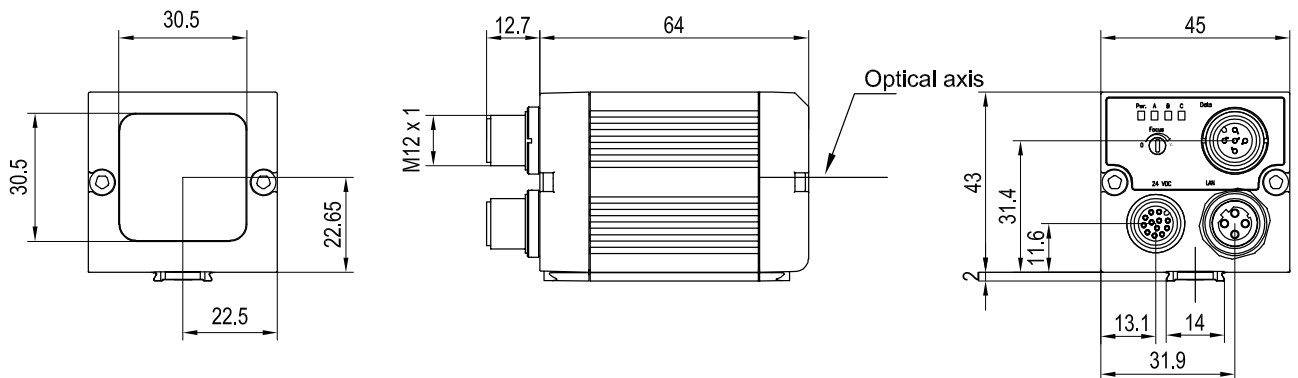c UL us LISTED

PRODUCT HIGHLIGHTS

- Complete image-processing package with robust and flexible hardware
- Programming via drag & drop of function blocks
- Complex, iterative linkage of individual inspections
- Image processing can be simulated on the PC without camera
- Image and result visualisation in inspection mode
- Script interpreter for advanced user functions

Optical data

Resolution	736 × 480 pixels
CMOS	1/3", monochrome or colour
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 × Y	$5 \times 4 \text{ mm}^2$

Functions

Number of inspection programs	No limitation (max. ca. 40 MB)
Functions	All function blocks for object measurement, position determination / tracking, sequence control, data and image transfer, contour inspection, subprogrammes, script interpreter.
Properties	See overview of commands
Typical cycle times	Dependent on inspection programme

Electrical data

Operating voltage, $+U_B$	18 … 26.4 V DC[1]
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
Max. output current (per output)	50 mA, 100 mA (pin 12)
Inputs	PNP High > U_B-1 V, Low < 3 V
Input resistance	> 20 kΩ
Interfaces	Ethernet (LAN), RS422, RS232
Inputs/outputs	2 inputs, 4 outputs, 4 selectable inputs/outputs

Mechanical data

Dimensions	65 × 45 × 45 mm (without plug)
Enclosure rating	IP 67
Material, housing	Aluminium, plastic
Material, front screen	Plastic
Ambient temperature: operation	0 … +50 °C[2]
Ambient temperature: storage	-20 … +60 °C[2]
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

[1] Max. ripple < 5 V_{SS} [3] 80 % air humidity, non-condensing

Illumination	Product variant	Part number	Article number
White	Monochrome	V10-EYE-A1-W6	537-91000
Red	Monochrome	V10-EYE-A1-R6	537-91002
Infrared	Monochrome	V10-EYE-A1-I6	537-91005
White	Colour	V10C-EYE-A2-W6	537-91011

Version: 07/2016. Subject to changes; diagrams similar

V10 vision system

30.5

30.5

22.65

22.5

12.7   64

M12 x 1

Optical axis

45

43

31.4

11.6

2

13.1   14

31.9

153-00911

Par.   A   B   C   Data

Focus

24 VDC   LAN

Field of view

Focal length: 6mm

155-01422

150
100
50
0
-50
-100
-150

Field [mm]

— x direction
— y direction

Format WVGA

0   50   100   150   200   250   300

Working Distance[mm]

Depth of field: normal

Focal length: 6mm   Depth of focus: Normal

155-01409

400
350
300
250
200
150
100
50
0

Depth of Field [mm]

Resolved object size
■ 0.13mm
■ 0.25mm
■ 0.50mm
■ 0.75mm

0   50   100   150   200   250   300

Working Distance [mm]
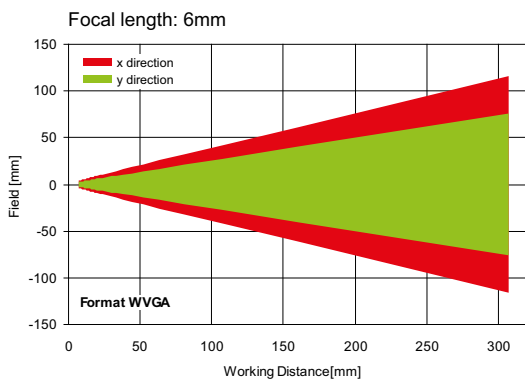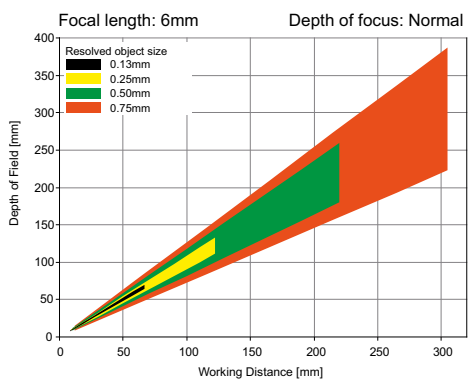
Accessories

Connection cables	From Page A-38
Illumination	From Page A-30
Brackets	From Page A-14
Interface accessories	From Page A-42

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