



Model Number

VOS310-100

Vision sensor for complex object recognition with 6 feature checks and job storage memory

Features

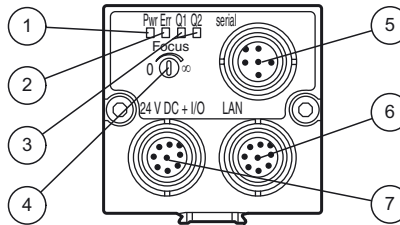
- Five selectable evaluation methods
- With up to 6 feature checks
- Offline parameterization
- Integrated illumination
- External focus setting

Function

The VOS310 is a versatile vision sensor suitable for detection tasks such as presence, completeness and position checks. These tasks can be performed using 5 evaluation methods. The sensor can be configured via the intuitive VOS3 Config PC interface and then operated without a PC.

The sensor also offers the option of linking up to 6 characteristic tests.

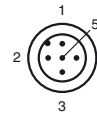
Indicating / Operating means



1	Operating LED	green
2	Error LED	red
3	Signal LED	yellow
4	Focus adjustable	
5	Serial	
6	Ethernet	
7	Power supply + I/O	

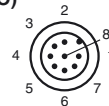
Electrical connection

Pinning according 5-pin M12-connector (serial)



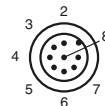
Pin	Signal	Color
1	RxD+	white
2	RxD-	brown
3	TxD+	green
4	TxD-	yellow
5	GND	grey

Pinning according 8-pin M12-connector (24 V DC + I/O)



Pin	Signal	Color	
1	IN1	white	(TRIGGER)
2	+24 V DC	brown	
3	OUT3	green	(RESULT)
4	OUT2	yellow	(READY)
5	IN2	grey	
6	OUT1	pink	(EXT_ILL)
7	GND	blue	
8	OUT4	red	(POSITION)

Pinning according 8-pin M12-connector (LAN)



Pin	Signal
1	
2	
3	
4	TxD-
5	RxD+
6	TxD+
7	
8	RxD-

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Technical data**General specifications**

Object distance	20 ... 500 mm , Nominal 100 mm
Light source	Integrated LED lightning or External lighting
Light type	White light
Approvals	CE, cULus
Picture detail	8 mm x 6 mm ... 135 mm x 100 mm , dependant of operating distance 30 mm x 22 mm At 100 mm operating distance
Trigger mode	Free-running or triggered externally
Depth of focus	± 5 % of the operating distance
Resolution	640 x 480 pixels
Capture range	adjustable

Parameterization/software

Parameter assignment	Parameterization via PC user interface VOS3-Config
Evaluations per picture	
Position detection	Can be activated/deactivated
Feature detection	1 ... 6
Location tracing	Location tracing with result from position detection
Evaluation procedure	
Position detection	Focal point Touch Pattern Correlation
Feature check	Grey scale value Gradient Contrast Pattern Contour

Indicators/operating means

Operating display	LED green
Function display	LED red: fault signal , LED yellow: switching state (2x) : Position OK/features OK
Focus setting	Focus adjustable via set screw

Electrical specifications

Operating voltage	U _B	24 V DC ± 20 %
Ripple		5 V _{pp}
Operating current		200 mA without load
Protection class		2

Interface

Interface type	Ethernet 100 MBit/s , RS 422
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Input

Input voltage	24 V
Control input	External triggering
switching threshold	high: ≥ 10 V, low: ≤ 3 V , trigger on the ascending edge

Output

Switching type	NO pnp optically decoupled , short-circuit/overload protected
Switching voltage	24 V
Switching current	max. 200 mA each output
Pulse extension	adjustable

Output 1

Output type	Connection to external lighting
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Output 2

Output type	Ready for operation
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Output 3

Output type	All features within tolerance
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Output 4

Output type	Position detected/within tolerance
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Ambient conditions

Ambient temperature	0 ... 50 °C (273 ... 323 K)
Storage temperature	-20 ... 60 °C (253 ... 333 K)
Shock resistance	< 50 g

Mechanical specifications

Protection degree	IP67
Connection	M12 connector, 5 pin ; 2 x M12 connector, 8-pin
Material	
Housing	anodised aluminium , plastic
Optical face	Plastic pane
Installation	with Fixation clamp for sensors with dove tail
Mass	approx. 170 g

Compliance with standards and directives

Directive conformity	
EMC Directive 2004/108/EC	EN 60947-5-2
Standard conformity	

Accessories**OMH-VOS300-K01**

Mounting aid

VOL300-FL45-RT

External lighting

OMH-VOS300-01

Mounting aid

VOL300-FL45-WH

External lighting

V19-G-3M-PUR ABG-V45X-G

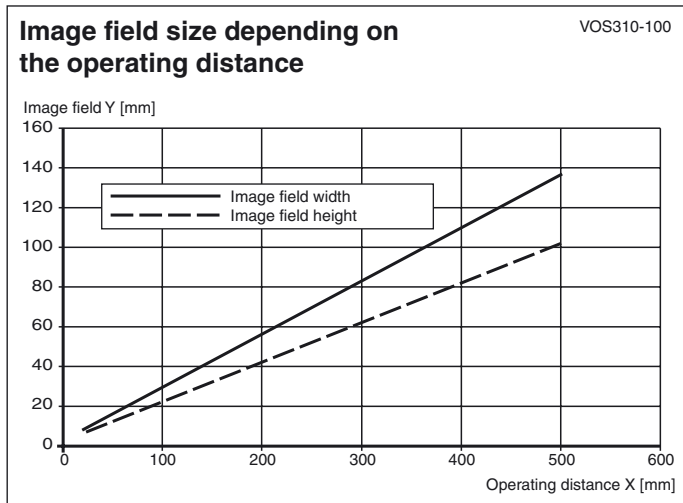
Connection cable

V19-G-3M-PUR ABG-V45-G

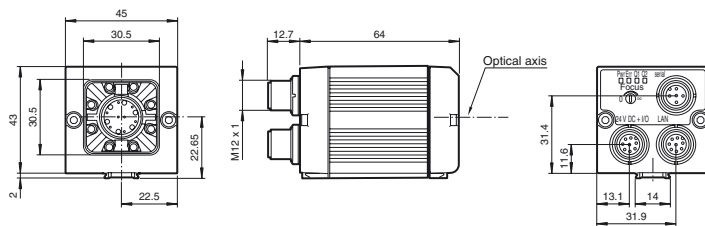
Connection cable

Electromagnetic compatibility	EN 61000-4-2/3/4/6
Mech. capacity	EN 60068-2-6 , EN 60068-2-27
Shock and impact resistance	EN 60947-5-2

Curves / Diagrams



Dimensions



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