VL-COX Coaxial Light

On-axis diffuse LED light for flat, reflective surfaces and small parts, 4 sizes, 24 V DC with PNP / NPN trigger



KEY DATA

Light type
Coaxial light for on-axis diffuse illumination

Colours and wavelength
Red 625 nm · White 6500 K

Sizes
32-16, 50-35, 94-78, 148-133 (see model table)

Supply voltage
24 V DC

Overview

The VL-COX is a coaxial light for machine vision. A light guide directs the light along the camera axis, so flat and reflective surfaces appear evenly lit — for crack and defect detection, pin position checks inside holes and OCR on small metal parts.

Key features

- Light guiding for a full coaxial effect
- On-axis diffuse illumination, ideal for small parts
- High-intensity LEDs designed for maximum illumination
- Compact design to fit narrow spaces
- Thermal film for heat transfer
- Red 625 nm or white 6500 K; IR 850 nm and UV 365 nm on request
- PNP and NPN trigger input
- 24 V DC, M8 4-pin connector, IP50 (IP67 on request)

Technical specifications

Light type	Coaxial light for on-axis diffuse illumination
Sizes	32-16, 50-35, 94-78, 148-133 (see model table)
Colours and wavelength	Red 625 nm · White 6500 K
Infrared and UV	IR 850 nm and UV 365 nm on request
Light angle	120°
Supply voltage	24 V DC
Power consumption	1 – 23.5 W depending on size and colour (see model table)
Trigger input	PNP or NPN — apply one signal, not both
Connection	M8 4-pin connector on a 300 mm cable
Degree of protection	IP50 (IP67 on request)
Housing	Aluminium, black anodised
Mounting	4 × M3 mounting holes on the back

EMC	2014/30/EU — EMC Directive (EN IEC 55015:2019+A11:2020, IEC 61547:2020)

Models and ordering codes

Model	Colour	Wavelength / colour temperature	Power	A × B	C	D	E
VL-COX-32-16-R-24-C30	Red	625 nm	1 W	32 × 16 mm	41.5 mm	60 mm	39 mm
VL-COX-32-16-W-24-C30	White	6500 K	1.25 W	32 × 16 mm	41.5 mm	60 mm	39 mm
VL-COX-50-35-R-24-C30	Red	625 nm	2 W	50 × 35 mm	59.5 mm	79 mm	58 mm
VL-COX-50-35-W-24-C30	White	6500 K	2.6 W	50 × 35 mm	59.5 mm	79 mm	58 mm
VL-COX-94-78-R-24-C30	Red	625 nm	9 W	94 × 78 mm	103.5 mm	122 mm	101 mm
VL-COX-94-78-W-24-C30	White	6500 K	11.25 W	94 × 78 mm	103.5 mm	122 mm	101 mm
VL-COX-148-133-R-24-C30	Red	625 nm	18 W	148 × 133 mm	157.5 mm	177 mm	156 mm
VL-COX-148-133-W-24-C30	White	6500 K	23.5 W	148 × 133 mm	157.5 mm	177 mm	156 mm

All models: 24 V DC, M8 4-pin connector on a 300 mm cable, IP50 (IP67 on request). IR (850 nm) and UV (365 nm) versions on request. Dimensions A to E as in the drawing.

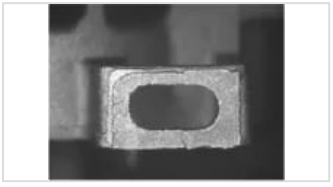
Electrical connection

M8 4-pin connector on a 300 mm cable. The light is switched by a PNP or an NPN trigger signal.

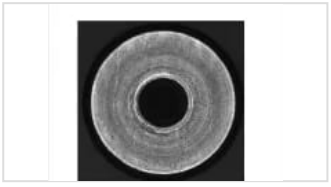
Pin	Function	Wire colour
1	Power in +24 V DC	Brown
2	NPN trigger	White
3	GND	Blue
4	PNP trigger	Black

Apply either the PNP or the NPN trigger signal, not both. Without the correct input current the light output is not consistent.

Sample applications



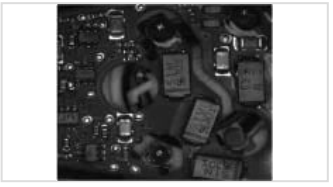
Crack and defect detection on flat metal surfaces



Position detection, surface inspection



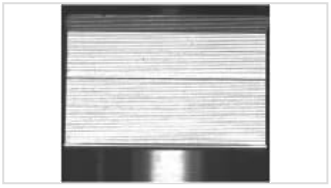
Pin position check, inspection inside holes



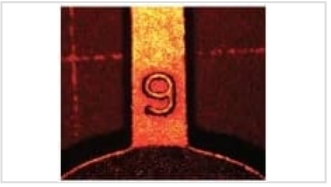
Even, on-axis diffuse light for small objects



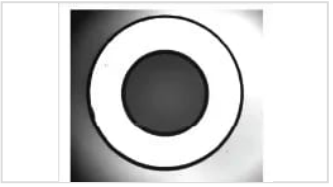
Height differences inside parts



Round part defect detection with rotation and line-scan cameras



OCR on small metal parts

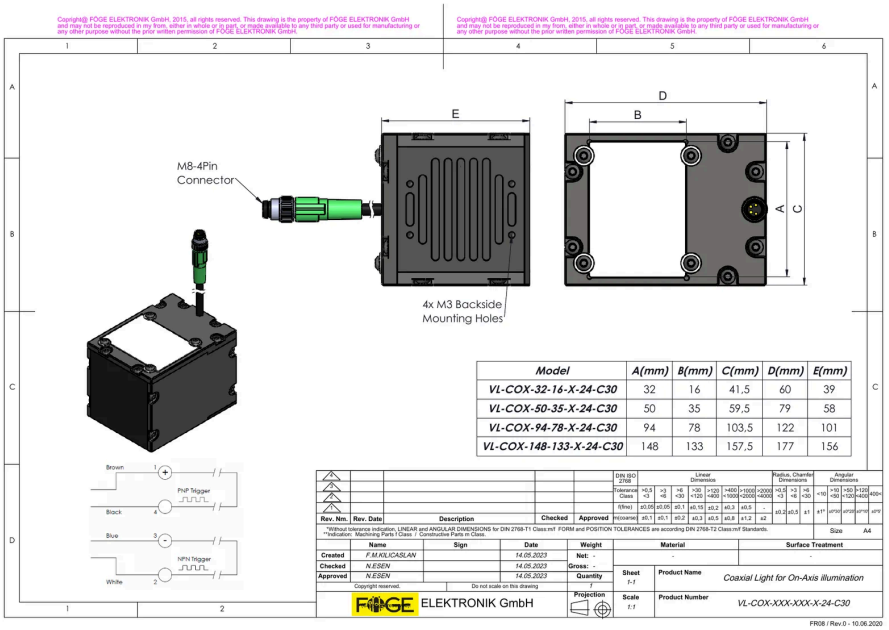


Edge and chamfer defect check on small metal parts

Accessories

Ordering code	Description	Suitable for
TKPM-Z-2.5/4	M8 female connector, straight, PVC cable 4 × 0.25 mm², black, UL/CSA, 2.5 m	All VL-COX models
TKPM-Z-5/4	M8 female connector, straight, PVC cable 4 × 0.25 mm², black, UL/CSA, 5 m	All VL-COX models
TKPM-W-2.5/4	M8 female connector, 90°, PVC cable 4 × 0.25 mm², black, UL/CSA, 2.5 m	All VL-COX models
TKPM-W-5/4	M8 female connector, 90°, PVC cable 4 × 0.25 mm², black, UL/CSA, 5 m	All VL-COX models

Dimensional drawing



Model	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
VL-COX-32-16-X-24-C30	32	16	41,5	60	39
VL-COX-50-35-X-24-C30	50	35	59,5	79	58
VL-COX-94-78-X-24-C30	94	78	103,5	122	101
VL-COX-148-133-X-24-C30	148	133	157,5	177	156

VL-COX dimensional drawing with dimensions A to E for all four sizes, M8 4-pin connector and 4 × M3 rear mounting holes

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