VL-BLC High Intensity Compact Backlight

Compact LED backlight, 30 × 30 to 200 × 200 mm, red or white, 24 V DC with PNP / NPN trigger



KEY DATA

Light type
High-intensity compact LED backlight

Colours and wavelength
Red 625 nm · White 6500 K

Sizes (A × B)
30 × 30 to 200 × 200 mm, 12 sizes (see model table)

Supply voltage
24 V DC

Overview

The VL-BLC is a compact, high-intensity LED backlight for machine vision. It creates high-contrast silhouettes of small parts for measuring diameters, lengths and angles, and for orientation, burr and completeness checks.

Key features

- Twelve sizes from 30 × 30 to 200 × 200 mm
- Maximum LED density for highest light intensity
- Compact design for small areas
- Robust polycarbonate diffuser
- Cooling grooves for a long service life
- 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	High-intensity compact LED backlight
Sizes (A × B)	30 × 30 to 200 × 200 mm, 12 sizes (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	1.2 – 44 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, with cooling grooves
Diffuser	Polycarbonate, robust

Thickness (E)	16 mm
Mounting	4 × M4 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	Size A × B	Outer dimensions C × D	Power
VL-BLC-30-30-R-24-C30	Red	625 nm	30 × 30 mm	37 × 48 mm	1.2 W
VL-BLC-30-30-W-24-C30	White	6500 K	30 × 30 mm	37 × 48 mm	1.4 W
VL-BLC-30-60-R-24-C30	Red	625 nm	30 × 60 mm	37 × 79 mm	2.2 W
VL-BLC-30-60-W-24-C30	White	6500 K	30 × 60 mm	37 × 79 mm	2.7 W
VL-BLC-50-50-R-24-C30	Red	625 nm	50 × 50 mm	55 × 66 mm	2.2 W
VL-BLC-50-50-W-24-C30	White	6500 K	50 × 50 mm	55 × 66 mm	3 W
VL-BLC-60-60-R-24-C30	Red	625 nm	60 × 60 mm	68 × 79 mm	4.5 W
VL-BLC-60-60-W-24-C30	White	6500 K	60 × 60 mm	68 × 79 mm	5.5 W
VL-BLC-75-40-R-24-C30	Red	625 nm	75 × 40 mm	46 × 91 mm	2.7 W
VL-BLC-75-40-W-24-C30	White	6500 K	75 × 40 mm	46 × 91 mm	3.7 W
VL-BLC-90-90-R-24-C30	Red	625 nm	90 × 90 mm	99 × 110 mm	9.5 W
VL-BLC-90-90-W-24-C30	White	6500 K	90 × 90 mm	99 × 110 mm	13 W
VL-BLC-75-120-R-24-C30	Red	625 nm	75 × 120 mm	91 × 126 mm	8 W
VL-BLC-75-120-W-24-C30	White	6500 K	75 × 120 mm	91 × 126 mm	11 W
VL-BLC-50-150-R-24-C30	Red	625 nm	50 × 150 mm	55 × 164 mm	6.5 W
VL-BLC-50-150-W-24-C30	White	6500 K	50 × 150 mm	55 × 164 mm	8.5 W
VL-BLC-100-100-R-24-C30	Red	625 nm	100 × 100 mm	104 × 116 mm	8.5 W
VL-BLC-100-100-W-24-C30	White	6500 K	100 × 100 mm	104 × 116 mm	11 W
VL-BLC-120-120-R-24-C30	Red	625 nm	120 × 120 mm	130 × 141 mm	17 W
VL-BLC-120-120-W-24-C30	White	6500 K	120 × 120 mm	130 × 141 mm	21 W
VL-BLC-150-150-R-24-C30	Red	625 nm	150 × 150 mm	153 × 164 mm	19 W
VL-BLC-150-150-W-24-C30	White	6500 K	150 × 150 mm	153 × 164 mm	23 W
VL-BLC-200-200-R-24-C30	Red	625 nm	200 × 200 mm	202 × 213 mm	34 W
VL-BLC-200-200-W-24-C30	White	6500 K	200 × 200 mm	202 × 213 mm	44 W

All models: 24 V DC, M8 4-pin connector on a 300 mm cable, IP50 (IP67 on request), 16 mm thick. IR (850 nm) and UV (365 nm) versions on request.

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.

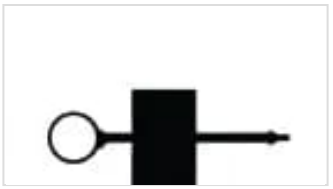
Sample applications



Part orientation, localisation, picking, classification



Groove, part, dimension, completeness check



Diameter, width, length measurement, part position check



Diameter, angle, area, concentricity measurement



Burr, completeness, quality check



Checking parts, holes, orientation inside transparent cover



Fixing points on plastic parts, warping, short shot, flash, burr, presence



Part assembly, positioning, angle check

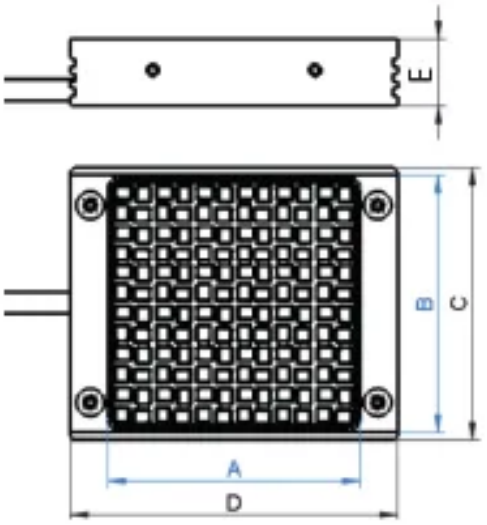


Part assembly, positioning, angle check

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-BLC models
TKPM-Z-5/4	M8 female connector, straight, PVC cable 4 × 0.25 mm², black, UL/CSA, 5 m	All VL-BLC models
TKPM-W-2.5/4	M8 female connector, 90°, PVC cable 4 × 0.25 mm², black, UL/CSA, 2.5 m	All VL-BLC models
TKPM-W-5/4	M8 female connector, 90°, PVC cable 4 × 0.25 mm², black, UL/CSA, 5 m	All VL-BLC models

Dimensional drawing



VL-BLC dimension sketch with light area A × B, outer dimensions C × D and thickness E

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