VL-BAL Long Bar Light

LED bar light for long-range applications, 400 to 2500 mm, 24 V DC with PNP / NPN trigger



KEY DATA

Light type
LED bar light for long-range and large-area illumination

Colours and wavelength
Red 621 nm · Green 528 nm · Blue 470 nm · White 6500 K

Light lengths (B)
400 – 1100 mm in 100 mm steps, 1300 / 1500 / 1700 / 2000 / 2500 mm

Supply voltage
24 V DC

Overview

The VL-BAL is a long LED bar light for machine vision. It delivers high light output over long working distances and illuminates large parts, bins and webs evenly — for positioning, presence checks, colour checks and web inspection.

Key features

- Lengths from 400 to 2500 mm
- Automotive-grade LEDs with constant-current drive
- High power for long-range applications
- Red 621 nm, green 528 nm, blue 470 nm or white 6500 K; IR 850 nm and UV 365 nm on request
- PNP and NPN trigger input for all colours
- Transparent or frosted diffuser
- Cooling grooves for a long service life
- 24 V DC, M12 5-pin connector on the housing, IP50

Technical specifications

Light type	LED bar light for long-range and large-area illumination
Light lengths (B)	400 – 1100 mm in 100 mm steps, 1300 / 1500 / 1700 / 2000 / 2500 mm
Profile (A × C)	32 × 55.5 mm
Colours and wavelength	Red 621 nm · Green 528 nm · Blue 470 nm · White 6500 K
Infrared and UV	IR 850 nm and UV 365 nm on request
LED beam angle	Red 32° · Green 34° · Blue 34° · White 30°
LEDs	Automotive-grade LEDs, constant-current drive
Supply voltage	24 V DC
Power consumption	10.94 – 69.12 W depending on length and colour (see model table)
Trigger input	PNP or NPN — apply one signal, not both
Connection	M12 5-pin connector on the housing (no cable, ordering code ending -C)

Degree of protection	IP50
Housing	Steel, black painted, with cooling grooves
Diffuser	Transparent or frosted
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	Light length B	Total length D
VL-BAL-25-400-R-24-C	Red	621 nm	17.28 W	400 mm	445 mm
VL-BAL-25-400-G-24-C	Green	528 nm	16.42 W	400 mm	445 mm
VL-BAL-25-400-B-24-C	Blue	470 nm	10.94 W	400 mm	445 mm
VL-BAL-25-400-W-24-C	White	6500 K	13.68 W	400 mm	445 mm
VL-BAL-25-500-R-24-C	Red	621 nm	21.60 W	500 mm	545 mm
VL-BAL-25-500-G-24-C	Green	528 nm	20.52 W	500 mm	545 mm
VL-BAL-25-500-B-24-C	Blue	470 nm	13.68 W	500 mm	545 mm
VL-BAL-25-500-W-24-C	White	6500 K	17.10 W	500 mm	545 mm
VL-BAL-25-600-R-24-C	Red	621 nm	25.92 W	600 mm	645 mm
VL-BAL-25-600-G-24-C	Green	528 nm	24.62 W	600 mm	645 mm
VL-BAL-25-600-B-24-C	Blue	470 nm	16.42 W	600 mm	645 mm
VL-BAL-25-600-W-24-C	White	6500 K	24.00 W	600 mm	645 mm
VL-BAL-25-700-R-24-C	Red	621 nm	30.24 W	700 mm	745 mm
VL-BAL-25-700-G-24-C	Green	528 nm	28.72 W	700 mm	745 mm
VL-BAL-25-700-B-24-C	Blue	470 nm	19.16 W	700 mm	745 mm
VL-BAL-25-700-W-24-C	White	6500 K	27.42 W	700 mm	745 mm
VL-BAL-25-800-R-24-C	Red	621 nm	34.56 W	800 mm	845 mm
VL-BAL-25-800-G-24-C	Green	528 nm	32.82 W	800 mm	845 mm
VL-BAL-25-800-B-24-C	Blue	470 nm	21.90 W	800 mm	845 mm
VL-BAL-25-800-W-24-C	White	6500 K	30.84 W	800 mm	845 mm
VL-BAL-25-900-R-24-C	Red	621 nm	38.88 W	900 mm	945 mm
VL-BAL-25-900-G-24-C	Green	528 nm	36.92 W	900 mm	945 mm
VL-BAL-25-900-B-24-C	Blue	470 nm	24.64 W	900 mm	945 mm
VL-BAL-25-900-W-24-C	White	6500 K	34.26 W	900 mm	945 mm
VL-BAL-25-1000-R-24-C	Red	621 nm	43.20 W	1000 mm	1045 mm
VL-BAL-25-1000-G-24-C	Green	528 nm	41.02 W	1000 mm	1045 mm
VL-BAL-25-1000-B-24-C	Blue	470 nm	27.38 W	1000 mm	1045 mm
VL-BAL-25-1000-W-24-C	White	6500 K	37.68 W	1000 mm	1045 mm
VL-BAL-25-1100-R-24-C	Red	621 nm	47.52 W	1100 mm	1145 mm
VL-BAL-25-1100-G-24-C	Green	528 nm	45.12 W	1100 mm	1145 mm
VL-BAL-25-1100-B-24-C	Blue	470 nm	30.12 W	1100 mm	1145 mm
VL-BAL-25-1100-W-24-C	White	6500 K	41.10 W	1100 mm	1145 mm
VL-BAL-25-1300-R-24-C	Red	621 nm	51.84 W	1300 mm	1345 mm
VL-BAL-25-1300-G-24-C	Green	528 nm	49.22 W	1300 mm	1345 mm
VL-BAL-25-1300-B-24-C	Blue	470 nm	32.86 W	1300 mm	1345 mm
VL-BAL-25-1300-W-24-C	White	6500 K	44.52 W	1300 mm	1345 mm
VL-BAL-25-1500-R-24-C	Red	621 nm	56.16 W	1500 mm	1545 mm

Model	Colour	Wavelength / colour temperature	Power	Light length B	Total length D
VL-BAL-25-1500-G-24-C	Green	528 nm	53.32 W	1500 mm	1545 mm
VL-BAL-25-1500-B-24-C	Blue	470 nm	35.60 W	1500 mm	1545 mm
VL-BAL-25-1500-W-24-C	White	6500 K	47.94 W	1500 mm	1545 mm
VL-BAL-25-1700-R-24-C	Red	621 nm	60.48 W	1700 mm	1745 mm
VL-BAL-25-1700-G-24-C	Green	528 nm	57.42 W	1700 mm	1745 mm
VL-BAL-25-1700-B-24-C	Blue	470 nm	38.34 W	1700 mm	1745 mm
VL-BAL-25-1700-W-24-C	White	6500 K	51.36 W	1700 mm	1745 mm
VL-BAL-25-2000-R-24-C	Red	621 nm	64.80 W	2000 mm	2045 mm
VL-BAL-25-2000-G-24-C	Green	528 nm	61.52 W	2000 mm	2045 mm
VL-BAL-25-2000-B-24-C	Blue	470 nm	41.08 W	2000 mm	2045 mm
VL-BAL-25-2000-W-24-C	White	6500 K	54.78 W	2000 mm	2045 mm
VL-BAL-25-2500-R-24-C	Red	621 nm	69.12 W	2500 mm	2545 mm
VL-BAL-25-2500-G-24-C	Green	528 nm	65.62 W	2500 mm	2545 mm
VL-BAL-25-2500-B-24-C	Blue	470 nm	43.82 W	2500 mm	2545 mm
VL-BAL-25-2500-W-24-C	White	6500 K	58.20 W	2500 mm	2545 mm

All models: 24 V DC, M12 5-pin connector on the housing (no cable), IP50. IR (850 nm) and UV (365 nm) versions on request.

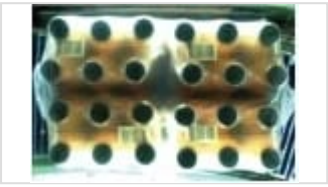
Electrical connection

M12 5-pin connector on the housing (no 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
5	Not connected	—

Apply either the PNP or the NPN trigger signal, not both. Without the correct input current the light output is not consistent. Pin 5 is not used; the 4-pin cable VKPM-Z-5/4 fits.

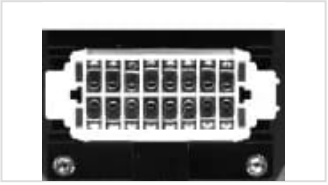
Sample applications



Large-area part counting, cap counting, positioning



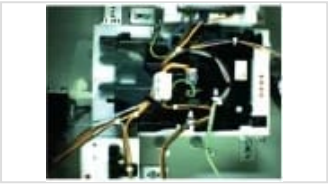
Large-area line-scan applications, washing-machine drum



Part positioning, presence, angle check



Large part positioning, orientation for robots, LCD panel



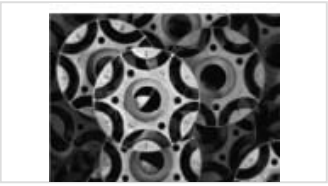
Colour check, part assembly, positioning



Large metal part positioning, hole check, classification



Diaper, non-woven and web inspection

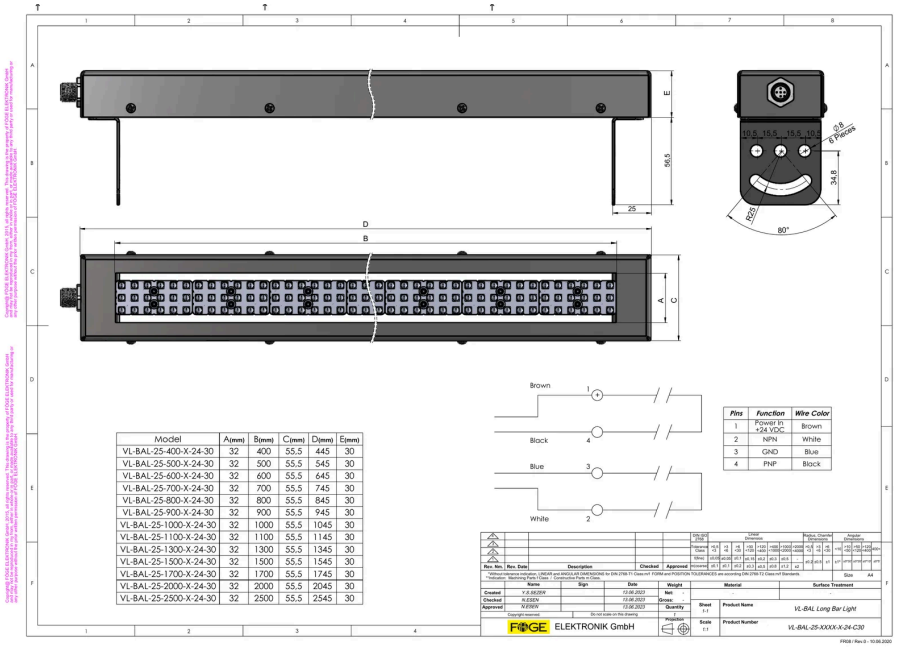


Part positioning, location in large bins

Accessories

Ordering code	Description	Suitable for
VKPM-Z-5/4	M12 female connector, straight, 4-pin, PVC cable 4 × 0.34 mm², 5 m, open end, IP67	All VL-BAL models

Dimensional drawing



VL-BAL dimensional drawing with dimensions A to E for 400 to 2500 mm, profile cross-section and pin assignment

Product information and ordering: sales@fogegmbh.com · +49 9372 9809477 · www.fogegmbh.com