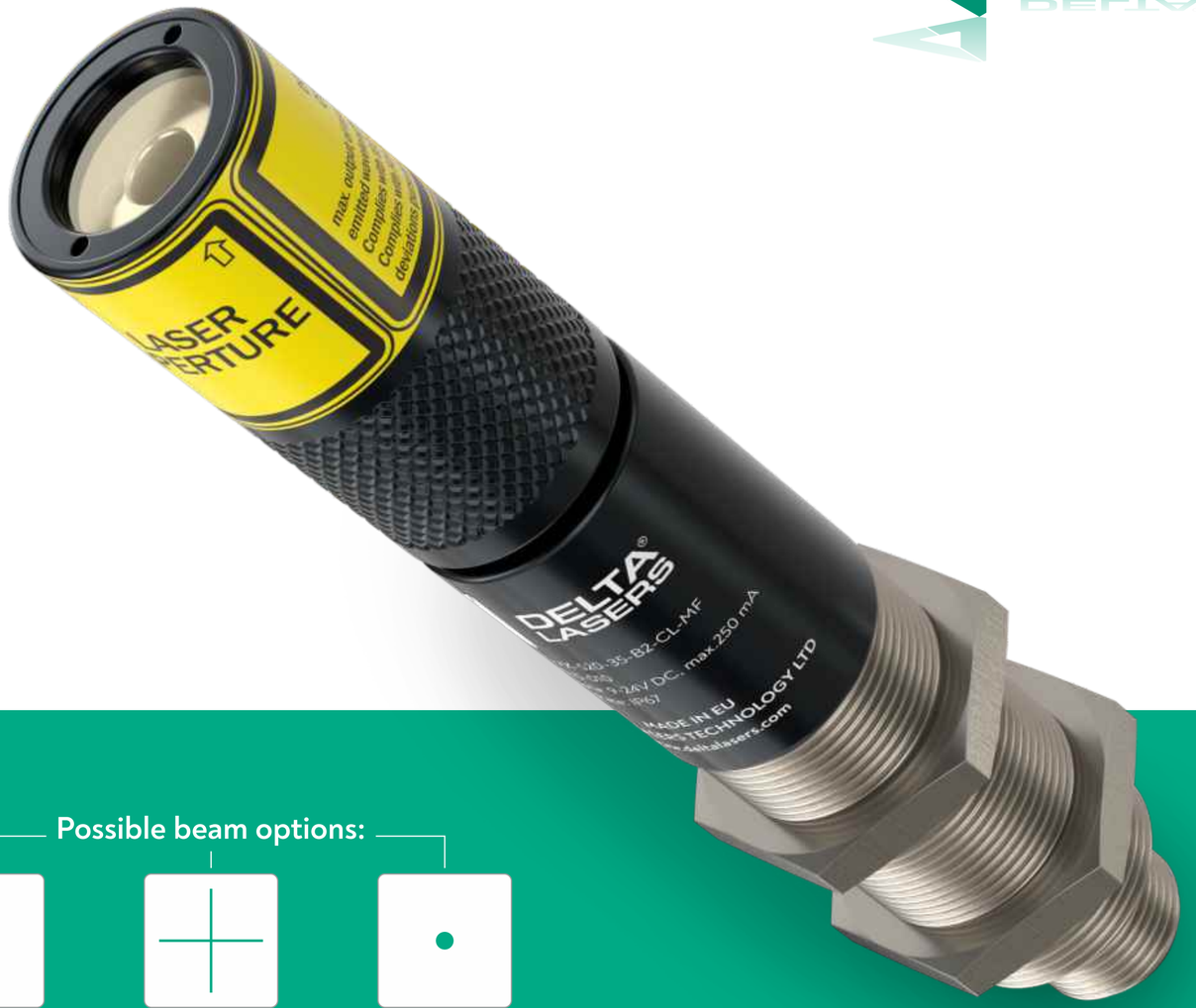
DELTA VX Series

positioning lasers

PRODUCT DATASHEET

- Applications
- Features
- Specifications
- Connetcors & Glands
- Mounts
- User's Manual



Possible beam options:

Line Cross Spot

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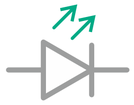
Certified Dust & Water Protection

Manual Focus

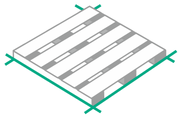
9 - 24 V



LD Technology

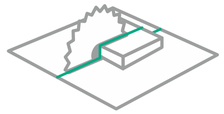
Shock Resistant

Line | Cross | Spot



Definition of Safety Areas

3D Measurements



Hight-Precision Positioning & Alignment

DELTA VX Series

The DELTA VX Series lasers are designed for highly precise positioning in industrial part-processing applications. The series is available with violet, blue, green, and red laser diodes in a compact Ø20 mm laser head, offering optical output power up to 170mW with a manually adjustable focus and a wide 9–24 V DC supply range. The Ø20 mm aluminum housing is optimized for effective heat dissipation and features an integrated M18×1 threaded mounting interface for easy and secure mechanical installation. This laser head offers the flexibility to project line, cross, Gaussian, or Uniform laser profiles with opening angles ranging from 5° to 110°, and also supports DOE projection profiles, such as circle, grid, square, and multi lines patterns, for advanced alignment applications.

SKU:/ Order Code

Model	Wavelenght	Optical Power	Projection Profile	Projection Optics	Focus
DL-VX	XXX	XXX	XX	XX	XX
Example: SKU: DL-VX-520-10-B2-PL(60°)-MF					

Overview

- Solid industrial aluminum enclosure
- Threaded mounting: M18×1
- Degree of protection: IP67
- Wavelength range: 405 nm – 638 nm
- Optical output power: up to 170 mW
- Precision optics for a thin and bright line
- Manual focus
- Digital modulation
- Electrically isolated housing
- Integrated temperature protection

Applications

- Alignment and positioning
- Process control
- Measuring and gauging systems
- Machine vision and inspection
- High-speed industrial inspection
- Woodworking and material processing
- 3D contour mapping
- Safety and guidance systems

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Technical Specifications

Wavelength, nm	405	445	520	520	520	635	638
Optical power, mW	≤5, ≤30	≤20, ≤100	≤5, ≤10	≤20, ≤50	≤80	≤5, ≤35	≤100, ≤150
Laser class	1 ~ 2	2 ~ 3R	1	2 ~ 2M	2M ~ 3R	1 ~ 2	3R
Technology	Diode	Diode	Diode	Diode	Diode	Diode	Diode
Operating temperature, °C	-10 ~ +60	-10 ~ +70	-10 ~ +60	-10 ~ +60	-20 ~ +60	-20 ~ +60	-20 ~ +65
Storage temperature, °C	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85	-40 ~ +85

Electrical Specifications

Input voltage	9 – 24V DC	9 – 24V DC	9 – 24V DC	9 – 24V DC	9 – 24V DC	9 – 24V DC	9 – 24V DC
Operating current	60 mA	75 mA	50 mA	60 mA	120 mA	45 mA	120 mA
Protection from high temperature	no	no	no	no	yes	no	yes

Electrical protection	Protection from polarity reversal, Overvoltage protection
Electrical isolation	Potential-free housing
Connection	4-pin M12 connector, cable length: 2,5 m, 5 m, 10 m, 15 m
Input voltage polarity	PIN 3 Blue color (–) PIN1 Brown color (+)

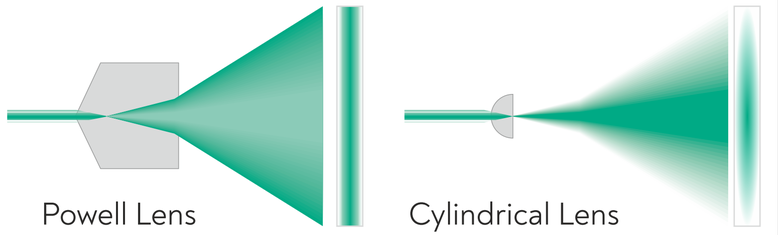
Digital modulation (PWM)

0V - 3,3V/5V/Vin, 5 kHz (upon request)

Optical Specifications

Projection profiles	*(B1) Point *(B2) Line *(B3) Cross
Gaussian line	*(CL) 90° – 110° (Gaussian lines profile)
Homogeneous line	*(PL) homogeneous lines with fan angle - 5°, 20°, 30°, 45°, 60°, 90°, 110°
Focus	Manual focus
DOE projection	Grid, Crossed lines, Circle, Square (on request)

Uniform Line Beam **Gaussian Line Beam**



Powell Lens Cylindrical Lens

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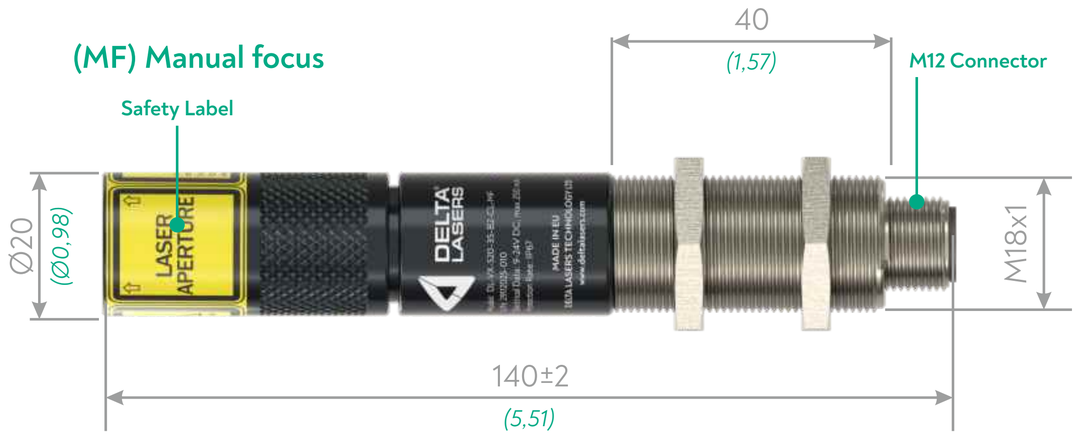
Drawing Specifications

All sizes are in mm *(inches)*.



Mechanical Specifications

Dimensions, mm	Laser head diameter: Ø20 mm Length: 140 mm with manual focus
Weight, g	120
Material	Aluminum
Protection rating	IP67

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Connectors & Glands

4-pin M12 connector

4-pin M12 connector

4-pin M12 connector

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Mounts

SKU: VM-20
Model VM-20

Aluminum mount for ∅25 mm laser modules with 90° tilt adjustment, optimized heat dissipation, and mounting slots for M4 fasteners.

SKU: VXM-18
Model VXM-18

Compact aluminum mount with M18×1 threaded interface, designed for secure and precise installation of VX Series laser modules.

SKU: CV-20
Model CV-20

Wall-mounted aluminum bracket for ∅20 mm positioning laser modules, designed for CNC stone-cutting machines, featuring 150 mm X-axis adjustment and precise fine regulation via M4 hex screws.

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