ZQ1-MagicLine

More performance and visibility with certified eye safety

The Z-LASER ZQ1-MagicLine sets new standards in line laser technology. With an optical output power of 600 mW in compliance with laser class 2M safety standards, the ZQ1-MagicLine combines unrivalled performance with reliable safety. This combination makes it the world´s brightest eye-safe laser in its class.

Specially developed for industrial applications where visibility and safety are paramount, the ZQ1-MagicLine is characterized by its wavelength of 520 nm and green laser light, which is particularly well perceived by the human eye. The aperture angle of 70° enables long and clearly visible laser lines, while the adjustable line width offers additional customization options through manual focusing.

Wavelength: 520 nm

600 mW optical power

Laser class 2M for guaranteed eye safety

70° fan angle

Adjustable line width through focusing

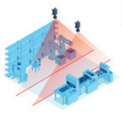
12-24VDC connection and compatible power supply: WPS-24-M12-65W

Z-LASER
An Exaktera Company

Highlights

- 600 mW optical output power
- Eye-safe according to laser class 2M
- 70° fan angle
- Connection via 5-pin plug (12-24VDC) or 110-230VAC power supply unit
- Manually focusable
- IP67 RATED

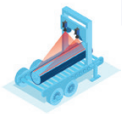
Logistics



Safety areas

Bridge saws

Concrete saws



Saw mills

Loading & unloading assistance

sensorpartners.com

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System specification

Wavelength	nm	520
Wavelength tolerance	nm (typical)	±10
Wavelength drift	nm (temperature stabilized, over total operating temperature)	< 1
Output power	mW	≤600
Spatial mode		Multi Transverse Mode
RMS noise (20 Hz to 20 MHz)	%	< 0.5
Peak-to-Peak Noise (20 Hz to 20 MHz)	%	< 1
Pointing stability over temp.	µrad / K	< 6
Long-term power stability (24h)	%	< 1
Warm-up time	min	< 2
Laser operation mode		APC

Electrical specification

Operating voltage	VDC	12 - 24
Operating current (max. at 25 °C)	A	< 4
Protection		Over temperature protection and LED pre-failure indicator, reverse polarity and transient protection (ESD, burst & surge)
Electrical isolation of housing		high-impedance to GND (1MΩ)
Connection		5-pin M12 plug
Power consumption	W	< 40

Optical specification

Fan angles (1)	° Degrees	70 (Gaussian line profile)
Line straightness (2)	% (of line length)	< 0.1
Focus range	mm / in	100 up to 10,000 / 3.94 up to 393.70

Digital modulation

Maximum frequency	kHz	up to 200
Rise time (Mod High ➡ 90 %)	ns	< 500
Fall time (Mod Low ➡ 10 %)	ns	< 350
Signaling levels		VIL_max < +1.1 V VIH_min > +2.5 V
Operation range	VDC	0 - 30

Analoge modulation

Maximum bandwidth	Hz	< 10
Linearity		<5 % (from 10 % to 100 % of laser power)
Active range	VDC	0 - 2
Impedance		240 kΩ to internal VCC (3.6 V)
Operation range	VDC	0 - 30

Environmental conditions

Base Plate temperature	°C / °F	-10 to +50 / 14 to +122
Storage temperature	°C / °F	-40 to +60 / 40 to +140
Humidity	%	< 90, non-condensing
Dissipated heat	W	Max. 35
Shock and vibration		DIN EN 60068-2-64:2009-04, DIN EN 60068-2-27:2010-02

Mechanical Specifications

Weight	g	740
Dimension	mm / in	205 x 65,2 x 53,3 / 8.07 x 25.67 x 20.99
Diameter head Ø	mm / in	50 / 1.97
Material		Aluminum (black anodized/blue-lacquered)
Protection class		IP 67
Mounting		4x M4 screws (not included)

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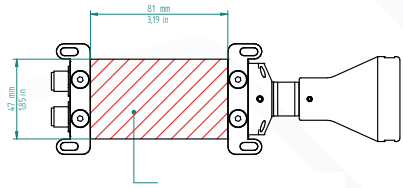

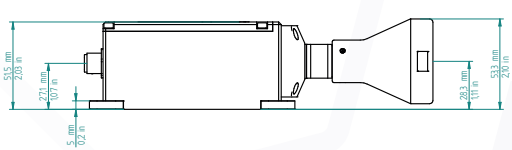

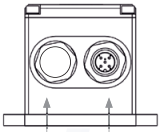

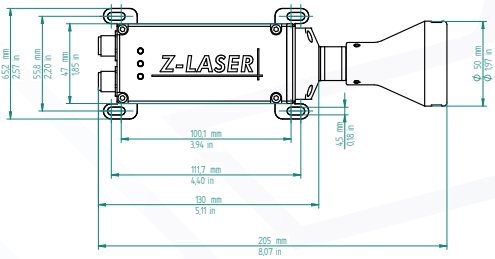

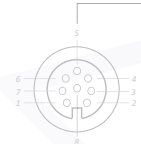

M12 8-Pin Connector A-Coding Male

Not required für Positioning Applications (sealed protective cap)

M12 5-Pin Connector A-Coding Male

1	12-24 VDC, 40 VA
2	Digital-Modulation TTL
3	GND
4	Analog-Modulation (0-2 VDC)
5	Fail out (open-drain)

SENSOR PARTNERS

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