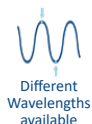
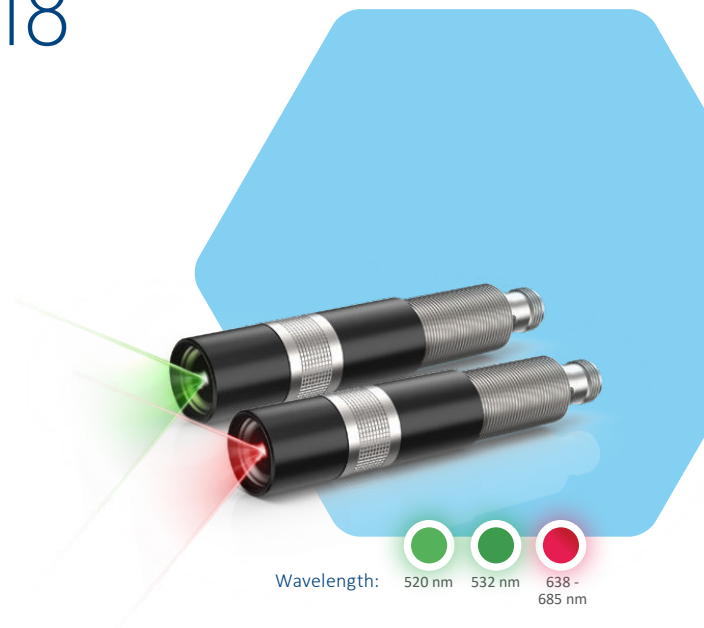


Product Family ZM18

The perfect allrounder

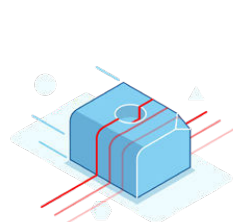
The products of the ZM18 series set the standard for modern laser modules for industrial use. You can select the right laser for your positioning application from more than 1,000 different variants.

The compact, sensor-like design enables easy integration into existing machines or systems. Easy-to-operate focussing optics complete the product. It's the perfect allrounder!

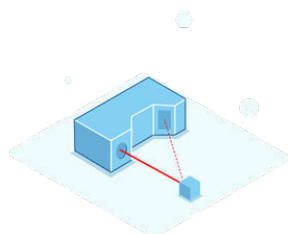


Highlights

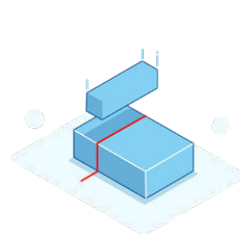
- Manual or fixed focus
- TTL modulation up to 500 kHz
- Analog intensity control
- Optical output power up to 120 mW
- Wavelengths from 520 - 685 nm
- Industrial standard
- IP67



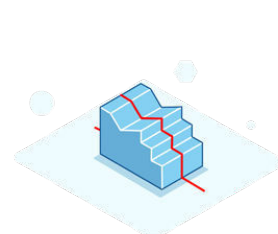
Machine Vision



Triangulation Sensors



High-Precision Positioning Tasks



3D-Measurement

Order Code

Output power	Product family	Size of head	Electronics	F-focussable	Wavelength	Optic
Z??	M18	?	?	?	?	?

System specifications

Wavelength	nm	520	532	635-685
Wavelength tolerance	nm (typical)	-5 +10	± 1	±10
Wavelength drift	nm / K (typical)	0,06	0,06	0,25
Output power	mW	≤40	≤40	≤120
Electronic versions		B3	B	B, S3
Pointing Stability	μrad / °C	<15		
Long-term power stability	(24h)	±3 % over operating temperature range		

Electrical specifications

Operating voltage		5 - 30 VDC	5 - 30 VDC	5 - 30 VDC
Operating current	(max. at 25°C)	<300 mA	<300 mA	<400 mA
Protection		Over temperature protection and LED pre-failure indicator, reverse polarity and transient protection (ESD, burst & surge)		
Electrical isolation		Potential-free housing		
Connection		4-pin M12 plug		
Power consumption		<2,7 W	<2,7 W	<2 W

Optical specifications

Fan angles ⁽¹⁾	Degrees	10°, 20°, 30°, 45°, 60°, 75°, 90° (homogeneous lines) 5°, 10°, 15°, 20°, 30°, 90° (Gaussian line profile) 20°, 30°, 110° (raster lens for homogeneous line profile)
Line straightness ⁽²⁾	% (of line length)	<0,05 %
Line uniformity ⁽³⁾	% (typical)	<25 %
Dot		Point elliptical, point circular
DOE		Multi line, crosses, grids, circle with dot, etc.
Focus range	mm	100 mm up to 10.000 mm (or customized fixed focus available); ZM18-B-532 >200 mm

Keynotes

⁽¹⁾ Line length / fan angle	at >13,5 % I _{max}
⁽²⁾ Line straightness	Deviation from best fit line over the middle 80% of the line, for homogeneous lines
⁽³⁾ Line uniformity	Maximum relative optical power variation over the middle 80% of the line, for homogeneous lines and fixed focus

Electronic versions

	B	B3	B	S3
Available Wavelengths	532	520	635, 640	640-685
Digital modulation	na	na		<500 kHz
Rise Time (Mod High => 90%)	na	na		<200 ns
Fall Time (Mod Low => 10%)	na	na		<100 ns
signal level	na	na		VIL_max: < +0,9 V VIH_min: > +2,7 V
max. voltage range	na	na		0-30 VDC
Analog modulation	na	na		<10 Hz
active range	na	na		0-1 VDC
max. voltage range	na	na	0-30	0-30 VDC

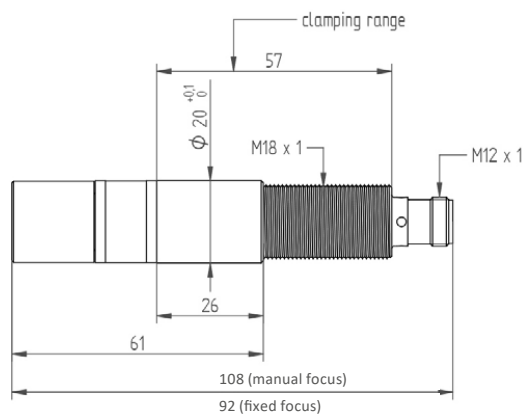
Environmental conditions

Operating temperature ⁽¹⁾	°C / °F	-10 °C to +50 °C / 14 °F to +122 °F
Storage temperature	°C / °F	-40 °C to +85 °C / -40 °F to +185 °F
Humidity	%	<90 %, non-condensing
Dissipated heat		<1 W

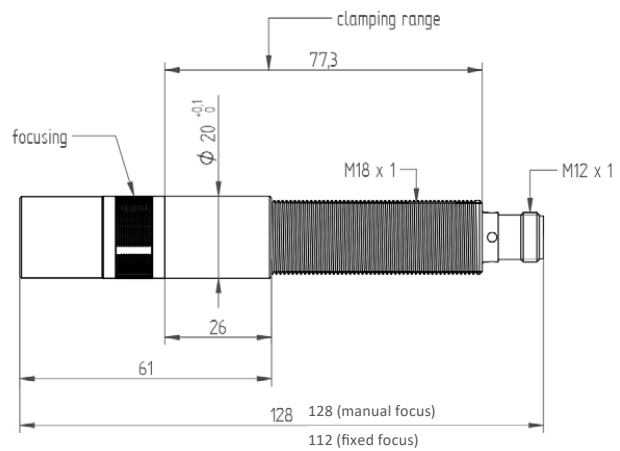
Mechanical specifications

		B	B3	S3
Weight	g/lbs	75 g 45 g / 0.1lbs (532nm)	75 g / 0.17 lbs	85 g / 0.19 lbs
Length	mm / in	108 mm / 4,25 in 136 mm (532nm)	108 mm 4,25 in	128 mm 5,04 in
Diameter head Ø	mm / in	20 mm / 0,79 in		
Material		Aluminium		
Protection class		IP67		

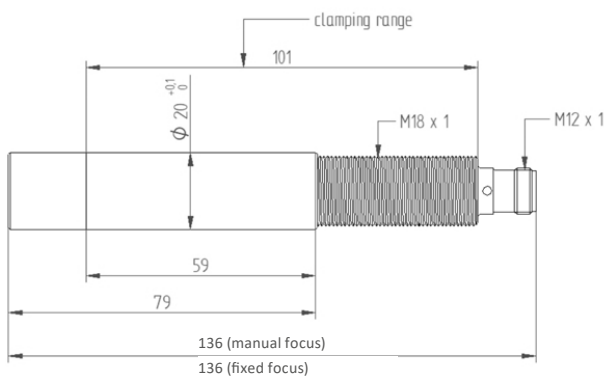
ZM18B / ZM18B3



ZM18S3



ZM18B-532



M12 4-pin: A-Coding Male Connector

According to IEC 61076-2-101

X 1.1	5 - 30 VDC, 15 VA
X 1.2	Digital modulation TTL (only S3)
X 1.3	GND
X 1.4	Analog modulation (only S3)