

► ZM18 series

The ZM18 series of diode lasers are robust lasers in an M18 industrial sensor housing. The lens can be focused easily without changing the rotation or position of the laser image. Lasers are available in red, blue, green and IR with power outputs of up to 200 mW (depending on the wavelength). Five different versions are available (B, S, H, DM, DM5) that offer different control options:

Base (B)

The base model is characterized by its simplicity. It is easily switchable, but without intensity adjustment or triggering.

Standard (S)

With the standard model the intensity can be adjusted using an analogue modulation and a digital TTL trigger with a switching frequency of up to 1 kHz. This option allows adjustment of the intensity and switching the laser at short intervals.

Highend (H)

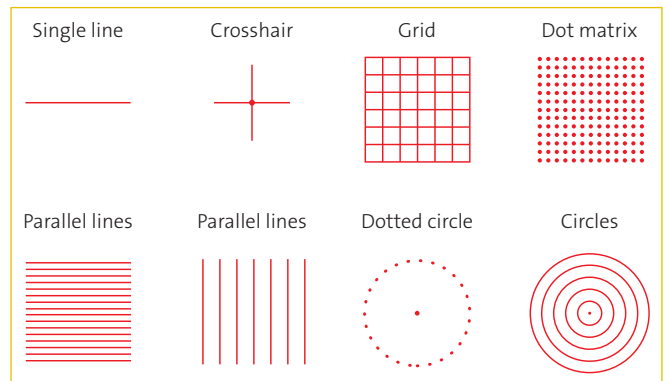
The highend model offers all characteristics of the standard models, but the frequency of the TTL trigger is increased up to 5 MHz. Additionally an internal monitoring and storage of operating parameters (temperature, run time) is possible.

Digital modulation (DM)

Identical to the Basic version with a trigger frequency of up to 100 kHz but without analogue intensity control.

Digital modulation 5V (DM5)

Adapted version of the DM-model with power supply of 4-6 V. The DM5 is the shortest laser of the ZM18 series.



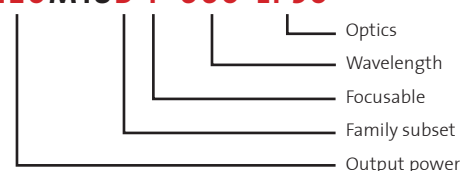
Available optical patterns

► Technical highlights

- 5 - 30 VDC supply voltage
- Output of up to 200 mW (depending on model)
- Simple hand focusing mechanism
- Protection class IP67
- M18 thread mounted for easy mounting
- LED operation and fault indication (depending on model)
- Working distance 100 mm (200 mm for green)
- Simultaneous analogue and TTL-modulation up to 5 MHz (depending on model)
- APC with current limiting or constant current (depending on model)
- Internal storage of parameters such as operation temperature and run time, etc. (depending on model)
- Variety of different wavelengths, output and projection patterns

Ordering guide

Z120M18B-F-660-LP30





► Technical data

FEATURES	ZM18-B	ZM18-S	ZM18-H	ZM18-DM	ZM18-DM5
TTL modulation	-	up to 1 kHz	up to 5 MHz	up to 100 kHz	up to 100 kHz
Intensity control	-	32 steps	✓	-	-
Pre-failure warning	-	✓	✓	-	-
'Power-on' indicator	✓	✓	✓	✓	✓
Serial interface	-	✓	✓	-	-
Power supply (with reverse polarity and spike protection)	5 - 30 V	5 - 30 V	5 - 30 V	5 - 30 V	4 - 6 V
Max. length (with connector)	108mm (green: 136mm)	128mm	138mm	108mm	91mm (no connector)
Available colours	■ ■ IR	■ IR	■ ■ IR	■ IR	■ IR

► Diode selection

SPECIFICATIONS	COLOUR													
	BLUE		GREEN	RED								IR		
Wavelength [nm]	404	450	532	635	638	640	643	650	660	670	685	785	810	830
Max. output power behind the lens [mW]	100	80	40	5	15	30	40	4	120	4	40	80	120	160

Other wavelengths and power available on request

► Examples of laser mounts



MODEL	DESCRIPTION
H0-20	Aluminium mount, pivotable, mountable on a 20mm rod, also suited for ZM18 laser
H2-20	Aluminium mount, pivotable, also suited for ZM18 laser
H6-M18	Aluminium mount for ZM18 laser, capable of coaxial, angular and parallel movement
H8-M18	Aluminium mount for ZM18 laser, capable of coaxial, angular and parallel movement, mountable on a 20mm rod
MXYZ-20	Precision aluminium mount, capable of coaxial, angular and parallel movement, also suited for ZM18 laser

Other laser mounts on request



► Optics selection

OPTICS	DESCRIPTION	
GAUSSIAN LINE (LINE WITH GAUSSIAN DISTRIBUTION OF INTENSITY ALONG THE LINE)		
LGx	Gaussian line with fan angle (x) 3°, 5°, 10°, 15°, 20°, 30° or 90°	We recommend to use max. 50% of the total length of Gaussian lines
RASTER LENSES		
LRx	Raster lenses with fan angle (x) 20° or 30°	
POWELL LENSES (LINE WITH HOMOGENEOUS DISTRIBUTION OF INTENSITY ALONG THE LINE)		
LPx	Powell lens with fan angle (x) 5°, 10°, 15°, 30°, 45°, 60°, 75° or 90°	We recommend to use max. 80% of the total length of Powell lines
POINTS		
PE	elliptical point	
PZ	circular point	
DOE MULTI-POINT GRID		
17x17P14	17 x 17 Point grid with 15° fan angle in x and y direction	@ 635nm
21x21P5	21 x 21 Point grid with 5° fan angle in x and y direction	
16x16P5	16 x 16 Point grid with 5° fan angle in x and y direction	
17x17P5	17 x 17 Point grid with 5° fan angle in x and y direction	
13x13P4	13 x 13 Point grid with 4° fan angle in x and y direction	
51x51P22	51 x 51 Point grid with 22° fan angle in x and y direction	
11x11P28	11 x 11 Point grid with 28° fan angle in x and y direction	
DOE MULTI-LINES		
7L21	7 parallel lines with 22° fan angle in x and y direction	@635nm
5L6	5 parallel lines with 6° fan angle in x direction and 29° in y direction	
7L5	7 parallel lines with 5° fan angle in x direction and 7° in y direction	
5L17	5 parallel lines with 17° fan angle in x and y direction	
11L30*	11 parallel lines with 30° fan angle in x and y direction	
25L27	25 parallel lines with 26° fan angle in x and y direction	
65L17	65 parallel lines with 18° fan angle in x and y direction	
SQUARE GRID		
51x51Q23	51x51 Square grid with 21° fan angle in x and y direction	@ 594nm
CROSS		
X5	Cross with 5° fan angle in x and y direction	@ 635nm
X10	Cross with 10° fan angle in x and y direction	
X15	Cross with 15° fan angle in x and y direction	
X25	Cross with 25° fan angle in x and y direction	@ 488nm
X30	Cross with 28° fan angle in x and y direction	
X45	Cross with 45° fan angle in x and y direction	@ 635nm
X60	Cross with 60° fan angle in x and y direction	
CIRCLES		
72DC25	Circle consisting of 72 points with 19° fan angle	@ 488nm
16DC11	Circle consisting of 16 points with 11° fan angle	@ 635nm
C34	Circle with 26° fan angle	@ 488nm
5C28	5 concentric rings with 28° fan angle	

* Model 11TL30 available with thinner lines. Other optics on request.

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