

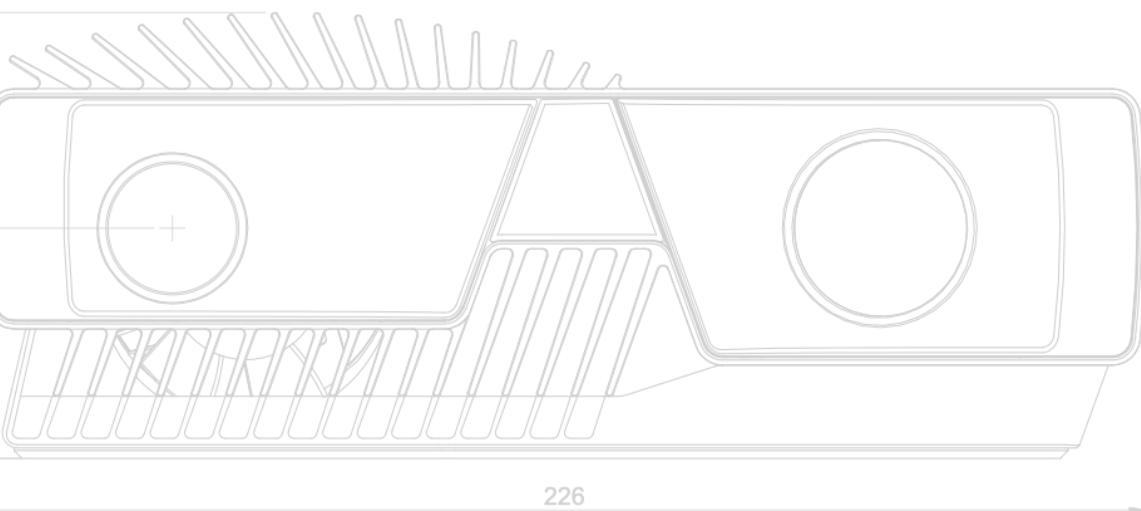
# Zivid One<sup>+</sup>

## Technical specification

Zivid One+ S (ZVD1P-S)

Zivid One+ M (ZVD1P-M)

Zivid One+ L (ZVD1P-L)



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## General specifications

3D technology	Structured light
Imaging	1920 x 1200 (2.3Mpixel) Native 3D Color
Point cloud output	3D (XYZ) + Color (RGB) + Contrast (C)
Aperture (A)	f/1.4 to f/32
Shutter (S)	1/10 s to 1/154 s
Imager gain (I <sub>g</sub> )	1x to 16x
Projection brightness (P <sub>b</sub> )	1/4x to 1.8x 1x = 400 lumens
Exposures per 3D frame	12
Min acquisition time	80 ms at S = 1/154 s single frame capture
Calibration	Factory calibrated Zivid Camera Model 2 (ZCM2)
Data interface	USB 3.0 SuperSpeed
Power	24 V DC
Operating temperature	10 to 40°C
Storage temperature	-20 to 60°C
Safety and EMC	CE CB EN60950 FCC Class A

# Operating distance and field of view

	Small	Medium	Large
Optimal working distance	300 to 800 mm	600 to 1600 mm	1200 to 2600 mm
Max working distance	1000 mm	2000 mm	3000 mm
Field of view (mm)	170 x 140 at 300 650 x 480 at 800	420 x 270 at 600 1370 x 900 at 2000	850 x 530 at 1200 2110 x 1360 at 3000
Spatial resolution (mm)	0.12 at 300 0.40 at 1000	0.23 at 600 0.75 at 2000	0.45 at 1200 1.11 at 3000

Figure 1 - Zivid One+ S FOV

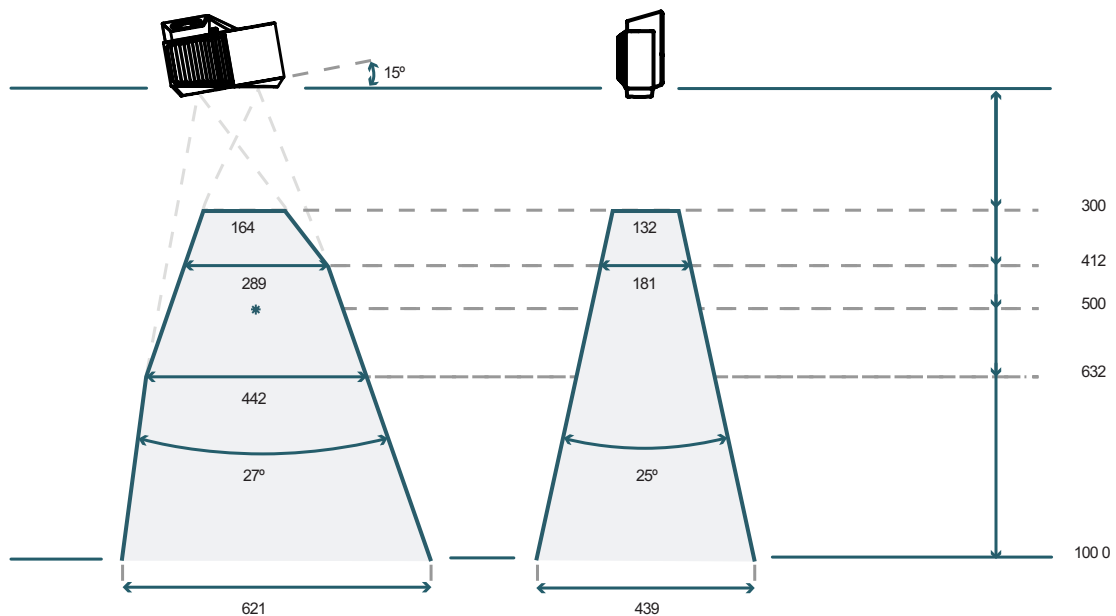


Figure 2 - Zivid One+ M FOV

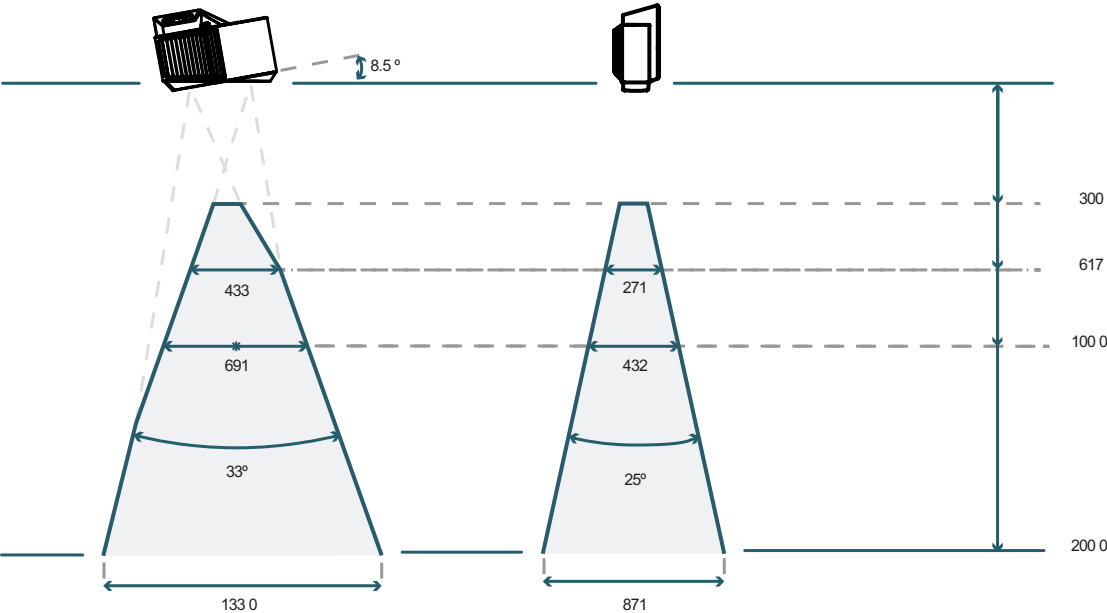
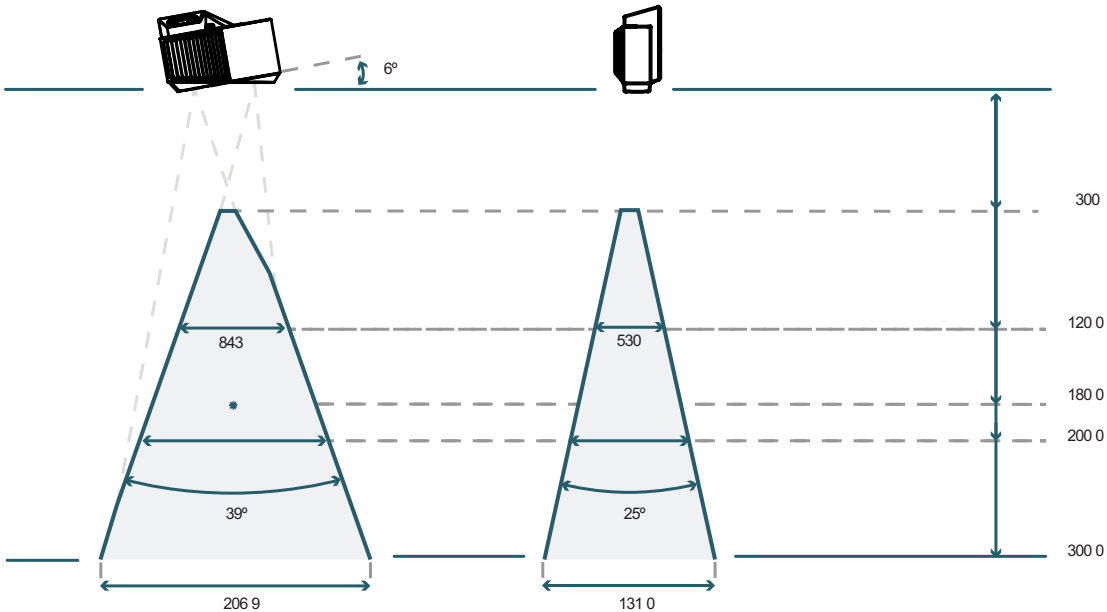


Figure 3 - Zivid One+ L FOV



# Accuracy specifications

## Common conditions

Applies to all specifications unless otherwise stated.

Working distance (D)	S: 300 mm / M: 600 mm / L: 1200 mm
Ambient temperature (Ta)	25°C
Ambient light (La)	200 lux
Aperture (A)	f/5.6
Imager gain (I <sub>g</sub> )	1x
Projector brightness (P <sub>b</sub> )	1x
Framerate (FPS)	0.2 FPS
Other	81% center crop HDR = off 10 min warm-up

# Point metrics

Typical specifications

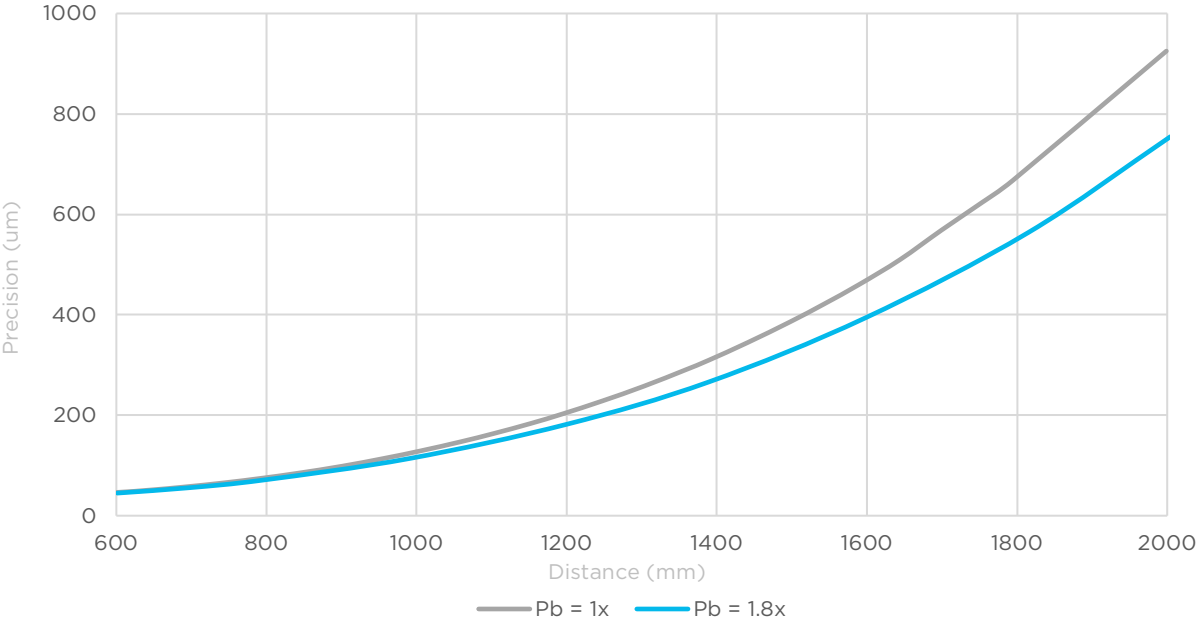
## Zivid One+ S

Point precision	30 um
D = 1000 mm	< 200 um

## Zivid One+ M

Point precision	60 um
La = 750 lux	70 um
D = 1600 mm	570 um
D = 1600 mm, Pb = 1.8x	480 um
D = 1500 mm, La = 500 lux, Pb = 1.8x	570 um

Figure 4 - Zivid One+ M point precision vs. working distance



## Zivid One+ L

Point precision	300 um
D = 3000 mm	< 2000 um

## Planarity metrics

Typical specifications

## Zivid One+ M

Local planarity precision	90 um
La = 750 lux	100 um
D = 1600 mm	610 um
D = 1600 mm, Pb = 1.8x	540 um
D = 1500 mm, La = 500 Lux, Pb = 1.8x	630 um

Global planarity trueness	90 um
D = 1600 mm	670 um
D = 1600 mm, Pb = 1.8x	690 um

Global planarity accuracy	140 um
D = 1600 mm	1030 um
D = 1600 mm, Pb = 1.8x	1000 um



# Dimension metrics

Typical specifications

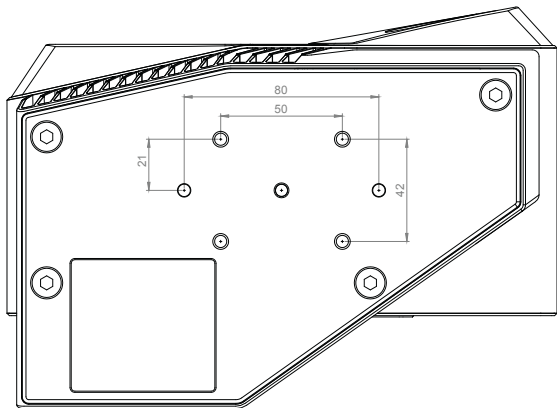
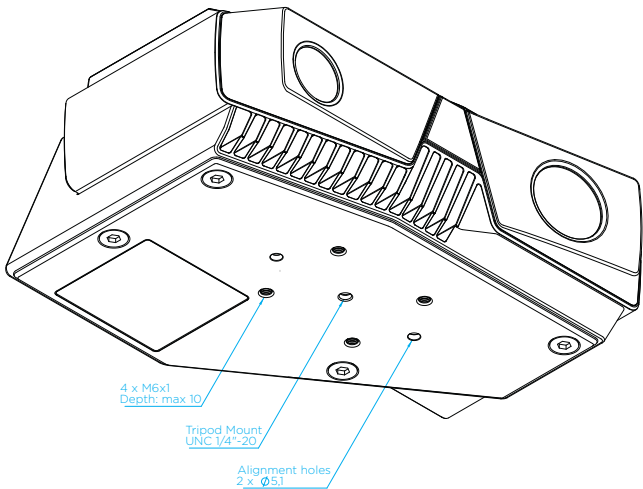
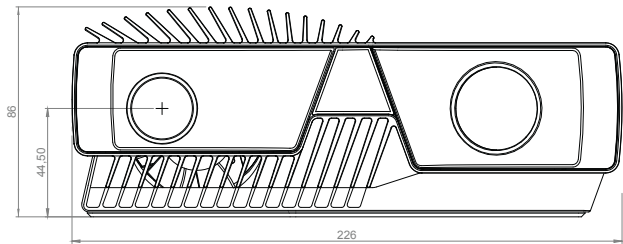
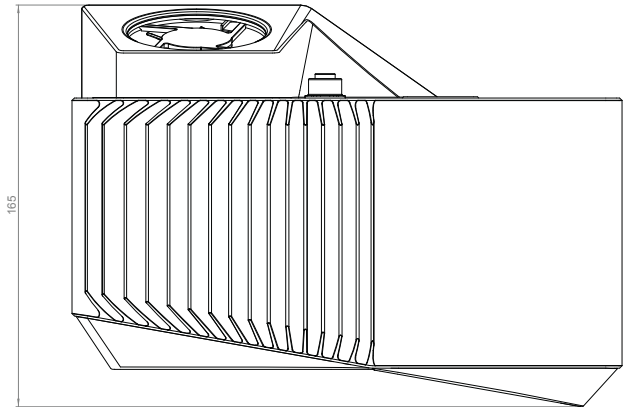
## Zivid One+ M

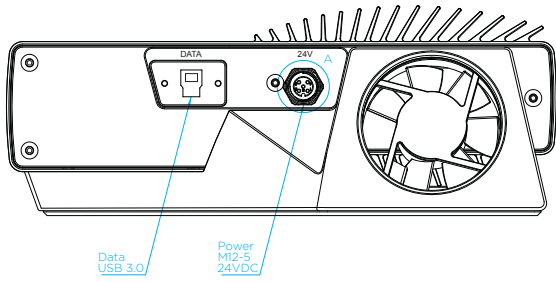
Dimension precision	170 um
<hr/>	
D = 1600mm	380 um
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Dimension trueness	< 1.0%
<hr/>	
Dimension accuracy	< 1.0%
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# Physical specifications

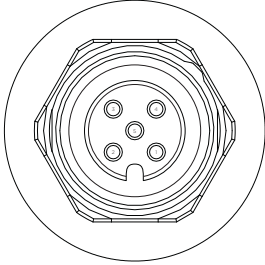
Size and weight	Aluminum body 226 mm x 86 mm x 165 mm 2 kg
Environmental	IP65 dust and water 5 G Random 15 G Shock
Power connector	M12-5
USB data connector	USB type B Jack screw M2
External power adapter	24 V 5 A EU, US and UK power plug options

# Mechanical drawings





Pin	
1	24V DC +/- 20% (Max 4A)
2	24V DC +/- 20% (Max 4A)
3	GND
4	GND
5	SENSE SIGNAL (optional)



DETAIL A  
Power Inlet

# Revision history

0.0 - 04/19      Initial revision.

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