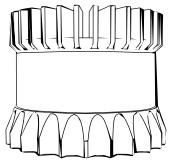
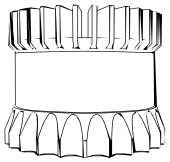
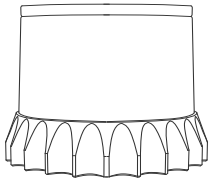
Ouster digital lidar sensors

Sensor	OS0 Ultra-wide view			OS1 (Gen 2) Mid-range			OS2 Long-range		
Vertical resolution (channels)	32	64	128	32	64	128	32	64	128
Maximum range*	55 m	55 m	55 m	120 m	120 m	120 m	240 m	240 m	240 m
Minimum range	0.25 m	0.25 m	0.25 m	0.25 m	0.25 m	0.25 m	0.5 m	0.5 m	0.5 m
Vertical field of view	90º	90º	90º	45º	45º	45º	22.5º	22.5º	22.5º
Vertical angular resolution	2.9º	1.4º	0.71º	1.5º	0.71º	0.35º	0.7º	0.36º	0.18º
Horizontal resolution	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048	512, 1024, or 2048
Horizontal field of view	360º	360º	360º	360º	360º	360º	360º	360º	360º
Horizontal angular resolution	0.18º	0.18º	0.18º	0.18º	0.18º	0.18º	0.18º	0.18º	0.18º
Points per second	655,000	1,311,000	2,621,000	655,000	1,311,000	2,621,000	655,000	1,311,000	2,621,000
Frame rate	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz	10-20 Hz
Ingress protection	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K	IP68, IP69K
Typical power consumption***	14-20 W	14-20 W	14-20 W	14-20 W	14-20 W	14-20 W	14-20 W	14-20 W	14-20 W
Operating voltage	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V	24 V
Operating temperature	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC	-20 to +50ºC
Time synchronization	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC	PTP; $GPRMC
Weight	445 g	445 g	445 g	455 g	455 g	455 g	910 g	910 g	910 g
Price (before volume or university discounts)	$6,000	$8,000	$12,000	$8,000	$12,000	$18,000	$16,000	$20,000	$24,000

*80% reflective lambertian target, 100 klx sunlight, 50% detection probability

***The OS0 and OS1 can briefly reach a peak of 22 W at start-up. The OS2 can briefly reach a peak of 28 W on start-up.

****All sensors are Class 1 Eye Safe per IEC/EN 60825-1:2014