

## Technical Description & Performance Limitations of Elios 3

<b>Configuration</b>	Ducted fan quadcopter
<b>Data interface</b>	USB-C port using Inspector (requires drone to be powered by its battery!)
<b>Dimensions</b>	48cm wide; 18.9 in 38cm high; 13.8 in
<b>Flight control sensors</b>	IMU, magnetometer, barometer, lidar, 3 computer vision camera and ToF distance sensor
<b>Flight modes</b>	ASSIST - Stabilized mode ATTI - Attitude mode SPORT - Sport mode
<b>Flight Time E3 base</b>	>12min30s*
<b>Flight Time E3 base + lidar mapping payload</b>	>9 min**
<b>Ingress Protection</b>	Base platform + basic inspection payload: Splash and dust resistant design, equivalent to at least IP44 LIDAR Payload: IP68
<b>Mass E3 base</b>	1900 g +/-10g; < 4,18 lbs Includes battery, payload & protection
<b>Mass E3 base + lidar mapping payload</b>	2350 g +/-15g; < 5,2 lbs Includes battery, payload & protection and lidar payload

<b>Materials</b>	Carbon fiber - kevlar composites, magnesium alloy, aeronautical grade aluminium, high-quality thermoplastics
<b>Max ascent / descent Speed</b>	2 m/s; 6.6 ft/s (Assist / Atti modes)
<b>Max horizontal speeds in different flight modes and configurations</b>	2 m/s (Assist mode); 6,6 ft/s 5 m/s (Attitude mode); 16.4 ft/s 7 m/s (Sport mode); 23 ft/s



<b>Max Take-off mass</b>	2500 g (E3 base + 600g / E3 LIDAR + 150g)
<b>Max Wind Resistance</b>	5 m/s (Assist mode); 16.4 ft/s 7 m/s (Sport mode); 23 ft/s
<b>Motor life time</b>	50h (Test run to 120 hours, motors reached 100h with negligible degradation so specification is 50% of nominal life)**
<b>Motor type</b>	4 fast reversing electric brushless motors
<b>Noise Level</b>	83 dB(A) with lidar
<b>Onboard computer</b>	Nvidia Xavier NX onboard computer with custom Linux OS
<b>Operating temp.</b>	0 C to 50 C*; 32 °F to 122 °F Valid for batteries pre-condition between 10°C and 40°C