ELIOS 3 POWER CONFIGURATIONS

Flexible power options built to match the demands of confined space inspections



Standard battery

- Up to 12.5-min max flight time
- Up to 50 charge cycles
- Part of the base package
- All-payload compatibility

High-capacity battery

- Up to 17-min max flight time
- Up to 100 charge cycles
- Available as an add-on
- All-payload compatibility

Tether Power Unit

- Unlimited flight time
- Available as an add-on
- Easy Tether-to-Battery-Swap
- All-payload compatibility

FLYABILITY

MFE INSPECTION SOLUTIONS

Elios 3 batteries

Technical specifications



	Standard battery	High-capacity battery
Energy	99.2 Wh	187 Wh
Capacity	4350 mAh	8200 mAh
Battery type	Smart Battery Management System (BMS), Lithium-ion (LiPo)	Smart Battery Management System (BMS), Lithium-ion (LiPo)
Nominal voltage	22.8 V	22.8 V
Weight	620 g, 1.4 lbs	1100 g, 2.43 lbs
Operating temperature	0 - 50 °C, 32 – 122 °F[1]	0 - 50 °C, 32 – 122 °F[1]
Life time (full charge-discharge)	50 cycles	100 cycles
Compatibility	All payloads	All payloads with limitations (notably UT & RAD[2])
Chargers	Standard battery charger Power input: 150 VA	High-capacity battery charger Power input: 250 VA Also compatible with the standard battery charger (150 VA)
Charging time	1 h	1 h 15 with the 250 VA charger 2 h 30 min with the 150 VA charger
IATA DGR compliant	✓	✕ Requires trained personnel to ship according to UN IATA PI-965
Shipping requirements	Carry-on approved	Ground and cargo only

SMART BATTERY MANAGEMENT SYSTEM (BMS)

Elios 3 smart batteries feature built-in electronics that monitor, manage, and report their status, including charge level, health, and temperature.

	Standard battery	High-capacity battery
Smart battery capabilities		
Cycle counter	✓	✓
Battery ID	✓	✓
State-of-health estimation	✓	✓
State-of-charge estimation	✓	✓
Plug-and-play charging	✓	✓
Self-balancing	✓	✓
Storage mode	✓	✓
Travel mode		✓
Deep sleep mode		✓
Safety protections		
Charge protections		
Overcurrent, overvoltage, over/under-temperature	✓	✓
Passive fuse for slow short circuit protection	✓	✓
Discharge protections		
Overcurrent, undervoltage, under temperature		✓
Fast short circuit protections		✓

1. Valid for batteries pre-conditioned between 10°C and 40°C (50 °F to 104 °F).
2. All Elios 3 payloads are compatible with the high-capacity battery, though users should consult the Elios 3 system-level performance listed below for how payload and environmental factors may affect flight performance and control.

Tether Power Unit

Technical specifications



POWER & OPERATIONS

Input voltage	100–120 V AC, 220-240 V AC
Input frequency	50-60 Hz
Outdoor compliance	Elios 3 (tethered) classified C5 under EU regulations; allowing STS-01 operations (VLOS over a controlled ground area in a populated environment)
Certifications	CE, FCC, IEC 62368-1

PHYSICAL SPECIFICATIONS

Total system weight	20 kg / 44.1 lb
Transport case dimensions (H x W x L)	613 x 478 x 337 mm / 24.13 × 18.82 × 13.27 in
Ground Unit weight	11.5 kg / 25.4 lb
Cable length	50 m / 164 ft
Ingress Protection	IP54

Elios 3 Power Configurations

Technical specifications

ELIOS 3 SYSTEM-LEVEL PERFORMANCE

Flight performance and control of the Elios 3 can be affected by payload configuration and environmental conditions. The system-level performance specifications define safe operating ranges to support safe and effective use. Deviating from these conditions may impact performance and requires appropriate risk management and operator experience.

IMPORTANT NOTICE

Each of the operating conditions are interdependent and combining them alters their maximum specifications. For example: the maximum operating altitude is only valid in 20°C and zero wind conditions. If there is wind and / or the ambient temperature is higher, then the maximum operating altitude will reduce.

	Standard battery	**High-capacity battery**	**Tether Power Unit with 25m cable drop**
Elios 3 without any payload			
Max. flight time[1]	12 min 30 sec	17 min	Unlimited
Max. operating altitude[2]	5000 m AMSL	2500 m AMSL	3000 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	50 °C, 122 °F	50 °C, 122 °F[6]
Max. operating wind speed[4]	7 m/s	5 m/s	5 m/s
Elios 3 with Rev 6 LiDAR			
Max. flight time[1]	9 min 10 sec	13 min 30 sec	Unlimited
Max. operating altitude[2]	3000 m AMSL	1500 m AMSL	1750 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	50 °C, 122 °F	50 °C, 122 °F[6]
Max. operating wind speed[4]	5 m/s	5 m/s	5 m/s
Elios 3 with Rev 7 LiDAR			
Max. flight time[1]	9 min	13 min	Unlimited
Max. operating altitude[2]	2850 m AMSL	1400 m AMSL	1600 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	50 °C, 122 °F	50 °C, 122 °F[6]
Max. operating wind speed[4]	5 m/s	5 m/s	5 m/s

Elios 3 Power Configurations

Technical specifications

	Standard battery	High-capacity battery	Tether Power Unit with 25m cable drop
E3 with Rev 6 LiDAR and UT payload			
Max. flight time[1]	7 min 30 sec	11 min 30 sec	Unlimited
Max. operating altitude[2]	Under assessment	700 m AMSL	1200 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	35 °C, 95 °F	45 °C, 113 °F[6]
Max. operating wind speed[4]	5 m/s	3 m/s	5 m/s
E3 with Rev 7 LiDAR and UT payload			
Max. flight time[1]	7 min 20 sec	11 min 10 sec	Unlimited
Max. operating altitude[2]	1400 m AMSL	700 m AMSL	1100 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	35 °C, 95 °F	45 °C, 113 °F[6]
Max. operating wind speed[4]	5 m/s	3 m/s	5 m/s
E3 with Rev 6 LiDAR and RAD payload			
Max. flight time[1]	7 min 50 sec	11 min 40 sec	Unlimited
Max. operating altitude[2]	2000 m AMSL	800 m AMSL	1300 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	40 °C, 104 °F	50 °C, 122 °F[6]
Max. operating wind speed[4]	5 m/s	3 m/s	5 m/s
E3 with Rev 7 LiDAR and RAD payload			
Max. flight time[1]	7 min 30 sec	11 min 20 sec	Unlimited
Max. operating altitude[2]	1500 m AMSL	800 m AMSL	1300 m AMSL
Max. ambient operating temperature[3]	50 °C, 122 °F	40 °C, 104 °F	50 °C, 122 °F[6]
Max. operating wind speed[4]	5 m/s	3 m/s	5 m/s

ADDITIONAL FLIGHT TIME WITH SMALL PAYLOADS IN BATTERY-POWERED FLIGHT

Gas sensor	10-20 sec[5]
RID unit	5-10 sec[5]
Gas sensor with RID	15-30 sec[5]

1. Max flight time in ideal conditions: sea-level, 20°C ambient temperature, new propellers and motors, new fully charged batteries, no wind and hovering.
2. Maximum altitude at an ambient temperature of 20°C and no-wind conditions at which a normal collision resilience and wind resistance can be expected.
3. Maximum ambient temperature at sea-level and no-wind conditions at which a normal collision resilience and wind resistance can be expected.
4. Maximum steady-state wind speed at sea-level and 20°C ambient temperature that the drone can deal with while still having a fair amount of resilience against turbulence, small collisions.
5. Flight time impact varies by battery type and is generally higher with the high-capacity battery than with the standard one.
6. In case of operation below 10°C / 50°F, please use the Battery Heater accessory to keep the battery warm. *When the ground unit's ambient temperature exceeds 40°C / 104°F for 230 VAC operation, or 35°C / 95°F for 110 VAC operation, or with direct sun exposure, prolonged high-load use may cause the Ground Unit to overheat. If the visual indicator or buzzer is triggered, land the drone.*