

ANTIGRAVITY

A1

User Manual

Product Specification

A1 Drone

Drone

Model DE001

Maximum Takeoff Weights
249 g (0.548 lbs) with Standard Flight Battery
291 g (0.642 lbs) with High-Capacity Flight Battery

Dimensions
Folded: 141.3 mm × 96.2 mm × 81.4 mm
5.56 inches x 3.79 inches x 3.21 inches (L×W×H)
Unfolded: 308.6 mm × 382.3 mm × 89.2 mm
12.15 inches x 15.05 inches x 3.51 inches (L×W×H)

Max Ascent Speed C mode: 3 m/s N mode: 6 m/s S mode: 8m/s

Max Descent Speed C mode: 3 m/s N mode: 6 m/s S mode: 8m/s

Max Horizontal Speed* C mode: 3 m/s N mode: 12 m/s S mode: 16 m/s

Max Takeoff Altitude
4,000 m or 13,123 ft (with Standard Flight Battery)
3,000 m 9,842 ft (with High-Capacity Flight Battery)

Max Flight Time	Approx. 24 mins (with Standard Flight Battery)** Approx. 39 mins (with High-Capacity Flight Battery)**
Max Wind Resistance	10.7 m/s or 23.9 mph
Operating Temperature	-10°C - 40°C (14°F - 104°F)
Global Navigation Satellite System	BDS + GPS + Galileo
Hovering Accuracy Range (GNSS)	Horizontal: ±0.5 m, Vertical: ±0.5 m (GNSS signal strong and open areas)
Hovering Accuracy Range (Vision)	Horizontal: ±0.1 m, Vertical: ±0.1 m (Well-lit environment with distinct surface texture)
Internal Storage	20 GB
Supported Storage Card	MicroSD
List of Recommended Storage Card	SanDisk Extreme PRO 64GB V30 U3 A2 microSDXC SanDisk Extreme PRO 128GB V30 U3 A2 microSDXC SanDisk Extreme PRO 256GB V30 U3 A2 microSDXC SanDisk Extreme PRO 512GB V30 U3 A2 microSDXC SanDisk Extreme PRO 1TB V30 U3 A2 microSDXC Lexar Silver Plus 64GB A2 V30 microSDXC Lexar Silver Plus 128GB A2 V30 microSDXC Lexar Silver Plus 256GB A2 V30 microSDXC Lexar Silver Plus 512GB A2 V30 microSDXC Lexar Silver Plus 1TB A2 V30 microSDXC Kingston CANVAS Go! Plus 64GB A2 V30 microSDXC Kingston CANVAS Go! Plus 128GB A2 V30 microSDXC Kingston CANVAS Go! Plus 256GB A2 V30 microSDXC Kingston CANVAS Go! Plus 512GB A2 V30 microSDXC Kingston CANVAS Go! Plus 1TB A2 V30 microSDXC
Ground Noise Level	71.859 dB (Hovering) 71.580 dB (In flight, 3 m/s)
Constant Noise Level	70.682 dB (Hovering) 69.872 dB (In flight, 3 m/s)
360 Camera	
Sensor Size	1/1.28 inch
Aperture	F2.2
ISO Range	100 - 6400
Shutter Speed	Video: 1/8000 Photo: 1/8000 - 1/2

White Balance	2,000K - 10,000K
Max Image Size	Approx. 55MP (10486 × 5248) Approx. 14MP (5248 × 2624)
Camera Mode	Normal, HDR, Burst, AEB
Video Resolution	8K: 7680 × 3840@30/25/24fps 5.2K: 5248 × 2624@60/50/30/25/24fps 4K: 3840 × 1920@100fps 4K Slo-Mo: 3840 × 1920@30/25/24fps
Video Format	INSV, Export via Antigravity app or Studio desktop application.
Photo Format	INSP, Export via Antigravity app or Studio desktop application. DNG
Max Video Bitrate	170 Mbps
Video Encode Format	H.264, H.265
Supported File System	exFAT

Vision and Infrared Sensors

Forward	Measurement Range: 0.5 m - 18 m (1.6–59.1 ft) Effective Sensing Speed: Flight Speed ≤12 m/s (26.8 mph) FOV: Horizontal 93°, Vertical 105°
Downward	Measurement: 0.3 m - 7.5 m (1.0–24.6 ft) Effective Sensing Speed: Flight Speed ≤ 6 m/s (13.4 mph) FOV: Front and Back 107°, Left and Right 90°
Operating Environment	Forward: Surfaces with discernible patterns and adequate lighting (lux > 15) Downward: Surfaces with discernible patterns, diffuse reflectivity > 20% (e.g. cement pavement, stout trees), and adequate lighting (lux > 15)

Video Transmission

Video Transmission System	OmniLink 360
Live View Quality	2k@30fps
Transmitter Power (EIRP)	2.4 GHz : < 30 dBm(FCC), < 20 dBm(CE / SRRC / MIC) 5.1 GHz : < 21 dBm(FCC), < 23 dBm(CE) 5.8 GHz : < 30 dBm(FCC / SRRC), < 14 dBm(CE)

Frequency	<p>2400 - 2483.5 MHz*</p> <p>5150 - 5250 MHz*</p> <p>5725 - 5850 MHz*</p> <p>*Availability subject to countries and regions. Local law and regulations apply.</p>
Max Transmission Distance (Open, free of interference)	<p>10 km (6.2 mile) (FCC)</p> <p>8 km (5.0 mile) (SRRC)</p> <p>6 km (3.7 mile) (CE)</p> <p>4 km (2.5 mile) (MIC)</p> <p>*Tested outdoors at 25°C (77°F) in an open, interference-free environment. Data reflects maximum one-way transmission distance without return-to-home under each standard. Actual performance may vary depending on environment, usage, and firmware.</p>
Max Transmission Distance (Obstructed, with interference)	<p>Low Interference/Buildings: approx. 0.1–0.5 km (0.06–0.31 mi)</p> <p>Low Interference/Trees: approx. 0.5–3 km (0.31–1.9 mi)</p> <p>*Tested under FCC standard in obstructed environments with typical low interference. Used for reference purposes only and provides no guarantee for actual transmission distance.</p>
Max Transmission Rate	30Mbps
Latency	<p>Approx. 150ms</p> <p>*Tested in an open, interference-free environment. Actual latency may vary depending on environmental differences.</p>
Antenna	4 antennas, 2T4R
Wi-Fi	
Protocol	802.11a/b/g/n/ac
Operating Frequency	<p>2400 MHz - 2483.5 MHz*</p> <p>5150 MHz - 5250 MHz*</p> <p>5725 MHz - 5850 MHz*</p> <p>* Availability subject to countries and regions. Local law and regulations apply.</p>
Transmitter Power (EIRP)	<p>2.4 GHz: < 20 dBm(CE / SRRC / MIC / FCC)</p> <p>5.1 GHz: < 20 dBm(FCC / CE)</p> <p>5.8 GHz: < 20 dBm(FCC / SRRC), < 14 dBm(CE)</p>
Bluetooth	
Protocol	Bluetooth 5.0

Operating Frequency	2.400 GHz - 2.4835 GHz
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Transmitter Power (EIRP)	< 10 dBm
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Standard Flight Battery

Model	BDE-mini-2360-7.16
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Capacity	2360 mAh
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Weight	Approx. 67.5 g (0.15 lb)
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Rated Voltage	7.16 V
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Charging Voltage	8.6 V
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Cell Type	Li-ion 2S
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Energy	16.9 Wh
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Charging Temperature Range	5 - 45°C or 41 - 113°F, Charging stops when temperature exceeding 55°C (131°F)
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Charging Time	Single battery: 45 mins*** Three batteries: 2 hours and 15 mins***
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High-Capacity Flight Battery

Mode Name	BDE-max-4345-7.16
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Capacity	4345 mAh
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Weight	Approx. 108.6 g (0.23 lbs)
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Rated Voltage	7.16 V
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Charging Voltage	8.6 V
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Cell Type	Li-ion 2S
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Energy	31.11 Wh
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Charging Temperature Range	5 - 45°C or 41 - 113°F, Charging stops when temperature exceeding 55°C (131°F)
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Charging Time	Single battery: 60 mins*** Three batteries: 3 hours***
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65W GaN Fast Charger

Model	ADT-65BDC-P
Input Voltage	90 - 264V (47 - 63Hz)
Output Power	5V ~ 20V@65W / 5A MAX
Operating Temperature	-20 ~ 40° C

Battery Charging Hub

Model	CINSBANA
Weight	Approx 118.5 g
USB C Input	PPS protocol: 5 - 10V / 5A PD protocol: 5V - 3A / 9V - 5A / 12V - 5A / 15V - 4A
USB C Output	PD protocol: 30W, 15V - 2A / 12V - 2.5A / 9V - 3A / 5V - 3A
Charging Time	Standard Flight Battery: <ul style="list-style-type: none"> · Single: 45 mins · Three: 2 hours 15 mins High-Capacity Flight Battery: <ul style="list-style-type: none"> · Single: 60 mins · Three: 3 hours

* Sea level and windless

** Obtained in a controlled environment temperature at 25°C (77°F) , altitude less than 50 m (164 ft), in a wind-free environment and at the cruising speed of 6 m/s. Camera set at 5.2K/30fps resolution when video recording disabled. The flight time may vary under different conditions.

*** Charging from the Antigravity 65W GaN Charger via the Antigravity Battery Charging Hub.

Vision Goggles**Flight Goggles**

Model	DGS001
Weight	Approx. 340 g (battery not attached)
Dimensions	Folded: 174 mm × 106 mm × 92 mm (L×W×H) Unfolded: 200 mm × 106 mm × 115 mm (L×W×H)
Inner Display Size	1.03 inch Micro-OLED
Inner Display Resolution	2560 × 2560

Inner Display Refresh Rate	72 Hz
Interpupillary Distance Range	59 - 72 mm
Diopter Adjustment Range	-5.0 D to +2.0 D
FOV	DFOV 90° HFOV/VFOV 65°
Screen Recording Format	MP4
Playback Format	MP4, MOV, JPG, PNG, INSP, INSV
See-through FOV	HFOV 93°, VFOV 93°, DFOV 115°
Operating Temperature	-10°C to 40°C (14°F to 104°F)
Power Input	USB-C with dedicated external battery
Internal Storage	Approx. 30 GB
Supported Storage Card	MicroSD
List of Recommended Storage Card	<p>SanDisk Extreme PRO 64GB V30 U3 A2 microSDXC</p> <p>SanDisk Extreme PRO 128GB V30 U3 A2 microSDXC</p> <p>SanDisk Extreme PRO 256GB V30 U3 A2 microSDXC</p> <p>SanDisk Extreme PRO 512GB V30 U3 A2 microSDXC</p> <p>SanDisk Extreme PRO 1TB V30 U3 A2 microSDXC</p> <p>Lexar Silver Plus 64GB A2 V30 microSDXC</p> <p>Lexar Silver Plus 128GB A2 V30 microSDXC</p> <p>Lexar Silver Plus 256GB A2 V30 microSDXC</p> <p>Lexar Silver Plus 512GB A2 V30 microSDXC</p> <p>Lexar Silver Plus 1TB A2 V30 microSDXC</p> <p>Kingston CANVAS Go! Plus 64GB A2 V30 microSDXC</p> <p>Kingston CANVAS Go! Plus 128GB A2 V30 microSDXC</p> <p>Kingston CANVAS Go! Plus 256GB A2 V30 microSDXC</p> <p>Kingston CANVAS Go! Plus 512GB A2 V30 microSDXC</p> <p>Kingston CANVAS Go! Plus 1TB A2 V30 microSDXC</p>
Video Transmission	
Video Transmission System	OmniLink 360
Operating Frequency	<p>2400 - 2483.5 MHz*</p> <p>5150 - 5250 MHz*</p> <p>5725 - 5850 MHz*</p> <p>* Availability subject to countries and regions. Local law and regulations apply.</p>

Transmitter Power (EIRP)	2.4 GHz: < 30 dBm(FCC), < 20 dBm(CE / SRRC / MIC) 5.1 GHz: < 21 dBm(FCC), < 23 dBm(CE) 5.8 GHz: < 30 dBm(FCC / SRRC), < 14 dBm(CE)
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Latency	150 ms* * Obtained in an open area without radio signal interference. Actual values vary depending on external environmental factors.
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Max Video Bitrate	30 Mbps
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Antenna	Six antennas, 2T2R (dynamically switching)
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Wi-Fi

Protocol	802.11a/b/g/n/ac/ax
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Operating Frequency	2400 - 2483.5 MHz* 5150 - 5250 MHz* 5725 - 5850 MHz* * Availability subject to countries and regions. Local law and regulations apply.
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Transmitter Power (EIRP)	2.4 GHz: < 20 dBm (CE / SRRC / MIC / FCC) 5.1 GHz: < 20 dBm (FCC / CE) 5.8 GHz: < 20 dBm (FCC / SRRC), < 14 dBm (CE)
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Antenna	2T2R
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Bluetooth

Protocol	Bluetooth 5.2
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Operating Frequency	2.400 GHz - 2.483 GHz
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Transmitter Power (EIRP)	< 10 dBm
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GFSK

Compatible	Antigravity Grip Motion Controller
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Operating Frequency	2.400 GHz - 2.483 GHz
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Transmitter Power (EIRP)	< 10 dBm
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Transmission Distance	Approx. 10 m (32 ft)
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Vision Goggles Battery

Model	DGS-4500-7.3
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Weight	Approx. 175 g
Battery Life	Approx. 2 hours (ambient temperature at 25°C or 77°F)
Rated Voltage	7.3 V
Capacity	4500 mAh
Charging Power	5V=3A; 9V=3A; 12V=2A
Charging Time	Less than 2.5 hours
Charging Temperature	3°C - 45°C (Charging stops when temperature is higher than 55°C or 131°F.)
Supported Power Cable	Compatible with Antigravity USB-C to DC power cable only.

Grip Motion Controller

Controller	
Model	SRCSE001
Weight	Approx. 115 g
Dimensions	143 mm × 45mm × 72.5 mm (L×W×H)
Operating Temperature	-10°C - 40°C
Operating Frequency	2.400 GHz - 2.483 GHz
Transmitter Power (EIRP)	< 10 dBm
Transmission Distance	Approx. 10 m (32 ft)
Battery Life	Approx. 4 hours (ambient temperature at 25°C)
Charging Port	USB-C (5V/2A)
Charging Time	Approx. Less than 2.5 hours (ambient temperature at 25°C)
Charging Temperature	5°C to 45°C (Charging stops when temperature is higher than 55°C or 131°F.)
Capacity	2300 mAh
Rated Voltage	3.6V