AlphaUni 20 SPECIFICATIONS

General system performance

Absolute Hz & V accuracy	< 0.050 m RMS
Accuracy conditions	Without control points, @150 m flight altitude AGL with 7m/s speed
Mounting	Multi-platform, quickly install & release design, easily switch between airborne, vehicle and backpack mode
Weight of instrument [1]	2.75 kg / 3.25 kg (with C5 camera)
Dimensions of instrument	262.3 × 161× 141.5 mm
Data storage	512 G (Optional for 1T)
Remote control	Up to 5 km, wireless control of instrument parameters and data recording in real time
Coping speed	80 Mb/s

Laser scanner

Laser class	1 (in accordance with IEC 60825-1:2014)
Max. range, reflectivity >80% [2]	1450 m
Minimum range	1.5 m
Accuracy [3]	15 mm
Precision [4]	5 mm
Field of view	360°, selectable
Maximum scan rate	2,000,000 pts/sec
Scan speed (selectable)	Up to 200 scans/sec
Return numbers	Up to 16
Angular resolution	0.001°

Positioning and orientation system

GNSS system	GPS:L1,L2,L5 GLONASS:L1 BEIDOU:B1,B2,B3 GALILEO:E1,E5a,E5b QZSS:L1 C/A,L5
IMU update rate	600 Hz
Attitude accuracy after post-processing	0.005 degrees RMS pitch/roll, 0.010 degrees RMS heading
Position accuracy after post-processing	0.010 m RMS horizontal, 0.020 m RMS vertical

Imaging system

Resolution	45 MP
Focal length	21 mm / 35 mm
Sensor size	36 mm x 24 mm (8184 x 5460)
Pixel size	4.4 um
Min trigger interval	1 s
FOV	81*59.5 / 53.4*37.8

Environmental

Operating temperature	-20°C ~ +50°C
Storage temperature	-20°C ~ +65°C
IP rating	IP64
Humidity (operating)	80%, non-condensing

Electrical

Input voltage	24 V (Range 15 - 28 V)
Power consumption	60 W
Power source	Depending on UAV battery. External battery in for car setup, also support direct vehicle power source

Equipped software

CoPre pre-processing software	Data copy, POS solve, Adjust & Refine, Generate point cloud
CoProcess point cloud processing software	Terrain module, road module, extraction module, volume module

* Specifications are subject to change without notice.
(1) Weight calculated with & without camera. (2) Typical values for average conditions. (3) Accuracy is the degree of conformity of a measured quantity to its actual (true) value. (4) Precision is the degree to which further measurements show the same results.