SPECIFICATIONS

General System Performance	
Absolute accuracy[1]	H: < 5 cm RMS V: < 5 cm RMS
Relative accuracy	<1 cm
Power supply mode	Lithium battery, supports hot-swapping and portable charger
Working time from a single battery[2]	1 h
Data storage	512 GB
Field of view	360° × 270°
Weight	1.9 kg (including RTK and battery)
Loop-free data acquisition	Yes
Real-time accuracy assessment	Yes

Laser Scanner	
Laser product classification	Class 1 Eye Safe
Range	0.05 to 120 m
Channel	16
Point cloud thickness	2 cm
Range capability	80 m @10% reflectivity (Channels 5 to 12) 50 m @10% (Channels 1 to 4, 13 to 16)
FOV (Horizontal)	360°
Horizontal angle resolution	0.18° (10 Hz)
FOV (Vertical)	30° (-15° to +15°)
Max. effective measurement rate	320,000 points/sec
Selectable scan speed	10 Hz
Max. Number of return pulses	2
Wavelength	905 nm

GNSS Performance[3]	
Channels	1408 channels with iStar2.0
GPS	L1C/A, L2C, L2P(Y), L5
GLONASS	L1, L2, L3*
Galileo	E1, E5a, E5b, E6*
BeiDou	B1I, B2I, B3I, B1C, B2a, B2b
QZSS	L1C/A, L1C, 12C, L5, L6*
NavIC/IRNSS	L5*
PPP	B2b-PPP
SBAS	EGNOS (L1, L5)

GNSS Accuracies	
Real time kinematic (RTK)[4]	H: 8 mm + 1 ppm RMS V: 15 mm + 1 ppm RMS Initialization time: <10 s Initialization reliability: >99.9%
Post-processing kinematic (PPK)	H: 3 mm + 1 ppm RMS V: 5 mm + 1 ppm RMS
PPP	H: 10 cm | V: 20 cm
High-precision static	H: 2.5 mm + 0.1 ppm RMS V: 3.5 mm + 0.4 ppm RMS
Static and rapid static	H: 2.5 mm + 0.5 ppm RMS V: 5 mm + 0.5 ppm RMS
Code differential	H: 0.4 m RMS | V:0.8 m RMS
Visual-assisted positioning	Yes

IMU	
IMU update rate	200 Hz
Auto initialization	Yes
Attitude accuracy after post-processing	0.005° RMS pitch/roll, 0.010° RMS heading
Position accuracy after post-processing	0.010 m RMS horizontal, 0.020 m RMS vertical

Camera	
Number of cameras	3
Resolution	15 MP (5 MP*3)
Sensor size	2592 (H) × 1944 (V)
Pixel size	2.0 μm
FOV	210° × 170°

Environments	
Operating temperature	-20°C to +50°C
Storage temperature	-20°C to +60°C
Ingress protection	IP64[5] (according to IEC 60529)
Humidity (operating)	80%, non-condensing

Electrical	
Input voltage	9 - 20 V DC
Power consumption	<30 W
Battery capacity	24.48 Wh

Equipped Software	
CoPre intelligent processing software	POS process, Adjust & Refine, Generate point cloud, modeling, etc
CoProcess efficient feature extraction software	Building feature extraction, road feature extraction, volume calculation, etc
LandStar Field Survey APP	Topographic survey, Point stakeout, Line stakeout, Elevation check, Facade survey

*All specifications are subject to change without notice.
(1) According to CHCNAV test condition. (2) Typical observed values. (3) Compliant, but subject to availability of BDS ICD, GLONASS, Galileo, QZSS and IRNSS commercial service definition. GLONASS L3, Galileo E6, QZSS L6 and IRNSS L5 will be provided through future firmware upgrade. (4) Accuracy and reliability are determined under open sky, free of multipaths, optimal GNSS geometry and atmospheric condition. Performances assume minimum of 5 satellites, follow up of recommended general GPS practices. (5) Splash, water, and dust resistant and were tested under controlled laboratory conditions with a rating of IP64 under IEC standard 60529.