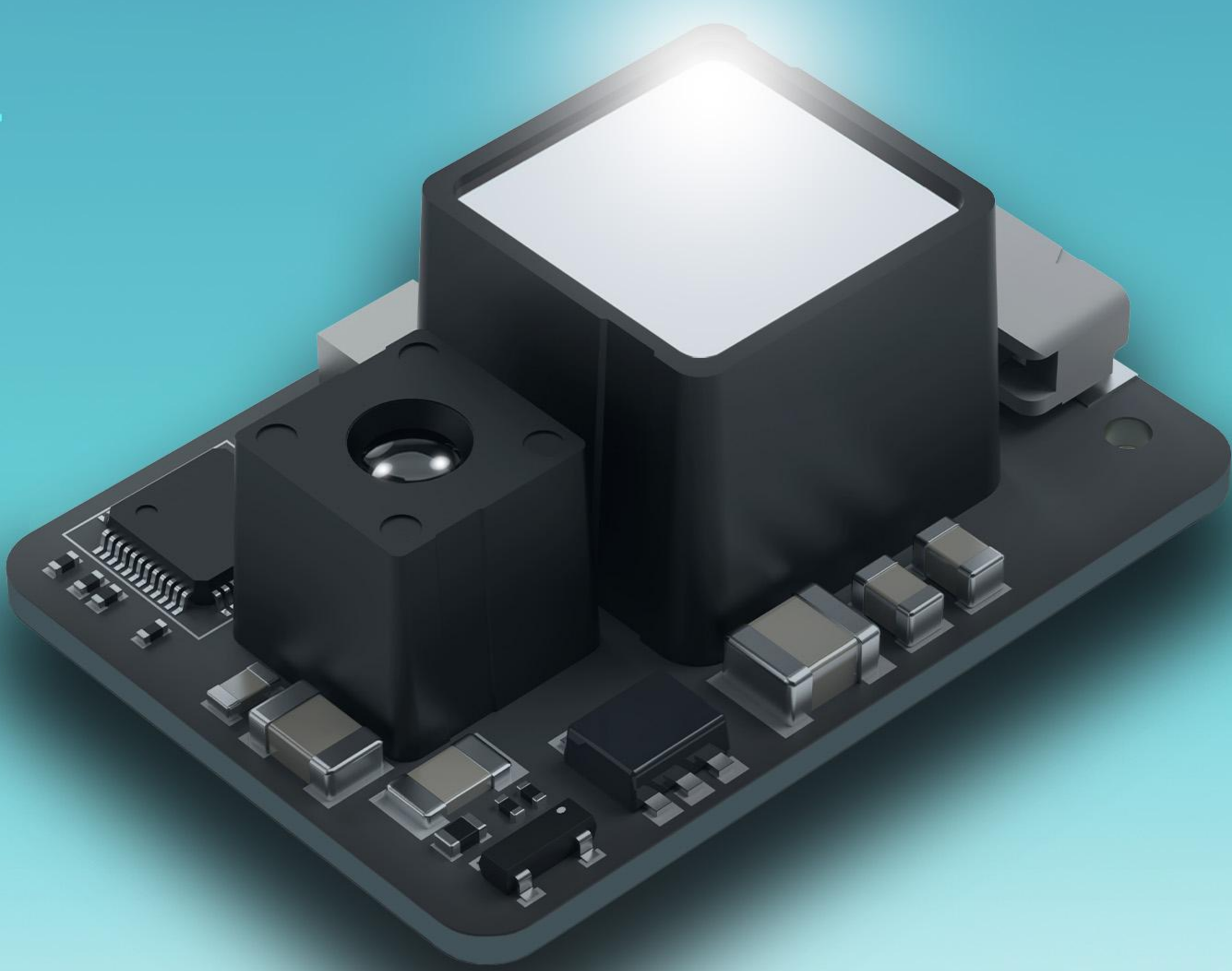


Micro Single-Point LiDAR

TFS20-L



Product Features



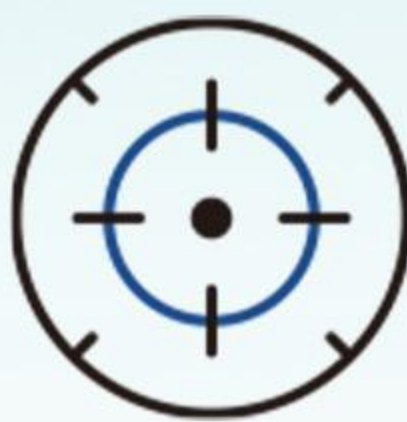
Compact Size
21*15*7.87mm³

Compact and reliable optical LGA packaging, suitable for integration into space-constrained bodies, making the overall product simple and aesthetically pleasing.



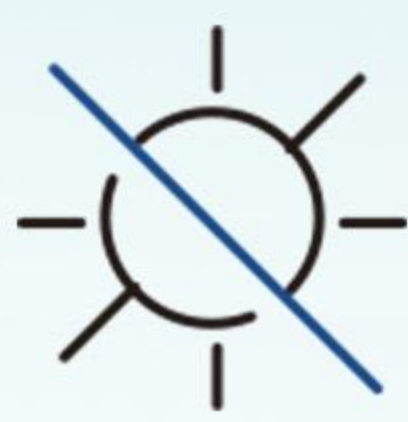
Lightweight
1.35g only

Can significantly increase the operating time of drones; reducing weight by 1g can extend flight time by about 6 seconds.



Accurate Measurement
±6cm(0.2~6m)
1%(≥6m)

The black-and-white reflectivity error is < 2 cm, allowing for stable and accurate distance measurement on different surfaces.



Long Range & Anti-Strong Ambient Light
Max range up to 20m

Excellent ability to resist strong light, allowing stable operation both indoors and outdoors, and stable measurement up to 9 meters even at low reflectivity.

Technical Specifications

Performance Parameters

Detection range	0.2-20m@90%reflectivity@0Klux, 0.2-15m@90%reflectivity@100Klux 0.2-12m@10%reflectivity@0Klux, 0.2-9m@10%reflectivity@100Klux
Accuracy	±6cm(0.2~6m), 1%(≥6m)
Precision	2cm(0.2~6m)@1σ
Default frame rate	0/20/50/100(Default)/250Hz
Ambient light resistance	100Klux

Laser Parameters

Light source	VCSEL
Central wavelength	905nm
FoV	<2°
Eye safety	Class 1 Eye-safe [EN60825]

Product Parameters

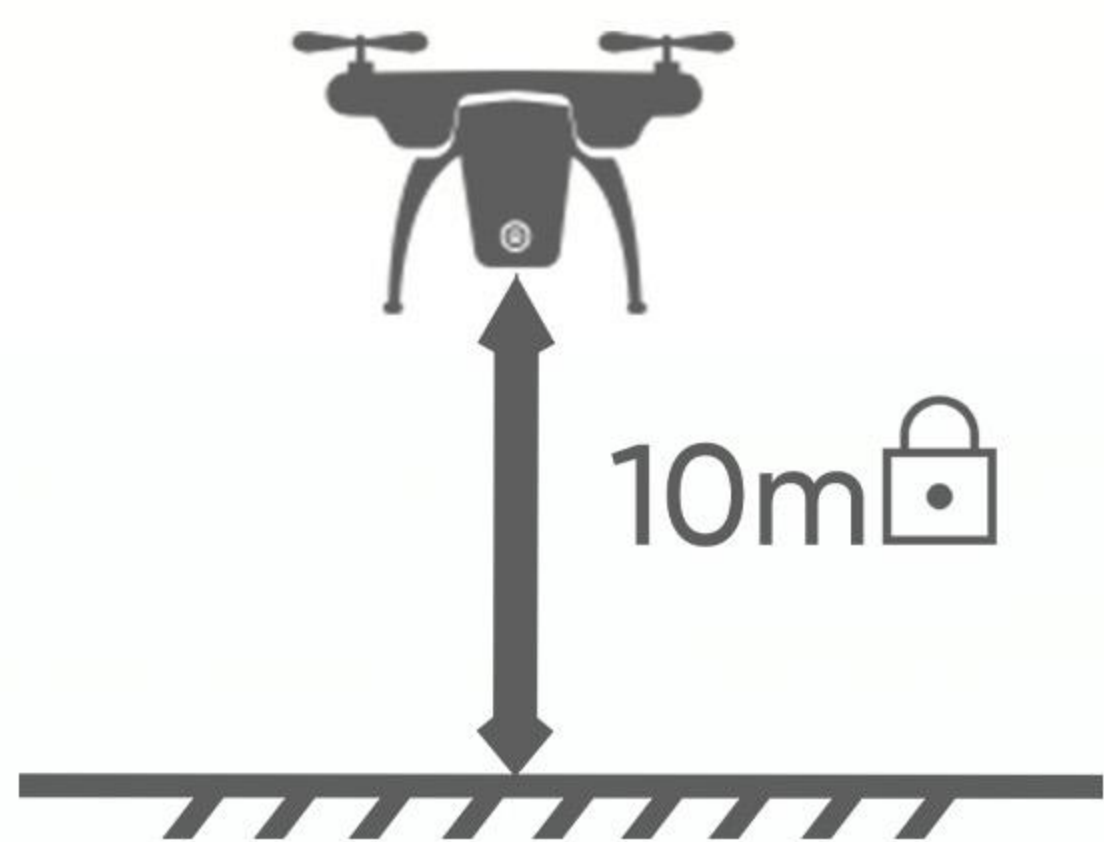
Dimensions	21*15*7.87mm ³
Weight	~1.35g
Communication interface	UART, I ² C

Core Applications

01 UAVs

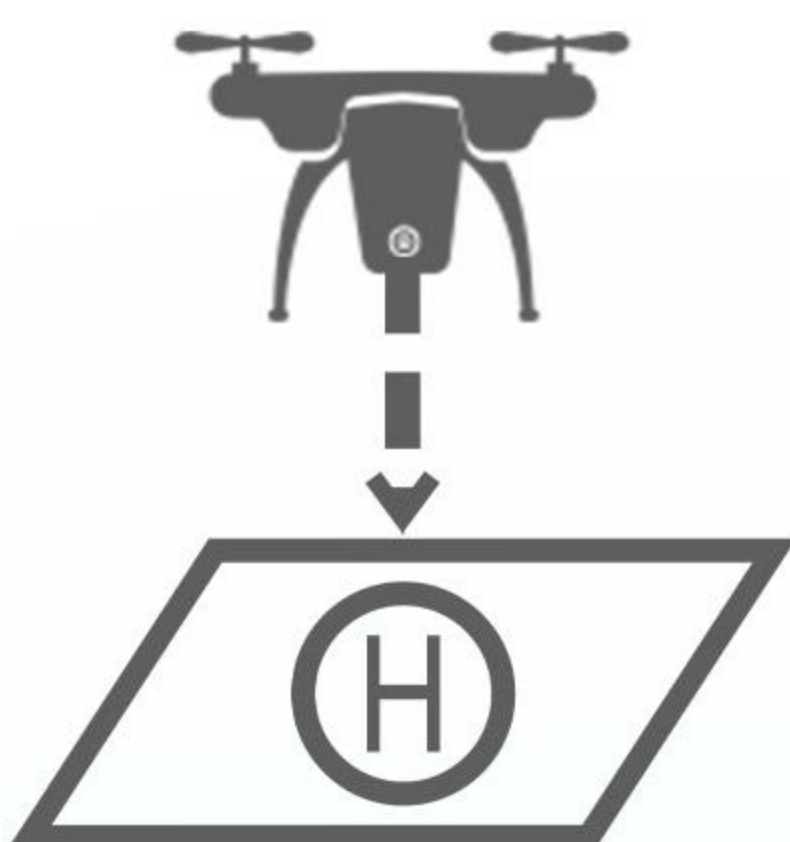
— Terrain following/holding —

Benewake's LiDAR can provide high-reliability true height measurement data with centimeter-level accuracy, allowing UAVs to fly smoothly close to the ground. It can also provide distance information to cameras to assist in correcting image distortion.



— Autonomous takeoff and landing —

The measurement accuracy of Benewake's LiDAR improves as the measurement distance decreases, achieving an accuracy of $<\pm 6\text{cm}$ within 6m, which effectively meets the high precision measurement requirements for assisted landing within this critical distance.



02 Robots

— Fall prevention —

Most sensors mounted on robots can only detect obstacles on the horizontal plane and are ineffective at detecting obstacles below the horizontal plane or ground level. Benewake's LiDAR can provide precise measurement data for surfaces with different reflectivity, ensuring that the robot does not experience sudden distance changes while moving across different ground types, thus contributing to stable and efficient operation. The $<2\text{cm}$ measurement accuracy can also reliably detect dangerous obstacles such as pits and steps.

