

Benewake TF03 Series

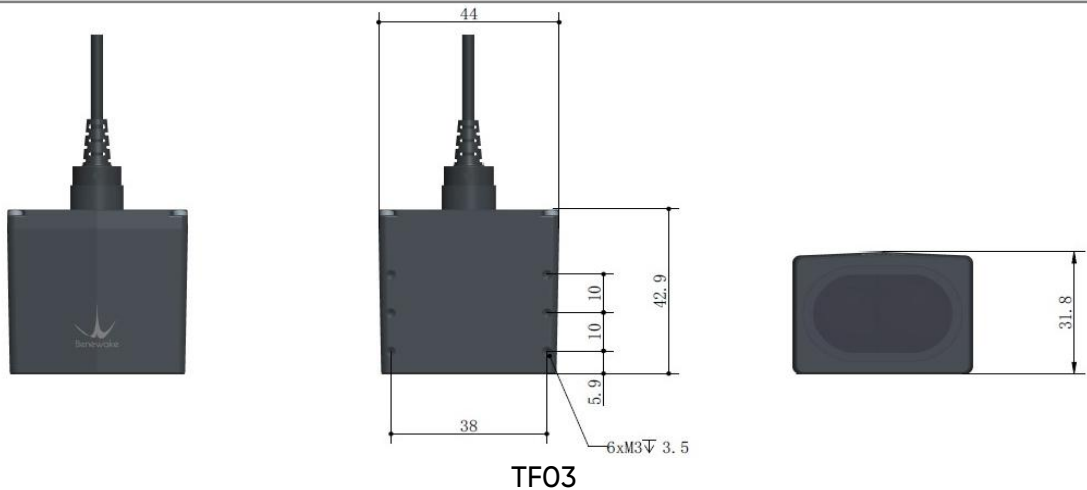
Datasheet



TF03 is an industrial grade high-speed measurement LiDAR with a range of up to 180m. The TF03 integrates compensation algorithms for outdoor strong light and rain, snow, and fog environments, allowing it to work normally in strong light and rain and fog environments. It also has multiple measurement modes and parameters for customers to choose and configure independently to meet the ranging needs of different customers.

Technical Specifications

Performance Parameters		
Model	TF03-100	TF03-180
Detection range①	100 m @ 90% ref. 40 m @ 10% ref.	180 m @ 90% ref. 70 m @ 10% ref.
Blind zone	≤ 0.1 m	
Accuracy①	± 10 cm (< 10 m), 1% (≥ 10 m)	
Repeatability①	< 3 cm @ 1 σ	
Distance resolution	1 cm	
Default frame rate	Up to 9,800 Hz (1 ~ 9,800 Hz configurable, default 100 Hz)	
Ambient light resistance	100 KLux	
Optical Parameters		
Light source	EEL	
Central wavelength	905 nm	
FoV②	< 0.5°	
Eye safety	Class1 (IEC 60825-1:2014; EN 60825-1:2014+A11:2021)	
Mechanical and Electrical Parameters		
Average power consumption③	≤ 800 mW	
Peak current③	< 480mA @ 12V	
Power supply	DC 5V ~ 24V	
Logical voltage	3.3 V TTL	
Connector	Molex standard 7pin terminal, model MH1.25-7P-W/B	

Operating temperature	- 25 °C ~ + 60 °C
Storage temperature	- 40 °C ~ + 85 °C
Protection level	IP67
Typ. Dimensions②	44.0 mm x 43.0 mm x 32.0 mm
Cable length②	70 cm
Typ. Weight②	86 ±3g (excluding cables)
Communication Protocol	
Communication Interface	UART / CAN (Can be switched by command), RS232, RS485
	Please note that the above communication interfaces belong to three independent hardware models. Please choose the corresponding product model according to your needs.
Dimensions (Unit: mm)	
 TF03	

Notes:

1. When all the light spots fall on the target object, the accuracy, distance resolution, and repeatability are measured under the conditions of a diffuse reflection whiteboard (90% reflectivity) at 25 °C indoors;
2. The weight and size are typical values for reference only. For detailed tolerance parameters, please consult the technical personnel of Benewake;
3. Measured at a temperature of 25 °C, 100 Hz;