iLidar ToF

28th Dec. 2023

iTFS Series

MAKE ROBOT MORE INTELLIGENT

3D Solid-State LiDAR

iLidar-ToF: iTFS is a 3D solid-state LiDAR that offers an extremely cost-effective solution compared to traditional LiDAR sensors on the market. It features a solid-state design without any moving parts and a high-efficiency optical system, allowing it to achieve a maximum measurement range of up to 20 meters.

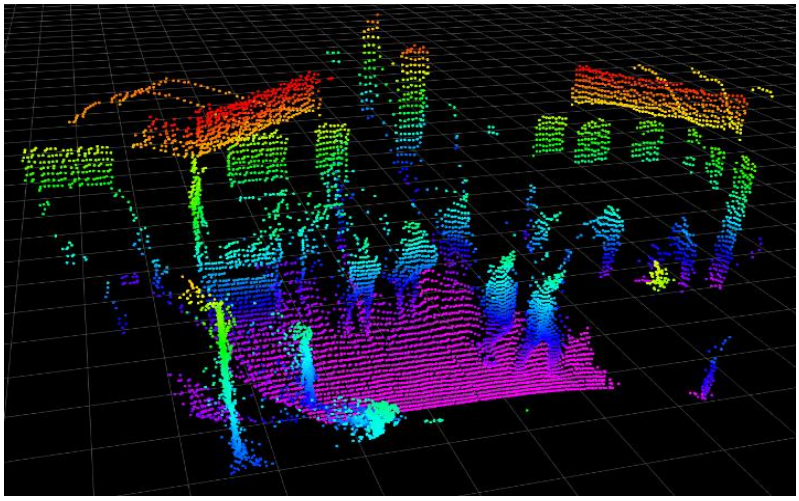
iTFS series can be used for obstacle avoidance in mobile robotics, and a safety sensor for industrial environment to monitor human presence in hazardous areas. It can also be used for detecting vehicle entry and exit in parking garages, among other applications.

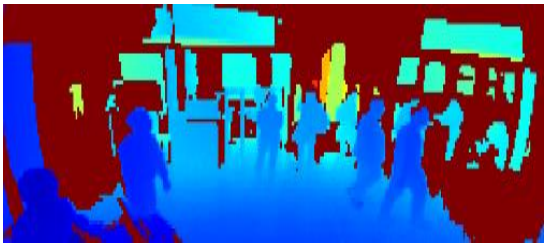
One of the major advantages of iTFS series is its modularity in optical components. By replacing the optical module, the sensor can maintain its form-factor while offering different specifications. This allows users to adjust our sensor's performance to fit a wide range of environments and applications.

If you need more information, please contact us:
Sales: sales@hybo.co
Technical support: json@hybo.co

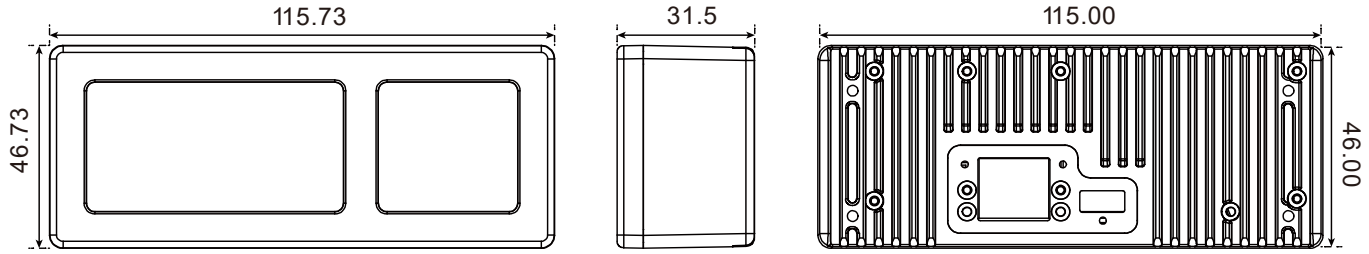
FEATURES

- Max. 320 x 160 pixels resolution (51,200 pixels)
- Different field of view (FoV) and operation range available in the same form factor
- Frame rate: Typ. 12.5 Hz (up to 20 Hz)
- Power input: 12 VDC or PoE
- Low power consumption: Avg. 6 W
- Solid-state: Long lifetime / Zero acoustic noise
- Synchronization
  - Configurable synchronization I/O signals
  - Data timestamping with internal clock
- Region-of-Interest (ROI) selectable
- GUI and CLI configuration S/W available
- Post-processing functions
  - Median filtering
  - Edge rejection
- System integration support
  - Basic examples for C/C++ and python
  - OpenCV and PCL examples for C/C++
  - ROS1 & ROS2 packages

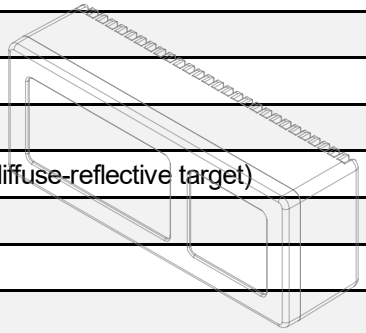




DATASHEET



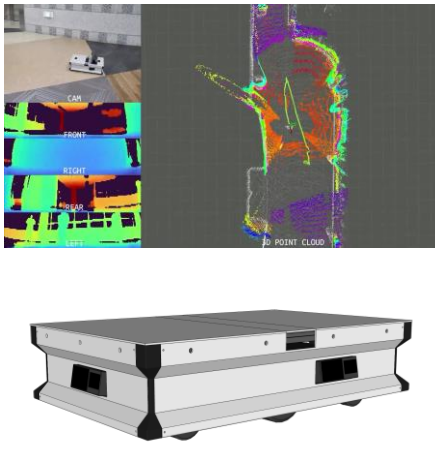
Features	*Specifications*					
	iTFS-110			iTFS-80		
	mode[1] 1	mode 2	mode 3	mode 1	mode 2	mode 3
Range[2]	0.5 - 8 m	0.05 - 12 m	0.05 - 16 m	0.5 - 10 m	0.05 - 15 m	0.05 - 20 m
Resolution (H × V)	0.4° × 0.4°	0.4° × 0.8°	0.8° × 0.8°	0.3° × 0.3°	0.3° × 0.6°	0.6° × 0.6°
FoV[3] (H × V)	110° × 60°			80° × 45°		
Accuracy	Error level: 3~5 cm + 2% of distance measurement					
Framerate	Typ. 12.5 Hz (Up to 20 Hz with heatsink and reduced RoI)					
Dimensions (W × H × D)	115 mm × 46 mm × 31.5 mm					
Weight	200 g					
Power	Avg. 6 W / Max. 12 W (12VDC or PoE)					
Interface	Ethernet (RJ-45) / UART (Molex)					
Output	Depth and Intensity Images					
Certification	KC, FCC					
Sunlight Immunity	~ 33 klux (80% ranging performance @ mode2 with 80% diffuse-reflective target)					
Illumination	940-nm IR Laser					
Eye safety	CLASS 1 (based on IEC-60825)					
Ingress Protection	Optional: IPX5 (with pigtail-cable accessory)					



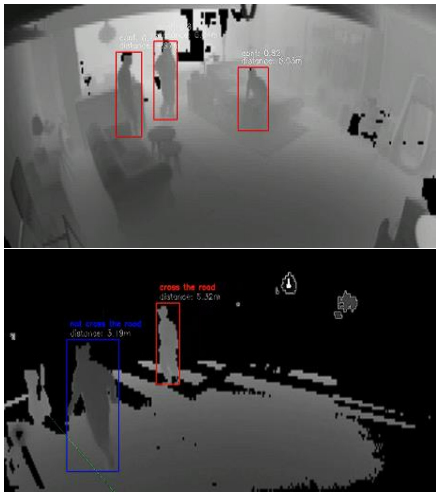
[1] On-the-fly configuration available (mode, framerate, and output data)
[2] Measured at centered ROI by using 80% diffuse-reflective target
[3] Range-guaranteed scope. Working horizontal FoVs are 120° and 90° for iTFS-110 and iTS-80 respectively.

APPLICATIONS

Industrial Safety Solutions



Autonomous Driving Robots



Object Detection