Deptrum® Stellar 400 Specifications

V4.0 - 8/2/2022

INTRODUCTION

Deptrum® Stellar 400 is one of Deptrum's depth camera series that utilize Time-of-Flight (ToF) technology to obtain 3-dimensional information of target objects or space. It combines the depth data captured together with RGB image information, and thus bringing consumers with effective 3D sensing capabilities.

Via USB2.0 interface, Stellar 400 is powered and outputs ToF depth data and RGB image at maximum frame rate of 30fps . With the unique optics, electronics and high-precision algorithm to calculate the depth information, the depth measurement precision can reach millimeter level.

SYSTEM REQUIREMENTS

- Operating Systems:
  Windows /Linux/Android/ROS

FEATURES

- Millimeter level precision
- Depth range of 0.2m ~ 5m
- Temperature drift compensation to unsure high accuracy as well as quality of depth image in various temperature conditions
- Simultaneous output of RGB, IR, and depth images
- Support alignment of RGB, IR, and depth images
- Adjustable detection range and frame rate

APPLICABILITIES

- Robot Navigation
- Volume&Dimensions Measurement
- Liveness Detection
- Somatosensory Interaction
- Head Counting
- 3D Modeling

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Specifications

Stellar 400		
Camera module	Dimensions	79mm x 35mm x 15.7mm
	Laser Wavelength	940nm
	Interface	USB 2.0 Wafer
	Depth Accuracy	5mm@1m
	Depth Range	0.2~5m
	Operating Temperature	-10℃~50℃
	Operating Humidity	0%~95%
	Power Supply	Avg:5V±10%/1A(Peak>5V/2A)
	Power Consumption	Avg:<3.6W
	ESD	Contact:±4KV，Air:±8KV
	Laser Safety	Class 1
Frame Data	Data format	RGB/IR/Depth: JPEG/Raw 16/Raw 8
	DepthResolution/Frame rate/FOV	640x480/25fps/64°(H)x51°(V)
	RGB Resolution/Frame rate/FOV	640x480/25fps/76°(H)x61°(V)
	IR Resolution/Frame rate/FOV	640x480/25fps/64°(H)x51°(V)
Synchronous Output Mode	Spontaneous Output	Maximum delay between RGB/IR/Depth:40ms
	Pixel-level alignment	±5 pixel
Operating Systems	System Compatibility	Windows / Linux / Android / ROS

Figure of Module

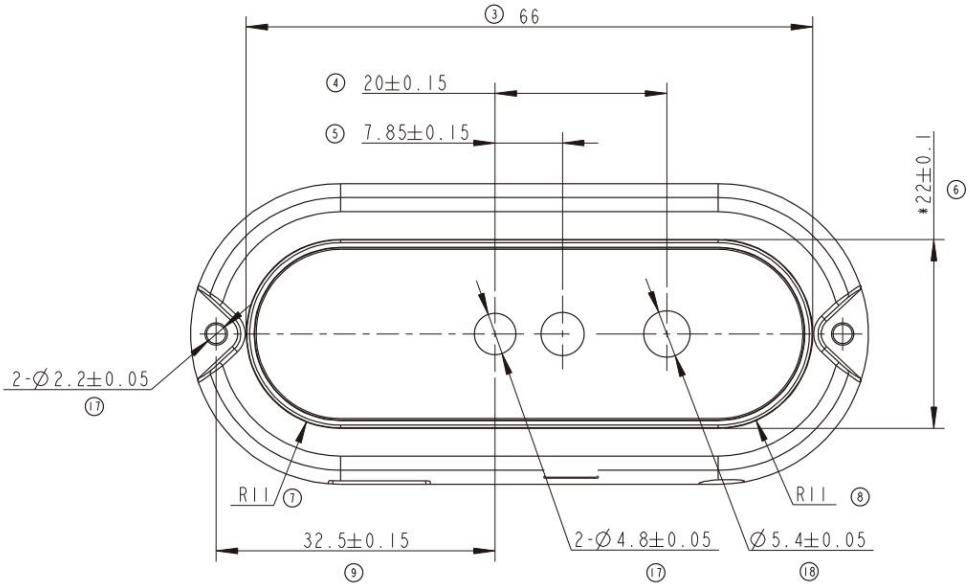
Module	Number
USB Wafer	1
TOF Camera	2
Vcsel	3
RGB Camera	4

Interface Definition

USB 2.0 Wafer

1,2、VBUS	3、D+	4、D-	5,6、GND

Structure Diagram



SECONDARY DEVELOPMENT

Customers are able to proceed to application development by using Deptrum Stellar SDK. It supports Windows/Linux/Android/ROS platform and x86_64 and ARMv7/ARMv8 architecture, and has been optimized with several specific capabilities on the embedded architecture. Please refer to the SDK guidance manual for more details.

DISCLAIMER

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SUPPORT

Please use contact details as follow for support:

- Website: Please visit www.deptrum.com to acquire guidance documents and online support
- Email: Please raise your enquiries via email to support@deptrum.com
- FAE: Please contact our sales team for further support from FAE staff

PRECAUTIONS

- Please avoid placing the product near any heat source.
- Please do not drop or pound on the product to avoid any damage to the internal components or the deterioration of the measurement accuracy. Improper operations may also cause damage of the internal parts.
- Please do not attempt to open or alter any portion of this device to avoid any damage to the module or possible deterioration of the measurement accuracy.
- It is normal that the module housing temperature rises after being used for a period of time. Heat dissipation measures can be taken at the back of the module housing.
- Please don’t keep your eyes too close to the operating product(<10cm) for laser safety.