HF-820

Depth Onboard Processing	Active Stereo	SDK Win/Linux OpenNI2/ROS
GigE	Accuracy Submillimeter	Hardware Trigger
Measurement Range 0.3~1.4 m	Sync& Alignment RGB-D	RGB 2M Pixels

Overview

HIFLY's 3D smart camera uses innovative active stereo vision technology with core patents to obtain more depth details and more robust environmental adaptability than traditional binocular vision.

HF-820 combines the structured light with the mature RGB sensor technology to provide real-time RGB and depth images.

With reliable measurement results and the compact aluminum alloy body, HF-820 becomes an ideal solution for robotics, industrial, commercial and consumer applications.

Advantages

HF-820 includes two infrared (IR) sensors, one RGB sensor and two structured-light projectors. Comparing to the traditional binocular camera, HF-820 provides:

+ More depth details
+ More robust to ambient light interference

Light & Compact

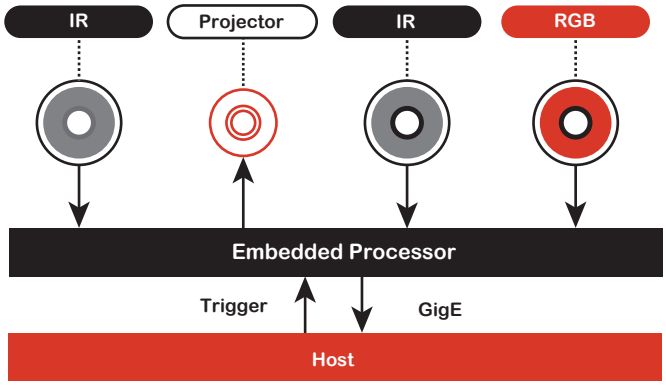
HF-820 has a compact design with the maximum length of 95 mm and weight of 228 g, providing an ideal solution for some applications that require compact integration.

Highlight

HF-820 is an industrial 3D camera with high cost-efficiency, which is specially designed for the cobot application. With accurate depth data and quality RGB images, it can be applied to various near-range scenes, such as recognition, positioning, grabbing and other tasks.

Note:
All cameras have been calibrated with intrinsic parameters before delivery. If you need to calibrate multiple cameras with extrinsic parameters, please contact HIFLY technical support.

Principle



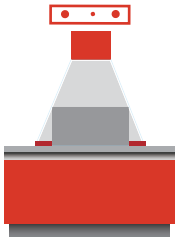
Structured-light Projector
Project the structured light to objects for assisting the active stereo system to calculate depth data.

Infrared Sensor
Receive the structured light reflected from the objects surface.

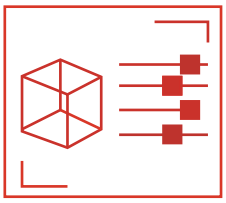
RGB Sensor
Capture RGB images.

Embedded Processor
Process infrared and RGB images:
- Calculate depth data and achieve alignment and synchronization with RGB images.
- Upload data through Gigabit Ethernet (GigE).
- Receive trigger signal from the host or external hardware trigger source.

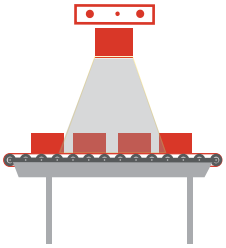
Applications



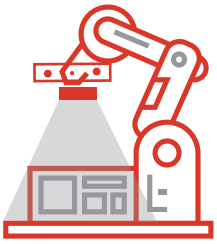
Industrial Measurement (Size, Volumn)



3D Content Generation



Inspection Check



Robot Recognition, Positioning...

Features

Dimensions&Weight

L x H x W (excluding interfaces)	95 mm × 45 mm × 43 mm
Weight	228 g

Measurement

Measurement range(mm)	300 ~ 1400
FOV（H/V）	66°/44°
Z Accuracy(mm)	1.73mm@700mm
X/Y Accuracy(mm)	4.88mm@700mm

Software

OS	Linux/Windows/Android/ROS
Development platform	Percipio Camport SDK
API	C/C++、C#、Python、Java

Ambient Data

Operating temperature	0℃ ~ 45℃
Storage temperature	-10℃ ~ 55℃
Enclosure rating	IP41

Performance

Depth	7 fps @ 1280×800
	7 fps @ 640×400
	7 fps @ 320×200
RGB	10 fps @ 1920×1080
	11 fps @ 1280×720
	11 fps @ 640×360
RGB-D Sync&Alignment	√
Output data	Point cloud, depth, infrared and RGB images

Interface

Power&Trigger	HR10A-7P-6S (HRS)
Ethernet	RJ45

Electronics

Supply voltage	DC 12V / 24V
Power consumption (idle)	2.8 W
Power consumption (continuous)	3.9 W
Power consumption (trigger)	3.3 W

Note:

The specs and dimension may change without notice.