

# PERCIPIO 3D CAMERA

## FS820



## Overview

Percipio develops and produces industry leading 3D cameras based on its patented single-frame structured-light technology. The unique innovation enables an extensive product line. Customers can have choice of high accuracy or ultra-cost-effective products to address different requirements. All the camera hardware meets high level industrial standards. Together with their system level expertise, more than one thousand commercial customers are deploying Percipio 3D camera products in many applications like logistics, automation, robot vision, inspection, gauge and 3D content generations etc.

Percipio provides easy-to-use SDK on Win/Linux/Android/ROS, it also works with 3rd part development platforms like Halcon and OpenNI. The developers community and software resource are rapidly growing.

## Advantages

### Active Stereo

Unlike conventional methods, Percipio uses a creative proprietary and patented methodology named Super Light-coding. This generates high accurate 3D point cloud data, eliminating the need for calibration. Every three frames exposed as fast as a few milli seconds will be fused into elegant precise depth data.

### Robust

Percipio camera hardware is well designed for industrial use purpose. All physical factors like interface and structure meet high quality standard. It's ambient light robust with no extra illumination required. It also minimizes the setup and maintenance cost during its many - year life time.

### FS820 Highlights

FS820 is specifically optimized for short range usage applications like eye-in-hand with robots. It provides high accuracy over 0.3-1.3m range at a speed of 5fps, and high quality RGB image with resolution of 2M. The tiny size makes it perfect for co-working with collaborative robots.

Active



mm

Accuracy

RGB

2M Pixel  
with ISP

RGB-Depth

Sync &  
Alignment

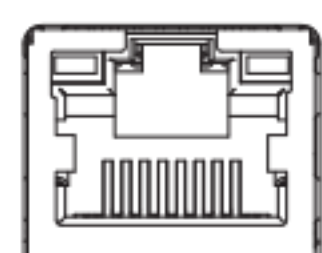
Depth

On-chip  
Computing

SDK

Win/Linux  
/ROS

Ethernet

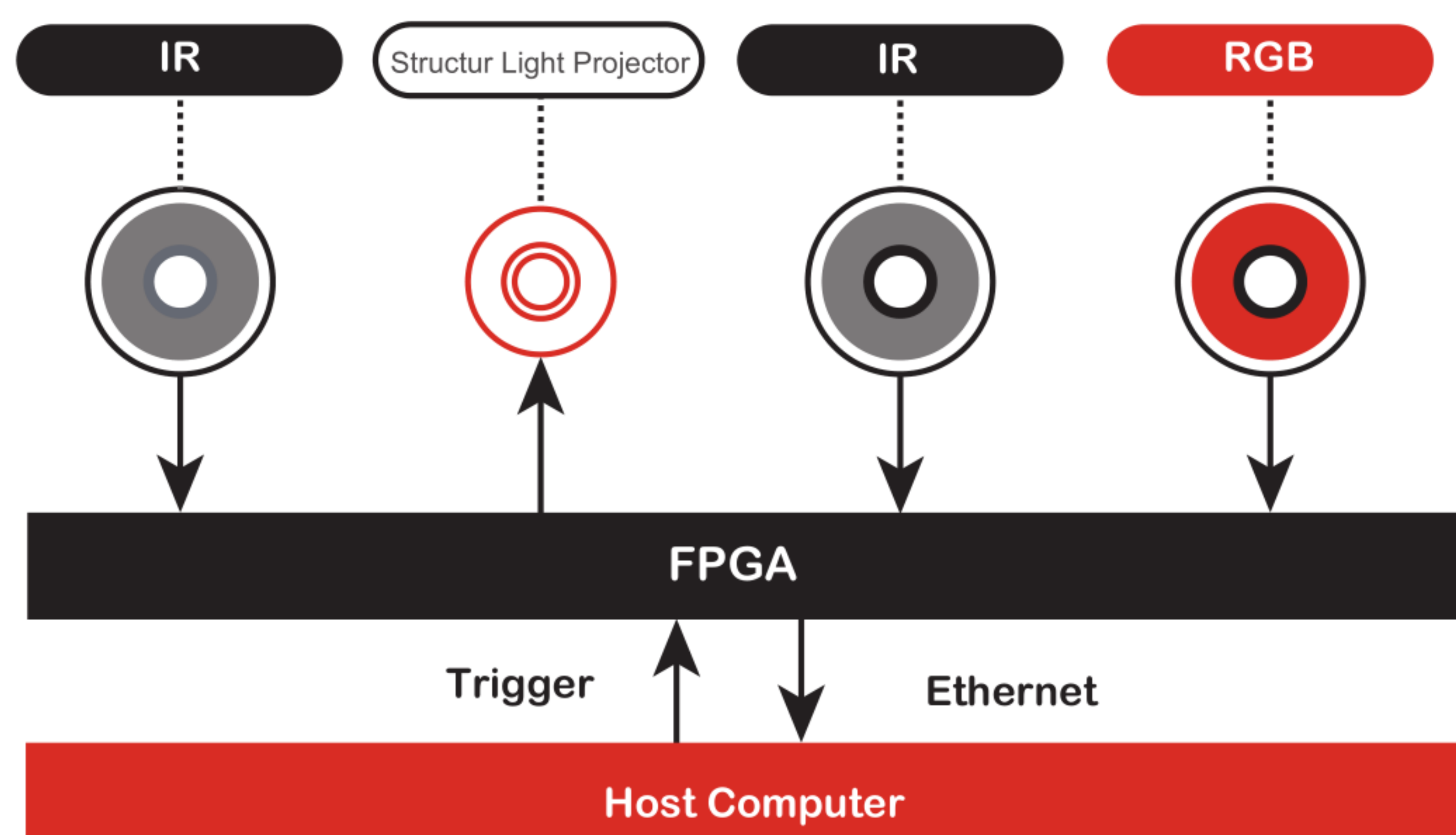


Hardware  
Trigger



Low power  
Small size

## Principle



### Structured-Light Projector

The structured-light projector uses 940nm IR laser, the well designed pattern brings best-in-class depth quality as well as ambient light robust.

### RGB

The integrated hardware ISP enables a high quality 2M pixel RGB image, it supports 2D image algorithm and deep learning needs.

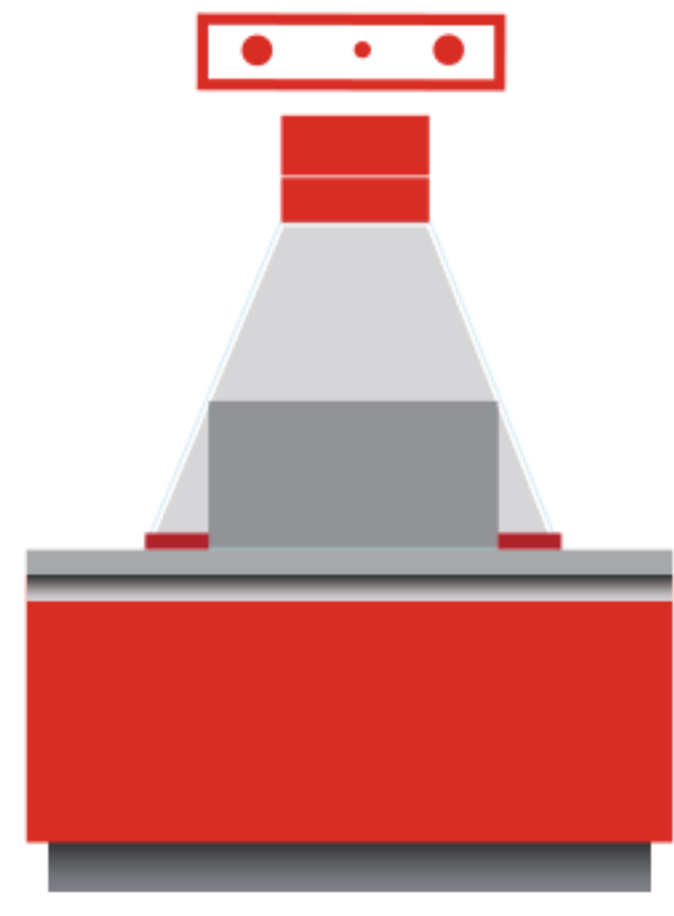
### Embedded Vision Processor

All image processing and depth engine are implemented within local powerful chipset empowered by Intel FPGA inside, no customer host computing resource required.

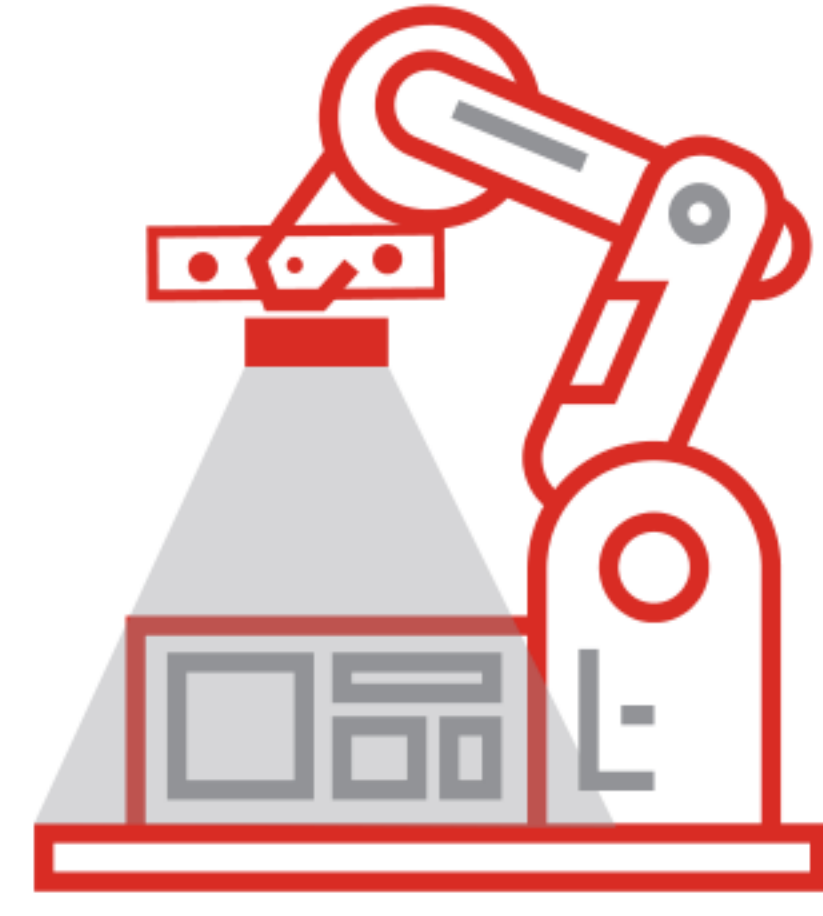


# Applications

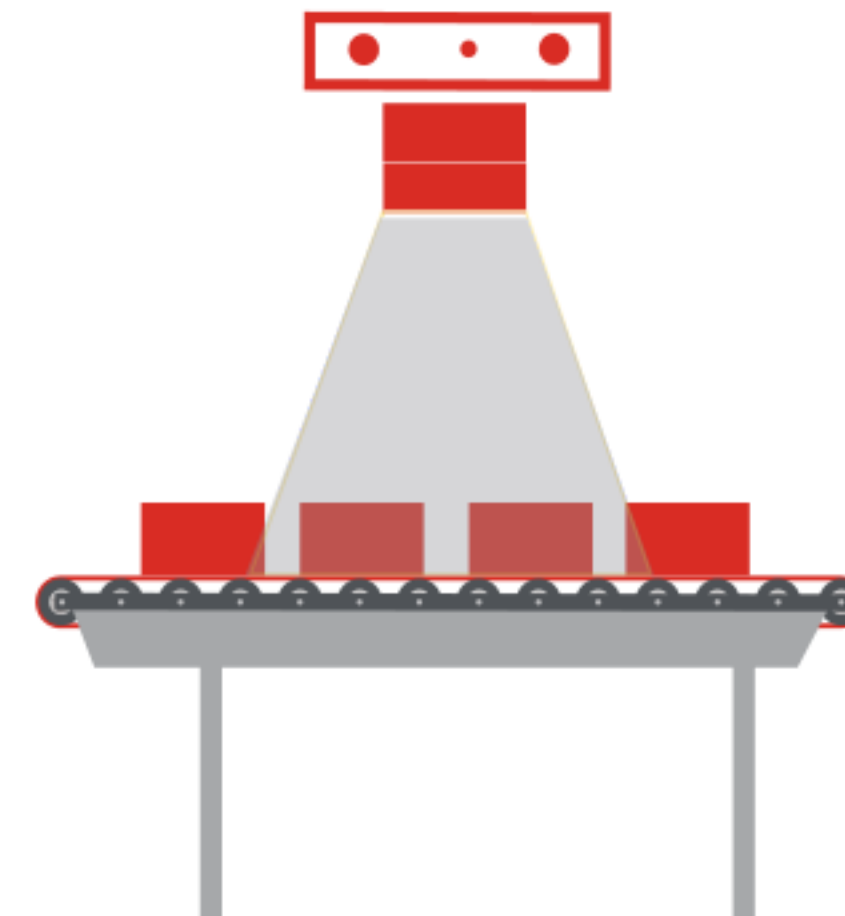
FS820 is suitable for a wide range of applications .



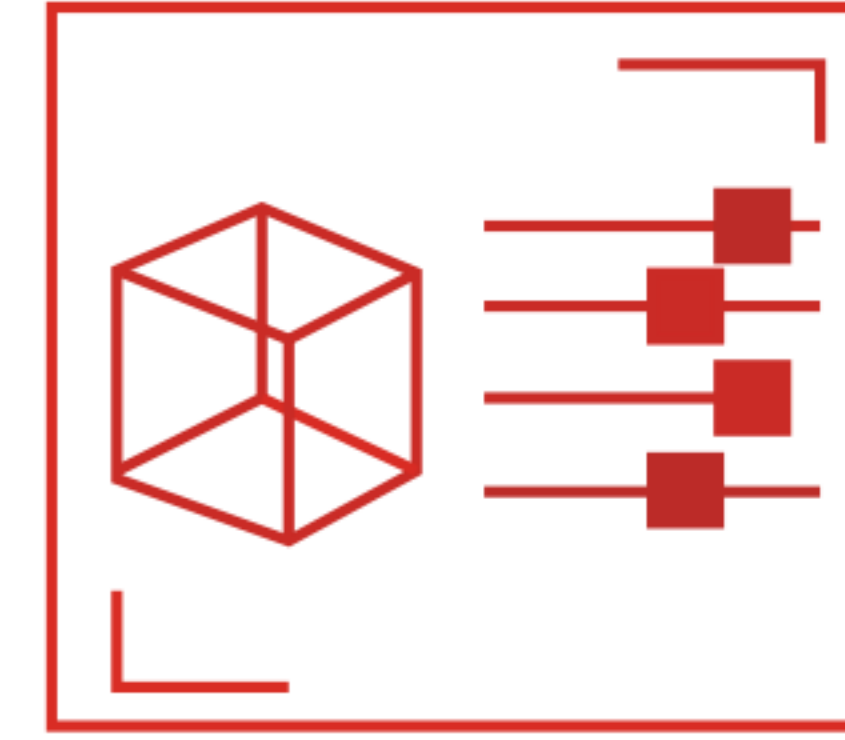
Dimension



Robot Guidance



Inspection



3D Content Generation

## Features

<b>Size</b>	L x H x W: 95 x 45 x 43	<b>Interface</b>	Trigger and Power Line: 6pin
	Weight : 228g		100/1000M Ethernet: RJ 45
<b>Power</b>	Power Supply: 12V / 24V	<b>Optics</b>	Baseline: 50 mm
	Power Consumption: Idle Mode :2.8W		Range: 0.3m -1.3m
	Working Mode : 3.9W		FOV(H/V): 63°/ 45°
	Trigger Mode : 3.3 W		Accuracy: 0.06%-0.3%
<b>Temperature</b>	Storage:-10°~55° ; Operation:0°~45°		Z:0.5mm@0.5m; X.Y:3.4mm@0.5m
<b>Software</b>	OS: Linux/Windows/Android/ROS	<b>Image</b>	Depth: 1280 x 800 @ 5 fps
	Software Development Platform: PercipioSDK / OpenNI 2 / Halcon		640 x 400 @ 5fps
	API: C / C++		RGB: 1920 x 1080 @ 8fps
<b>Output Data</b>	Point Cloud,Depth Map,IR& RGB		1280 x 720 @20fps
<b>Laser Safety</b>	Class I		640 x 360 @ 5fps
		Supported : RGB-D synchronization	
		Supported : RGB-D alignment	

## Other

### ONline Resource

SDK on Github: <https://github.com/percipioxyz>

Document download :<https://percipiopc.readthedocs.io/en/latest>

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