

3DPIXA Stereo Line Scan Camera

**Precision in high-resolution
3D and color**

inspect
award 2017
nominee



Chromasens 3DPIXA stereo line scan camera is a unique combination of line scan technology with fast stereo algorithms running on GPU. The 3DPIXA camera enables new 3D inspection and measuring applications requiring high resolution.

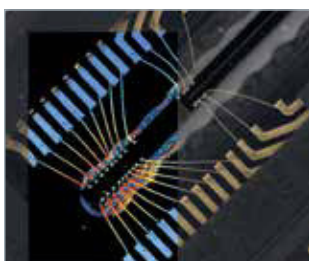
Unique features of the 3DPIXA Technology

- ▶ High speed inline 3D measurement
- ▶ Large field of view @ high resolution
- ▶ Height resolution up to 1 micron
- ▶ 2D resolution up to 5 micron
- ▶ 3D data and full color image in one scan
- ▶ Line scan frequencies up to 30 kHz @ full resolution
- ▶ Flexible use of all types of line illuminations
- ▶ Easy to use application programming interface (API)
- ▶ Integrated in standard machine vision libraries

Applications

- Height measurement
- Identifying micron defects
- Verification of height and 2D Position
- Combined 3D and color inspection
- 3D web inspection

Applications of 3DPIXA technology



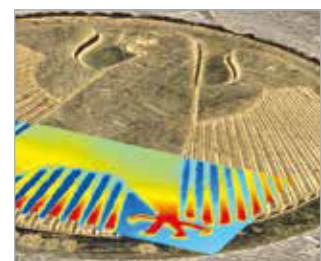
Wirebond inspection



PCB inspection



Food quality assessment



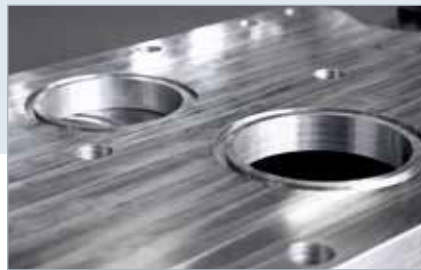
Metal surface inspection

3DPIXA	COMPACT			DUAL				DUAL HR	
	CP000470-C01-015-0040	CP000470-C01-030-0105	CP000470-C01-071-0250	CP000470-D01-005-0035	CP000520-D01-015-0105	CP000470-D01-030-0210	CP000470-D01-070-0500	CP000520-D02-002-016	CP000520-D02-005-035
Optical Resolution (µm/px)	15	30	71	5	15	30	70	2.5	5
Field of View (mm)	40	105	250	35	105	210	500	16	35
Number of pixel	2666	3500	3520	7000	7000	7000	7142	7000	7000
Height resolution (µm)*	3	10	45	1	3	5	14	0.35	0.55
Height range (mm)**	2.6	8.2	39	0.7	3.5	11.2	52.3	0.2	1.2
Free working distance (mm)	99.6	173.6	377	71.9	229	383.3	796.9	61	77.9
Maximum speed (mm/s)	310	630	1500	100	440	630	1480	53	106
CameraLink configurations	Base/Medium	Base/Medium	Base/Medium	Base/Medium	Base/Medium/Full	Base/Medium	Base/Medium	Base/Medium	Base/Medium
Line frequency (kHz)	21.2	21.2	21.2	21.2	29.7	21.2	21.2	21.2	21.2
Dimensions LxWxH (mm)	167.65 x 102 x 100	151.04 x 102 x 100	143 x 102 x 100	324 x 258 x 97	274 x 212.4 x 98.5	244 x 242 x 98.5	222 x 352 x 98.5	620 x 386 x 99	363 x 278 x 99

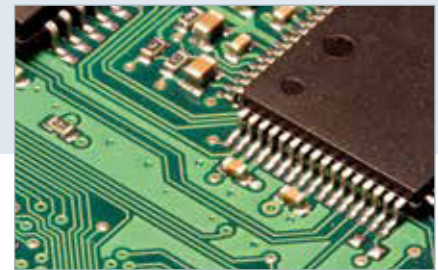
* Height range and height resolution depend on object surface ** For well structured surfaces the height range can exceed the specified values



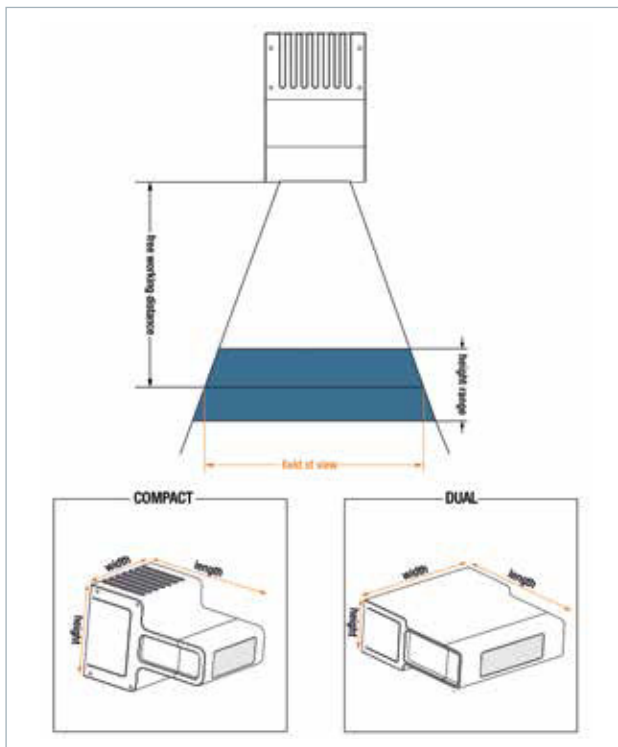
Food



Metal



Electronics



Camera specifications:

Camera	Stereo camera with lenses (factory calibrated)
Sensor	Tri-linear CCD line sensor (RGB)
Active pixel size	10 µm x 10 µm
Interfaces	Camera Link Base/Medium/Full External I/O Serial (RS-232) Power supply (Hirose)
Power supply	Compact: 24 V DC +/- 10% 16 W Dual: 24 V DC +/- 10% 32/38 W
Trigger mode	Free run / external trigger
Operating temperature	0°C to 60°C, 32°F to 140°F (housing temperature)
Software	· Chromasens 3D-API for real time 3D data calculation on NVIDIA GPU board (Windows x64) · Chromasens 3D Viewer
Software output	Rectified color image (3x8 Bit) Height map (16 Bit) 3D point cloud
Supported software libraries	LabVIEW (National Instruments) HALCON (MVTec) MIL (Matrox) Coake (SAC)
Additional accessories	Chromasens Corona II illumination
Certifications	CE, FCC compliant, RoHS