3DPIXA Stereo Line Scan Camera

High precision in fast 3D and color

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.

3DPIXA compact	COMPACT		COMPACT WAVE		
	CP000470-C11-015-0040	CP000470-C11-030-0105	CP000600-C01-008-0036	CP000600-C01-010-0056	CP000600-C01-012-0075
Optical resolution (µm/pixel)	15	30	8	10	12
Field of view (mm)	40	105	36	56	75
Measurement points	2666	3500	4500	5600	6250
Height resolution (µm)*	4	10	2.25	3.22	4.35
Height range (mm)**	3.5	11.2	1.32	1.89	2.55
Free working distance (mm)	99.6	173.6	155.9	183.3	210.8
Max. speed (mm/s)	318	636	147	184	221
Camera Link configuration	Base/Medium	Base/Medium	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full
Line frequency (kHz)	21.2	21.2	18.4	18.4	18.4
Dimensions LxHxW (mm)	168 x 102 x 100	151 x 102 x 100	228 x 100 x 114	228 x 100 x 114	228 x 100 x 114

3DPIXA dual	DUAL		DUAL HR			DUAL WAVE		
	CP000520-D01-015-0105	CP000520-D01-030-0210	CP000520-D02-005-0035	CP000520-D02-070-0500	CP000520-D02-200-1400	CP000600-D02-010-0150	CP000600-D02-020-0294***	CP000600-D02-030-0450
Optical resolution (µm/pixel)	15	30	5	70	200	10	20	30
Field of view (mm)	105	210	35	500	1400	150	294	450
Measurement points	7000	7000	7000	7142	7000	15000	14700	15000
Height resolution (µm)*	3	5	0.55	7.0	60	1.02	2.73	5.87
Height range (mm)**	3.5	11.2	0.5	50.6	400	1.83	6.0	12.9
Free working distance (mm)	229	383.3	77.9	583.2	1646.3	219.23	420.3	612.4
Max. speed (mm/s)	445	891	149	2079	5940	184	368	552
Camera Link configuration	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full	Base/Medium/Full
Line frequency (kHz)	29.7	29.7	29.7	29.7	29.7	18.4	18.4	18.4
Dimensions LxHxW (mm)	274 x 99 x 212	244 x 99 x 242	363 x 99 x 278	220 x 99 x 463	220 x 99x 463	322 x 99 x 396	247 x 99 x 341	247 x 99 x 341

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

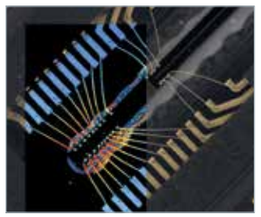
Unique features of the 3DPIXA Technology

- High speed inline 3D measurement
- Large field of view @ high resolution
- Height resolution up to 0.5 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

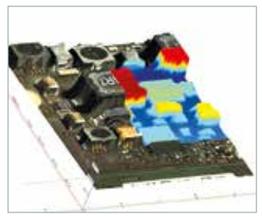
Applications

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

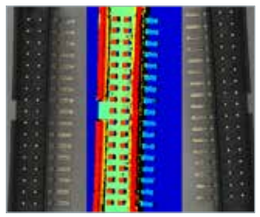
Sample applications of 3DPIXA technology



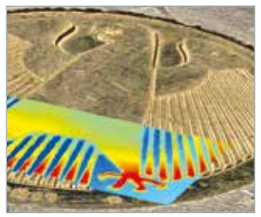
Wirebond



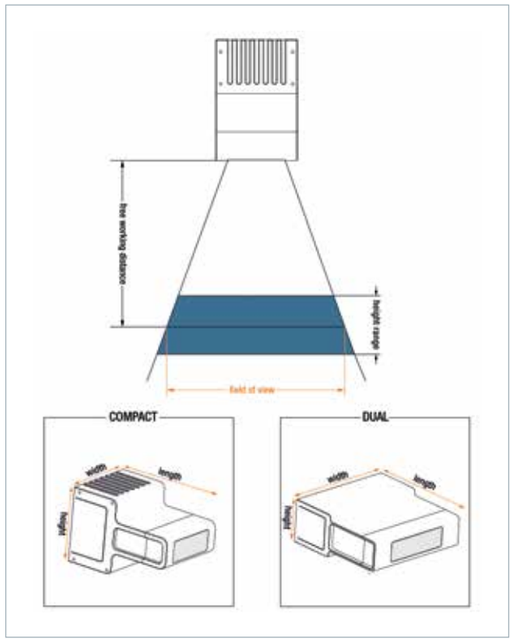
PCB



Pin Inspection



Metal surface



Specifications:

Camera	Stereo line scan camera with lenses (factory calibrated)
Sensor	Tri-linear CCD or CMOS line scan sensor (RGB)
Active pixel size	10 µm x 10 µm 5.6 µm x 5.6 µm
Interfaces	Camera Link Base/Medium/Full (80/64 Bit) 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 Line trigger Frame 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	HALCON (MVTec) MIL (Matrox) Coake (SAC)
Additional accessories	Chromasens Corona II illumination
Certifications	CE, FCC compliant, RoHS

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