

Inline

PowerSpector

FDAz 350L, 650L, 800L

In-Line Series Specifications	PowerSpector FDAz 350L	PowerSpector FDAz 650L	PowerSpector FDAz 800L
Maximum PCB Size	350x250mm (13.8"x9.8")	650x550mm (25.6"x21.6")	800x550mm (31.5"x21.6")
Characteristics			
Product type	Automatic Optical Inspector		
In-line/Off-line	In-Line		
Camera movement	X + Y Direction		
PCB movement	Stationary during inspection		
Parts inspection	Presence, Polarity, Offset, Correctness, Soldering		
Printing/paste inspection	Offset, Smearing, Bridges, Uniformity		
Distinction principle	Synthetic Imaging, Spectral Analysis, Greyscale limits		
Distinction parameters	Brightness, Hue, Saturation via Filters		
Camera type	Digital with CameraLink		
Camera Field Of View/Resolution	36x20mm/18.75µm or 19.2x10.8mm/10µ		
Lens	Telecentric lens with built in prism for DOAL Lighting		
Lighting system	Omnidirectional Triple LED rings: Side, Main, Line Sourced DOAL (Diffused On Axis Lighting (Coaxial))		
Specifications			
Minimum inspection component size	01005" (0.4x0.2mm) (10µm resolution)		
Positioning accuracy	Pixel related Feedback Loop		
Component clearance (top)	+30mm (1.2")		
Side Cameras	8x Digital with CameraLink in 45/45 orientation		
Z-Axis movement range	30mm (1.2")		
Component clearance (bottom)	-35mm (-1.38") or -55mm (-21.7") without PCB support lift option		
Maximum PCB Size	350x250mm (13.8" x 9.8")	650x550mm (25.6" x 21.6")	800x550mm (31.5"x21.6")
Movement speed	720mm/s		
Inspection capacity typical	1500cps/min		
Mains	100-240 Vac / 330W		
Conveyer			
Conveyer belt speed	10-500mm/s (0.4-19.7"/s)		
Conveyer configuration	Left>Right, Front rail fixed, Height 830-950mm		
PCB Clamping	Ruler Blade, Top & Edge Clamping, Sensor Stopper		
Minimum board size	50x50mm (0.2" x 0.2")		
Board thickness	0.6-2mm (option 0.6-4mm) (24mils - 79mils)		
PCB warpage compensation	Automatic PCB support Lift with magnetic pins (option)		
Interfacing			
Control PC type	Apple MacPro Intel with Mac OSX (not included)		
Control interface	USB / SMI/EMMA (conveyer)		
Data interface	CameraLink		
General			
Operating temperature	15-30 degr C		
Operating humidity	15-80 % RH		
External size	W740 x D786 x H1236 (29.1" x 30.9" x 48.7")	W1040 x D1077 x H1270 (40.9" x 42.4" x 50.0")	W1190 x D1077 x H1259 (46.9" x 42.4" x 49.5")
Weight	180kg (397lbs)	240kg (529lbs)	290kg (639lbs)



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DJK Europe GmbH

PowerSpector

FDAz FDLz FDA FDL



in-Line and Desktop Automatic Optical Inspection systems

Automatic Optical Inspection of PCB assemblies

Inspects:

- Components: SMT & THT (missing, type, polarity, offset, text, colours etc)
- Solder Paste and CIP (Components in Paste; pre-reflow)
- Soldering: Post Reflow, Post Wave, Selective, Manual

Flexible classification and reporting scenarios

In Medium and XXL size PCB's versions

Multi-colour 3 angle lighting with Line Source Coaxial Lighting and Meniscus Profiler

Line Sourced DOAL coaxial lighting system with high resolution Telecentric Optics

Low Noise Large CCD High Speed 24 bit Colour Camera

Synthetic Imaging and Spectral Analysis

Triple use of side camera's (FDA and FDAz models only)

Prototype mode for 1st off inspection

In height adjustable optical head (FDLz and FDAz models only)

Compact footprint design

test your PCB's optically and replace manual inspection

use inspection in all stages of the production process

integrate AOI efficiently in your existing operations and factory lay-out

choose the best hardware configuration for your processes

reliable solder joint meniscus and pad surface analysis (to find meniscus and paste printing defects)

inspect solder joints without shadow effects from tall components nearby and accurate inspection model building

find defects easier including printing defects on Gold or Cu plated PCB's

powerful algorithms to achieve an optimal balance between defect detection and false reject levels in shortest time

Use for automatic inspection, classification and repair

program in minutes to verify your production line is set-up correctly before starting full production

Compensate for PCB warp and adapt to tall component and sandwich assemblies

maximize factory floor efficiency

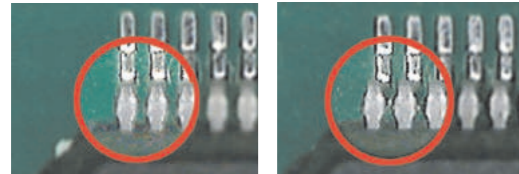
Contributing to your global success

because inspection matters

Hardware and Software Features

High grade Telecentric Lens

Parallel image over the whole sensor/lens Field of View
— No parallax effect

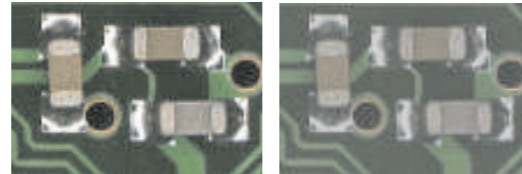


Telecentric Lens

Conventional Lens

Large pixel image capturing sensor

18,8μ² pixel size — less noise — smooth and detailed image— great dynamic range



High dynamics sensor

Conventional sensor

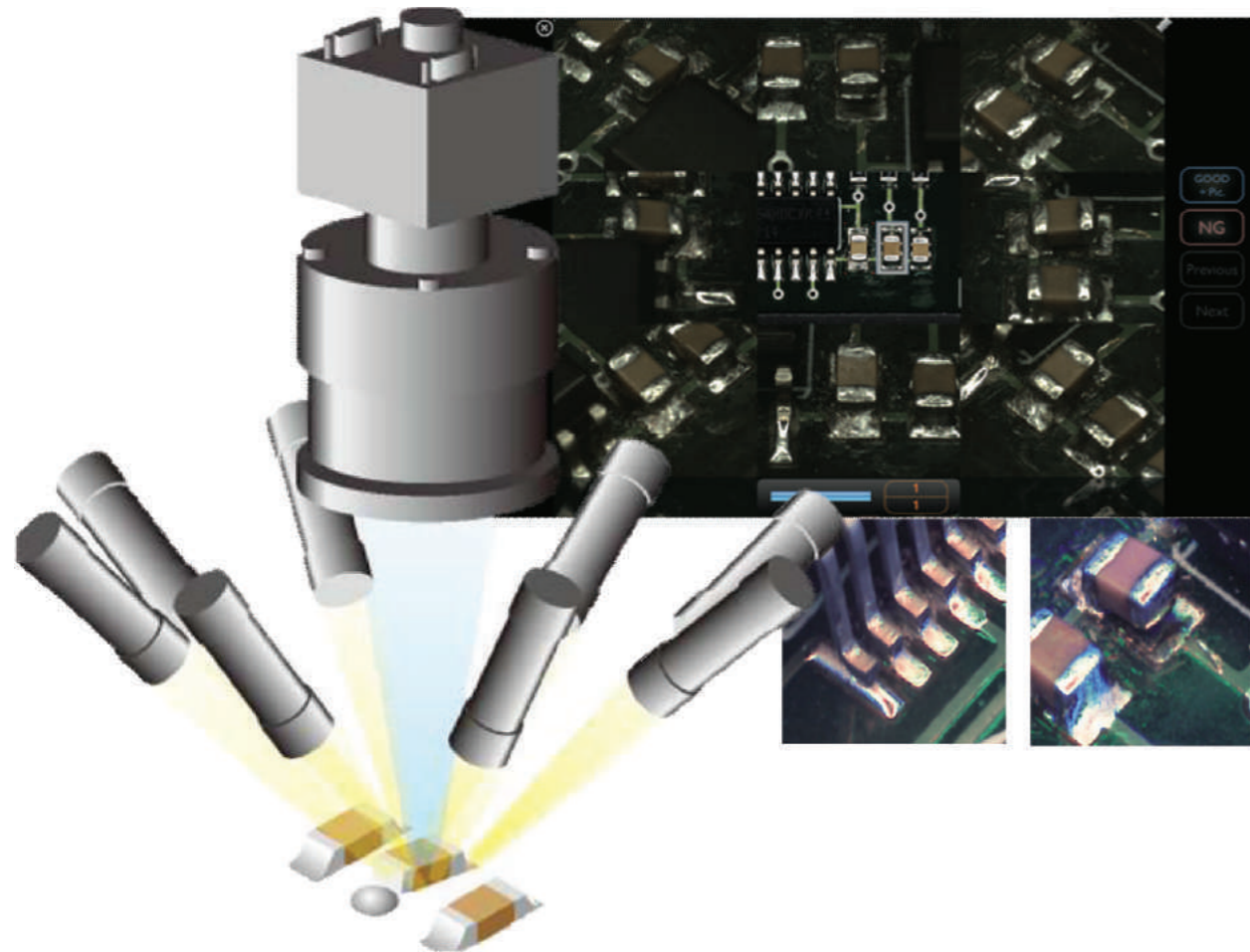
Omnidirectional multi angle, multi color LED lighting

Optimal light no matter component direction — 3D color profile of solder meniscus — Reliable defect decision by the software — Decide Good Solder, No Solder, Lack of Solder and Too much solder for SMT and THT solder joints



8x Angular Side Sensors with Tilt-Shift Lenses (Only available for FDA and FDAz models)

Simultaneously operating, multiplexed side view sensors with CameraLink interface — Shift & Tilt lenses for distortion free side images across whole FoV — 45/45 arrangement — Triple use: Active automatic inspection, classification and repair — clear 9 angles defect review — high magnification 50x (10μm/pixel) — Full Color — Auto highlight — Large sensor pixels — 9 view images also in backup database



Desktop

FDAz 350, 460, 650, 800

Desktop Series Specifications	PowerSpector FDAz 350	PowerSpector FDAz 460	PowerSpector FDAz 650	PowerSpector FDAz 800
Maximum PCB Size	350x250mm (13.8" x 9.8")	460x350mm (18.1" x 13.8")	650x550mm (25.6" x 21.6")	800x550mm (31.5"x21.6")
Characteristics				
Product type	Automatic Optical Inspector			
In-line/Off-line	Off-line			
Camera movement	X Direction	X + Y Direction	X + Y Direction	X + Y Direction
PCB movement	Moving in Y	Stationary	Stationary	Stationary
PCB fixation	Direct Loading	Direct Loading	Manual Drawer Options: Motorised Drawer, Transverse loader	Manual Drawer Options: Motorised Drawer, Transverse loader
Parts inspection	Presence, Polarity, Offset, Correctness, Soldering			
Printing/paste inspection	Offset, Smearing, Bridges, Uniformity			
Distinction principle	Synthetic Imaging, Spectral Analysis, Greyscale limits			
Distinction parameters	Brightness, Hue, Saturation via Filters			
Camera type	Digital with CameraLink			
Camera Field Of View/Resolution	36x20mm/18.75μm or 19.2x10.8mm/10μ			
Lens	Telecentric lens with built in prism for DOAL Lighting			
Lighting system	Omnidirectional Triple LED rings: Side, Main, Line Sourced DOAL Diffused On Axis Lighting (Coaxial))			
Specifications				
Minimum inspection component size	01005" (0.4x0.2mm) (10μm resolution)			
Positioning accuracy	Pixel related Feedback Loop			
Component clearance (top)	+30mm (1.2")			
Side Cameras	8x Digital with CameraLink in 45/45 orientation			
Z-Axis movement range	60mm (2.4")			
Component clearance (bottom)	- 70mm (-2.8")	- 70mm (-2.8")	- 70mm (-2.8")	- 70mm (-2.8")
Maximum PCB Size	350x250mm (13.8" x 9.8")	460x350mm (18.1" x 13.8")	650x550mm (25.6" x 21.6")	800x550mm (31.5"x21.6")
Movement speed	720mm/s			
Inspection capacity typical	1500cps/min			
Mains	100-240 Vac / 150W			
Interfacing				
Control PC type	Apple MacPro Intel QuadCore with Mac OSX (not included)			
Control interface	USB			
Data interface	CameraLink			
General				
Operating temperature	15-30 degr C			
Operating humidity	15-80 % RH			
External size	W736 x D874 x H450 (29.0" x 34.4" x 7.7")	W946 x D876 x H458 (37.2" x 34.5" x 18.0")	W940 x D1015 x H500 (37.0" x 34.0" x 19.7")	W1157 x D1015 x H500 (45.55" x 34.0" x 19.7")
Weight	65kg (143lbs)	89kg (196lbs)	110kg (243lbs)	120kg (265lbs)

because inspection matters