

PI-1600 Technical Specifications

General

Camera Type	Option 1: 3 chip CCD Camera, NTSC format <ul style="list-style-type: none"> 648 X 494 pixels X 256 grey levels of red, green and blue Option 2: Single chip CMOS monochrome 1394A Camera <ul style="list-style-type: none"> 1280 X 1024 monochrome pixels 			
Camera Module Size (max)	422 mm height X 150 mm diameter			
Camera Standoff Height from Disc	18 or 42 mm			
Defect Detection Capability	Minimum Defect Size Detected: Greater than 0.250 mm in any direction Minimum Threshold of Detection: 7-10 grey levels above average image noise level Contrast Level: Minimum required defect to background contrast level varies with defect and ink type			
Types of Defects Found	<table border="0"> <tr> <td> Printed Color Defects: <ul style="list-style-type: none"> Pinholes Color Shifts Ghosting / Feathering Missing / Excessive Ink Large Area Printing Watermarks </td> <td> Surface Type Defects: <ul style="list-style-type: none"> Major Squeegee Marks Scratches Dust Some Raised Print </td> <td> Other Special Defects: <ul style="list-style-type: none"> Basic CMYK Comparison Centre Hub Print Defects </td> </tr> </table>	Printed Color Defects: <ul style="list-style-type: none"> Pinholes Color Shifts Ghosting / Feathering Missing / Excessive Ink Large Area Printing Watermarks 	Surface Type Defects: <ul style="list-style-type: none"> Major Squeegee Marks Scratches Dust Some Raised Print 	Other Special Defects: <ul style="list-style-type: none"> Basic CMYK Comparison Centre Hub Print Defects
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Machine Interface	16 digital inputs; 16 digital outputs 0-24VDC - NPN or PNP compatible			
Hardware Components	Rack Mount Industrialized computer complete with I/O interface module; monitor; Windows® Operating System Camera module with integrated optics and 2 Solid state light sources for good print and surface defect detection performance			
Cable	10 m camera cable – other lengths available Camera cable fully compliant to IEC-61000-4-2 level 4 and IEC-61000-4-4 level 4 electrical immunity standards			
Software Modules	<ul style="list-style-type: none"> Template Matching Tool Segmentation Tool Automated Teach Function Intelligent Defect Analysis Automatic Light Setup Production Statistics Primary / Secondary Masks for Different Setups Multiple Image Processing Capability Squeegee Mark / Surface Defect Detection Module Large Dynamic Range Light Adjustment 			
GUI Language Support	English, Chinese, Japanese – Other languages by request			
Reject Classification	By Size, by Location (Cartesian or Zone)			
Cycle Time	Up to 100 parts per minute depending on print machine cycle time Acquisition is completed in 290 msec, total processing time <600 msec.			
Required Disc Alignment	To within 0.050 mm for best print inspection results			
Number of Camera Heads	One IAD (Image Acquisition Device) supported per processor			
Mounting	Mounting slots extruded on IAD body Optional Precision Mounting bracket with lift mechanism is available			
Operating Conditions	Power: 100-240 VAC, 500 watts, 50-60 Hz. Temperature: 10-40 °C (50-104 °F) Humidity: 10-60% RH (non-condensing)			
Fume Evacuation system	Air pressure jets constantly evacuate the fumes from the lower light assembly			
Air Requirement	Fine filtered medical-grade dry air feed capable of 1-2 bar (15-30 psi) pressure. Flow rate of 0.1 m3/min (3 cu. Ft./min)			