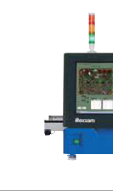
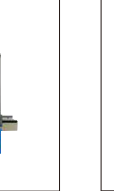


		Sherlock					
Model							
PCBA to be inspected	M size	○	○	○	○	○	○
	L size	○	○	○	○	○	○
	Dimensions	Minimum 50 mm×50 mm - maximum 510 mm×460 mm	Minimum 50 mm×50 mm - maximum 510 mm×460 mm	Minimum 50 mm×50 mm - maximum 330 mm×250 mm	Minimum 50 mm×50 mm - maximum 330 mm×250 mm	Minimum 50 mm×50 mm - maximum 330 mm×250 mm	Minimum 50 mm×50 mm - maximum 330 mm×250 mm
Thickness of PCBA		0.5-2.0 mm	0.5-2.0 mm	0.5-2.0 mm	0.5-2.0 mm	0.5-2.0 mm	0.5-2.0 mm
Maximum weight of PCBA		3 kg	3 kg	3 kg	3 kg	3 kg	3 kg
PCBA height limit (clearance)	Upper side	30 mm	45 mm	25 mm (resolution: 12.4 μm/pixel) 30 mm (resolution: 18.7 μm/pixel)	60 mm	25 mm (resolution: 12.4 μm/pixel) 30 mm (resolution: 18.7 μm/pixel)	60 mm
	Under side	20 mm	45 mm	70 mm	70 mm	70 mm	70 mm
Resolution		Horizontal resolution : 12 μm Height resolution : 12 μm	selected before shipment 8.7 μm/pixel 13.7 μm/pixel 18.7 μm/pixel	selected before shipment 12.4 μm/pixel 18.7 μm/pixel	18.7 μm/pixel	selected before shipment 12.4 μm/pixel 18.7 μm/pixel	18.7 μm/pixel
Minimum inspection target parts (JIS)		0402	0402 (resolution: 8.7, 13.7 μm/pixel) 0603 (resolution: 18.7 μm/pixel)	0402 (resolution: 12.4 μm/pixel) 0603 (resolution: 18.7 μm/pixel)	0603	0402 (resolution: 12.4 μm/pixel) 0603 (resolution: 18.7 μm/pixel)	0603
Inspection speed		5,000 mm ² /s (3D+2D)	7,500 mm ² /s (*in case of resolution: 18.7 μm/pixel)	5,000 mm ² /s (*in case of resolution: 18.7 μm/pixel)	5,000 mm ² /s (*in case of resolution: 18.7 μm/pixel)	5,000 mm ² /s (*in case of resolution: 18.7 μm/pixel)	5,000 mm ² /s (*in case of resolution: 18.7 μm/pixel)
Main inspection items	Component inspection	Missing components, displacement, tombstoning, polarity, foreign objects, wrong component, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component
	Solder inspection	Excess, insufficient, unsoldered, bridges, solder ball, volume of solder	Excess, insufficient, unsoldered, bridges, solder ball	Excess, insufficient, unsoldered, bridges, solder ball	Excess, insufficient, unsoldered, bridges, solder ball	Excess, insufficient, unsoldered, bridges, solder ball	Excess, insufficient, unsoldered, bridges, solder ball
Imaging range		49 mm (width of scan)	17.8×17.8 mm (resolution: 8.7 μm/pixel) 28.1×28.1 mm (resolution: 13.7 μm/pixel) 38.3×38.3 mm (resolution: 18.7 μm/pixel)	25.4×13.5 mm (resolution: 12.4 μm/pixel) 38.3×20.3 mm (resolution: 18.7 μm/pixel)	38.3×20.3 mm	25.4×13.5 mm (resolution: 12.4 μm/pixel) 38.3×20.3 mm (resolution: 18.7 μm/pixel)	38.3×20.3 mm
Repeatability of positioning		±7 μm	±50 μm	±50 μm	±50 μm	±50 μm	±50 μm
Camera		12M Pixel	4M Pixel	2M Pixel	2M Pixel	2M Pixel	2M Pixel
Lighting		RGB + warm white LED	RGB + warm white LED	RGB + warm white LED	RGB + warm white LED	RGB + warm white LED	RGB + warm white LED
Flow direction of PCBA		Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)
Width adjustment for transferring conveyor		Automatic	Automatic	Automatic	Automatic	Automatic	Automatic
Passline		920±50 mm	920±50 mm	920±50 mm	—	—	—
Monitor		21.5" touch panel display	21.5" touch panel display	21.5" touch panel display	21.5" touch panel display	21.5" touch panel display	21.5" touch panel display
PC	OS	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)
	Memory	32GB	8GB	8GB	8GB	8GB	8GB
Interface between equipments		Conformance to SMEMA standard	Conformance to SMEMA standard	Conformance to SMEMA standard	—	—	Conformance to SMEMA standard
Environment conditions for operation		10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)
Environment conditions for storage		-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)
Power supply		AC 200-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz
Power consumption [VA]		2000 (including PC)	400 (including PC)	400 (including PC)	400 (including PC)	400 (including PC)	400 (including PC)
Compressed air consumption		Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min
Dimensions of main unit (excluding protruding portion)		W985×D1,155×H1,450 mm *Pass line at 900mm	W920×D927×H1,336 mm *Pass line at 900mm	W620×D758×H1,294 mm *Pass line at 900mm	W620×D758×H1,294 mm	W620×D758×H1,294 mm	W620×D758×H1,294 mm
Weight (excluding PC)		390 kg	290 kg	154 kg	92 kg	92 kg	92 kg

		Sherlock	
Model			
PCBA to be inspected	M size	○	○
	L size	○	○
	Dimensions	Minimum 50 mm×80 mm - maximum 330 mm×250 mm	Minimum 100 mm×80 mm - maximum 330 mm×250 mm
Thickness of PCBA		0.5-2.0 mm	0.5-2.0 mm
Maximum weight of PCBA		1 kg	2 kg
PCBA height limit (clearance)	Upper side	25 mm (resolution: 12.4 μm/pixel) 30 mm (resolution: 18.7 μm/pixel)	75 mm (including PCB thickness)
	Under side	20 mm	25 mm (inspection surface)
Resolution		selected before shipment 12.4 μm/pixel 18.7 μm/pixel	18.7 μm/pixel
Minimum inspection target parts (JIS)		0402 (resolution: 12.4 μm/pixel) 0603 (resolution: 18.7 μm/pixel)	0603
Inspection speed		5,000 mm ² /s (*in case of resolution: 18.7 μm/pixel)	5,000 mm ² /s
Main inspection items	Component inspection	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component	Missing components, displacement, tombstoning, polarity, foreign objects, inversion, OCR character recognition, lifting of lead, lifting of component
	Solder inspection	Excess, insufficient, unsoldered, bridges, solder ball	Excess, insufficient, unsoldered, bridges, solder ball
Imaging range		25.4×13.5 mm (resolution: 12.4 μm/pixel) 38.3×20.3 mm (resolution: 18.7 μm/pixel)	38.3×20.3 mm
Repeatability of positioning		±50 μm	±50 μm
Camera		2M Pixel	2M Pixel
Lighting		RGB + warm white LED	RGB + warm white LED
Flow direction of PCBA		Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)
Width adjustment for transferring conveyor		Automatic	Automatic
Passline		—	920±50 mm
Monitor		21.5" touch panel display	21.5" touch panel display
PC	OS	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)
	Memory	8GB	8GB
Interface between equipments		—	Conformance to SMEMA standard
Environment conditions for operation		10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)
Environment conditions for storage		-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)
Power supply		AC 100-240V (single phase) 50/60Hz	AC 100-240V (single phase) 50/60Hz
Power consumption [VA]		450 (including PC)	500 (including PC)
Compressed air consumption		Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min
Dimensions of main unit (excluding protruding portion)		W1,496×D786×H1,328 mm	W1,496×D786×H1,328 mm
Weight (excluding PC)		252 kg	180 kg

		Watson	
Model			
PCBA to be inspected	M size	○	○
	L size	○	○
	Dimensions	Minimum 50 mm×50 mm - maximum 330 mm×250 mm	Minimum 50 mm×50 mm - maximum 330 mm×250 mm
Thickness of PCBA		0.5-2.0 mm	0.5-2.0 mm
Maximum weight of PCBA		1 kg	1 kg
PCBA height limit (clearance)	Upper side	7 mm	7 mm
	Under side	5 mm	5 mm
Printing laser		CO2 laser (Class 4 laser) Wavelength : 10.6 μm Average power : 10 W	CO2 laser (Class 4 laser) Wavelength : 10.6 μm Average power : 10 W
Printing range		Within 330 mm x 250 mm However, cannot printed on 4 mm from PCB edge (for transport),	Within 330 mm x 250 mm However, cannot printed on 4 mm from PCB edge (for transport),
Printing type		Characters : Uppercase letters, lowercase letters, numbers, symbols Barcode : CODE39, CODE128, ITF, NW-7, JAN/UPC 2D code : QR code (model 2), DataMatrix, GS1 data matrix	Characters : Uppercase letters, lowercase letters, numbers, symbols Barcode : CODE39, CODE128, ITF, NW-7, JAN/UPC 2D code : QR code (model 2), DataMatrix, GS1 data matrix
Printing speed		30 characters/sec (character height 4 mm, character width 3 mm)	30 characters/sec (character height 4 mm, character width 3 mm)
Printing size		Character : Height 1-20 mm Bar code : Height 4-20 mm 2D code : Height 4-20 mm	Character : Height 1-20 mm Bar code : Height 4-20 mm 2D code : Height 4-20 mm
Repeatability of positioning		±50 μm	±50 μm
Camera		Equipped (for PCB loading direction and printing check)	Equipped (for PCB loading direction and printing check)
Fume absorbing device		Dust collection and deodorization with a three-layer filter	Dust collection and deodorization with a three-layer filter
Flow direction of PCBA		Right to Left/Left to right (selected before shipment)	Right to Left/Left to right (selected before shipment)
Width adjustment for transferring conveyor		Automatic	Automatic
Passline		920±50 mm	920±50 mm
Monitor		21.5" touch panel display	21.5" touch panel display
PC	OS	Windows 10 Professional 64bit Japanese/English (selected before shipment)	Windows 10 Professional 64bit Japanese/English (selected before shipment)
	Memory	4GB	4GB
Interface between equipments		Conformance to SMEMA standard	Conformance to SMEMA standard
Environment conditions for operation		10-35°C / 30-80%RH (no condensation)	10-35°C / 30-80%RH (no condensation)
Environment conditions for storage		-10-60°C / 30-80%RH (no condensation)	-10-60°C / 30-80%RH (no condensation)
Power supply		AC 200-230V (single phase) 50/60Hz	AC 200-230V (single phase) 50/60Hz
Power consumption [VA]		850 (including PC)	850 (including PC)
Compressed air consumption		Compressed air: 0.5 MPa Air consumption: 5Nl/min	Compressed air: 0.5 MPa Air consumption: 5Nl/min
Dimensions of main unit (excluding protruding portion)		W1,020×D960×H1,400 mm *Pass line at 900mm	W1,020×D960×H1,400 mm *Pass line at 900mm
Weight (excluding PC)		360 kg	360 kg