

# MC-20S

CODING & MARKING  
SOLUTIONS

## HITACHI VISION SYSTEM

DESIGNED FOR  
INJET PRINTING



**MOST VISION SYSTEMS ON THE MARKET TODAY ARE LIMITED IN THEIR ABILITY TO READ DOT MATRIX PRINTING FOUND ON PRIMARY PACKAGING. HITACHI HAS DEVELOPED A VISION SYSTEM SPECIFICALLY ABLE TO ISOLATE EACH CHARACTER IN THE DOT MATRIX INKJET PRINTING. THIS PROVIDES SOME KEY BENEFITS TO MANUFACTURING COMPANIES:**

### CONTACT US

FOR YOUR  
CUSTOMIZED  
QUOTE

- SPECIFICALLY DEVELOPED TO ACCURATELY READ INKJET CODES REGARDLESS OF THE PRINTER BRAND BEING USED
- ISOLATION OF EACH CHARACTER TO DETECT CODE DEGRADATION
- THRESHOLD GRADING SYSTEM INDIVIDUALLY SET FOR YOUR APPLICATION

**BY DESIGNING A VISION SYSTEM SPECIFICALLY FOR INKJET PRINTERS, ANY CODE THAT IS READABLE BY THE HUMAN EYE CAN ALSO BE PASSED BY THE VISION SYSTEM, GETTING MORE PRODUCTION OUT THE DOOR. THIS IS PART OF THE HITACHI COMMUNICATION SOLUTIONS, WHICH HELP LEVERAGE TECHNOLOGY ON YOUR PRODUCTION LINES TO IMPROVE YOUR EFFICIENCY.**



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## Specifications

Item	MC-20SW0	MC-20SW1	MC-20SW2
<b>Verification characters</b>	Characters marked by IJ printer, laser, thermal and stamp		
<b>Verification method</b>	Character matching, presence and area		
<b>Number of verification areas</b>	Max. 6 areas		
<b>Number of verification characters</b>	Max. 16 characters per area		
<b>Maximum Inspect Speed *1</b>	Color camera : Max. 500 pieces/minute Monochrome camera: Max. 1,000 pieces/minute		
<b>Inspection characters</b>	<b>Standard characters</b>	Alphabetic [A-Z, a-z], Numeral [0-9], General symbol [.,- / :+]	
	<b>External characters</b>	50 characters	
	<b>Clustered characters</b>	8 characters	
	<b>Calendar characters</b>	Year, Month, Day, Hour, Minute, Week number, Day of the week, Calendar substitution function: 99 rules	
	<b>Count characters</b>	Count-up, Random inspection	
	<b>Read characters</b>	Read character inspection (Numerals, Alphabets and External characters)	
	<b>Barcode</b>	Read QR code inspection	
<b>Tilt of characters</b>	Within $\pm 3^\circ$		
<b>Correction function</b>	Reference position correction, Rotate correction ( $\pm 180^\circ$ ), Shading correction		
<b>Tilted segmentation</b>	Fixed: Within $\pm 30^\circ$ , Auto: Within $\pm 20^\circ$		
<b>Data store</b>	<b>Number of registered items</b>	Max. 240 items	
	<b>Character dictionary</b>	Standard characters, External characters: 20 patterns per character. (OK characters: 10 patterns, NG characters: 10 patterns) Clustered characters: 1 pattern per character.	
	<b>Save of images</b>	Latest NG images: 100, latest OK images: 8	
<b>Simplified total storage function</b>	<b>Storage contents</b>	Inspection results and images (Original pictures)	
	<b>Storage speed *2</b>	Max. 200 pieces/minute	
<b>Auxiliary function for Maintenance</b>	Inspection number display (Total count, Passed, Failed), Statistics of failures (Total inspections, Total count, Fail total, Fail ratio, Breakdown of failure cases), LED Check emission counter, Strobe emission counter, I/O signal test, etc.		

Item	MC-20SW0	MC-20SW1	MC-20SW2
<b>Camera interface</b>	Color VGA, or Monochrome VGA camera		
<b>Connectable cameras</b>	1		
<b>Light</b>	—	White LED strobe lighting x 2 (Bar LED)	White LED strobe lighting x 1 (Flat LED)
<b>Light controller</b>	—	Dedicated light controller	
<b>Touch panel display interface</b>	15.0 inch TFT LCD, Resistive touch panel		
<b>External storage for image</b>	USB memory/USB HDD/NAS *3		
<b>I/O Signals</b>	<b>Input</b>	Object sensor, Encoder, Clear error, Reset count, Test mode	
	<b>Output</b>	Status indicator light (Run, Failure, Error), Inspection results, Inspection ready, Unit ready, Inspection complete, Test mode, External strobe output	
<b>External communication (Serial communication)</b>	<b>Function</b>	Hitachi IJ printer communication (Recall the Registered items, Set the Inspection characters and Date/Time setup), Host communication (Recall the Registered items, Set the Inspection characters and Date/Time setup, Output the Inspection characters)	
	<b>Specification</b>	Serial interface: RS-232C (at baud rates selectable up to 57,600bps)	
<b>Ethernet communication</b>	<b>Function</b>	Modbus communication, FTP communication	
	<b>Specification</b>	IEEE802.3, 10BASE-T, 100BASE-T	
<b>Conveyor specifications</b>	Encoder, Tracking, Object sensor filter, Object sensor timer, Sampling ejection, Number of ejections		
<b>Power supply</b>	AC100-120/200-240V $\pm 10\%$ , 50/60Hz $\pm 1\%$		
<b>Electricity consumption</b>	120VA or lower		
<b>Ambient temperature and humidity</b>	0-40°C/32-104°F, 30-80%RH		
<b>Operating environment</b>	No condensation, no dust, nor corrosive gas		
<b>External dimension of Main body/Weight</b>	Approx. 400×360×117mm (WxDxH)/Approx. 8kg/18lbs		

\*1 The number varies depending on the verification details.

\*2 The number varies depending on NAS.

\*3 It does not guarantee connection with all devices. For detail, please contact us.

## Extra dimensions (mm)

