HITACHI
Inspire the Next

Coding & Marking Solutions

Vision System

Designed for Inkjet Printing

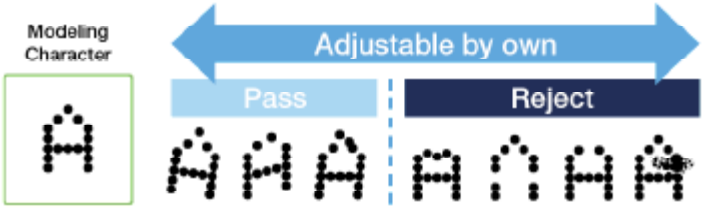
MC-20S

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:

- 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.

How it works



Specifications

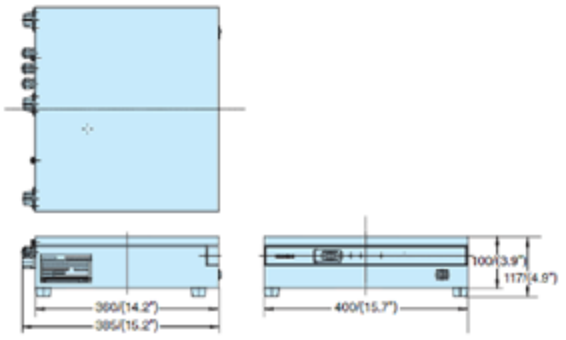
Item		MC-20SW0	MC-20SW1	MC-20SW2
Verification characters		Characters marked by IJ printer, laser, thermal and stamp		
Verification method		Character matching, presence and area		
Number of verification areas		Max. 6 areas		
Number of verification characters		Max. 16 characters per area		
Maximum Inspect Speed *1		Color camera : Max. 500 pieces/minute Monochrome camera: Max. 1,000 pieces/minute		
Inspection characters	Standard characters	Alphabetic [A-Z, a-z], Numeral [0-9], General symbol [. –‾ / :+]		
	External characters	50 characters		
	Clustered characters	8 characters		
	Calendar characters	Year, Month, Day, Hour, Minute, Week number, Day of the week, Calendar substitution function: 99 rules		
	Count characters	Count-up, Random inspection		
	Read characters	Read character inspection (Numerals, Alphabets and External characters)		
	Barcode	Read QR code inspection		
Tilt of characters		Within ±3°		
Correction function		Reference position correction, Rotate correction (±180°), Shading correction		
Tilted segmentation		Fixed: Within ±30°, Auto: Within ±20°		
Data store	Number of registered items	Max. 240 items		
	Character dictionary	Standard characters, External characters: 20 patterns per character. (OK characters: 10 patterns, NG characters: 10 patterns) Clustered characters: 1 pattern per character.		
	Save of images	Latest NG images: 100, latest OK images: 8		
Simplified total storage function	Storage contents	Inspection results and images (Original pictures)		
	Storage speed *2	Max. 200 pieces/minute		
Auxiliary function for Maintenance		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
Camera interface		Color VGA, or Monochrome VGA camera		
Connectable cameras		1		
Light		—	White LED strobe lighting x 2 (Bar LED)	White LED strobe lighting x 1 (Flat LED)
Light controller		—	Dedicated light controller	
Touch panel display interface		15.0 inch TFT LCD, Resistive touch panel		
External storage for Image		USB memory/USB HDD/NAS *3		
I/O Signals	Input	Object sensor, Encoder, Clear error, Reset count, Test mode		
	Output	Status indicator light (Run, Failure, Error), Inspection results, Inspection ready, Unit ready, Inspection complete, Test mode, External strobe output		
External communication (Serial communication)	Function	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)		
	Specification	Serial interface: RS-232C (at baud rates selectable up to 57,600bps)		
Ethernet communication	Function	Modbus communication, FTP communication		
	Specification	IEEE802.3, 10BASE-T, 100BASE-T		
Conveyor specifications		Encoder, Tracking, Object sensor filter, Object sensor timer, Sampling ejection, Number of ejections		
Power supply		AC100-120/200-240V±10%, 50/60Hz±1%		
Electricity consumption		120VA or lower		
Ambient temperature and humidity		0-40°C/32-104°F, 30-80%RH		
Operating environment		No condensation, no dust, nor corrosive gas		
External dimension of Main body/Weight		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)

Unit



Display