

Application Spotlight

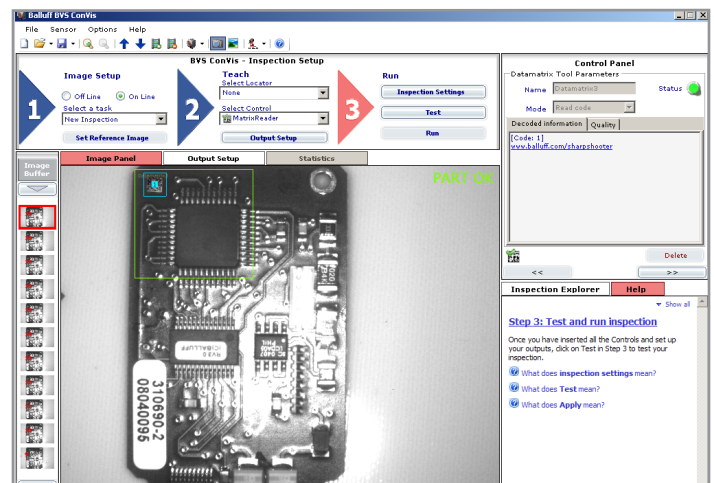
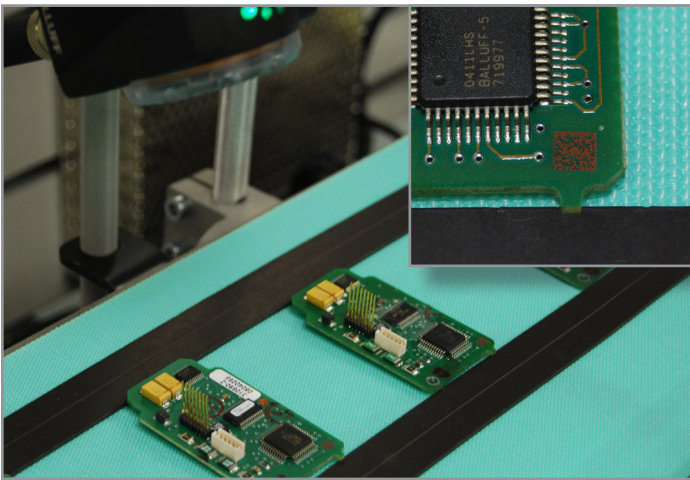
Miniature 2D Code Reading

Manufacturers are now faced with the task of switching from a standard one-dimensional barcode to the new 2D codes, which means adding new sensors and equipment throughout the manufacturing process. 2D codes are becoming the standard because they are tolerant to code imperfections/defects and they can store more information in a smaller footprint. The smaller code size is especially important in PCB manufacturing, where circuit board space is at a premium—the smaller the barcode, the better. However, finding a scanner or camera to read a tiny 2D code can be a challenge. Balluff's Sharpshooter vision sensor for identification solves all these problems. Not only can the Sharpshooter for identification read both the 1D barcode(s) and the 2D code(s) simultaneously, but it also has the highest code module resolution available in its price range and can read codes independent of their color, orientation, or rotation in relation to the camera lens.

Benefits:

- Reads multiple 2D, image-based codes and barcodes simultaneously, which helps in transitioning to 2D codes
- Has a broader FOV than barcode scanners, allowing for smaller 2D code reads and greater mounting flexibility
- Tolerates 2D code imperfections/defects, which means fewer misreads
- Has highest code module resolution available in its price range

2D Code Verification on Circuit Board



In this application, the Sharpshooter ID was used to read a small datamatrix code etched in the circuit board. The code results and quality values were transmitted using RS232 back to the controller. The Sharpshooter ID was mounted at an angle to the board, rather than directly above, in order to create the highest amount of contrast between the 2 mm code and the board. No external lighting or software configuration of any kind was required to read the code. The Sharpshooter ID was simply taken out of the box, powered up, and the code was read. The traces in the board, which are visible from the top layer and run directly under the code, did not interfere with the Sharpshooter's ability to correctly read the code.

SHARPSHOOTER™

Ordercode	Part Number	Description	
BVS0001	BVS ID-3-001-E	PNP, 8 mm standard lens, 50-1000 mm assured range	1
BVS000T	BVS ID-3-003-E	PNP, 12 mm telephoto lens, 50-1000 mm assured range	
BCC0ARF	BCC M418-D239-BF-689-PS0825-010	BVS Serial I/O cable for RS232 communication	2
BCC02H1	BKS-AD-05-RJ45/GS180-05	Parameterization cable for Sharpshooter sensor	3
ConVis software CD is free and included with vision sensor.			

