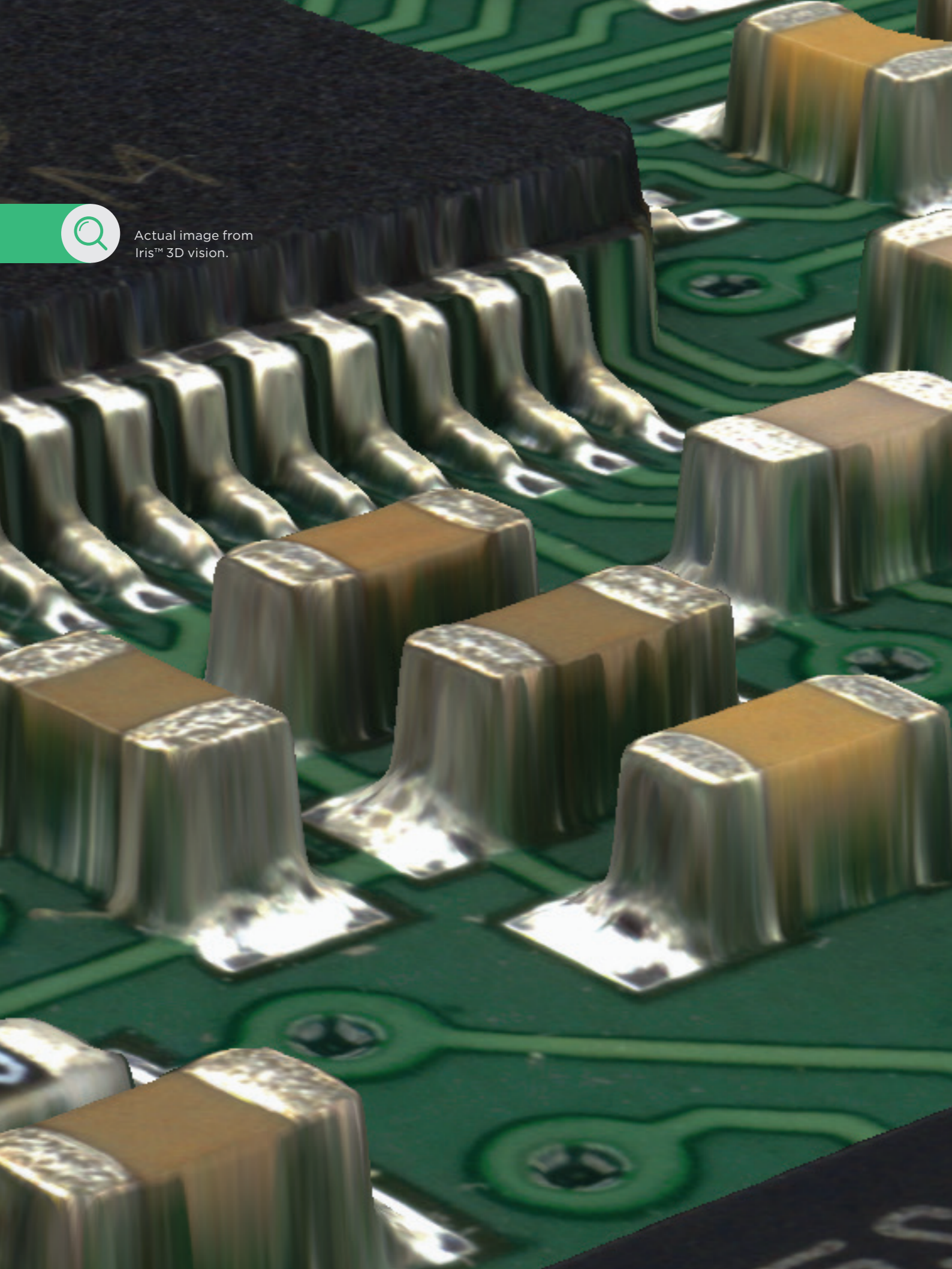


# High-performance 3D AOI made simpler and faster

Mycronic inspection solutions MYPro I™ series 3D AOI





Actual image from  
Iris™ 3D vision.

# MYPro I series 3D AOI

## Put your inspection on autopilot

At Mycronic, we're on a mission to enable tomorrow's zero-defect SMT line. The MYPro I series 3D AOI brings your factory one step closer to this vision by continually improving product quality and first-pass yield with minimal operator intervention.

### THE EVOLUTION CONTINUES

For over a decade, Mycronic's 3D AOI technology has led in accuracy and reliability for mid-volume EMS manufacturers. With advancements from machine learning to AI-driven tools like GenI, automation and inspection intelligence have significantly improved. The expanded AI features now offer faster, more consistent, and adaptable inspection for both high-and low-volume electronics manufacturers.

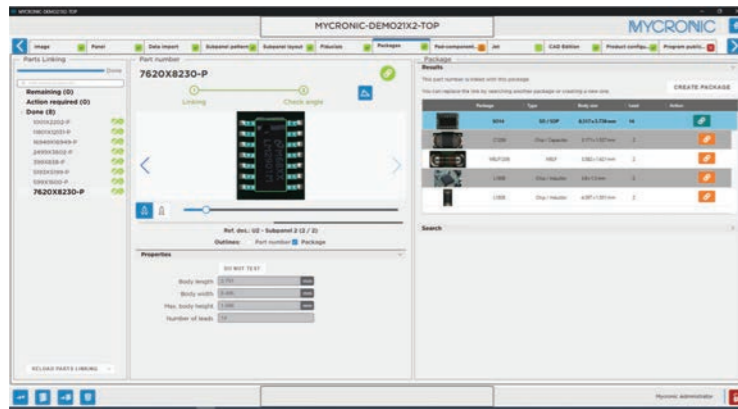
### POWERFUL AOI FOR ANY ENVIRONMENT

The MYPro I series 3D AOI brings these powerful capabilities to an even wider range of manufacturers, pushing the boundaries of ergonomics and automation to the forefront of the industry. Designed for enhanced user experience, it offers intuitive programming guidance and self-optimizing process controls, ensuring easy implementation of high-performance AOI for any operator in any production mix or class.

By combining industry-leading performance with a highly intuitive, user-centric architecture, the **MYPro I series is a game changer.**

# Powered by AI to bring performance and usability to new heights

As production conditions change and grow more complex, 3D AOI inspection is increasingly critical to eliminating defects, waste and rework. Thanks to a new software utilizing AI image classification and pattern recognition, the MYPro I series makes implementation easier than ever. Whatever size your production batches, and however experienced your operators may be, these advanced automation features continually maintain the highest levels of inspection performance.



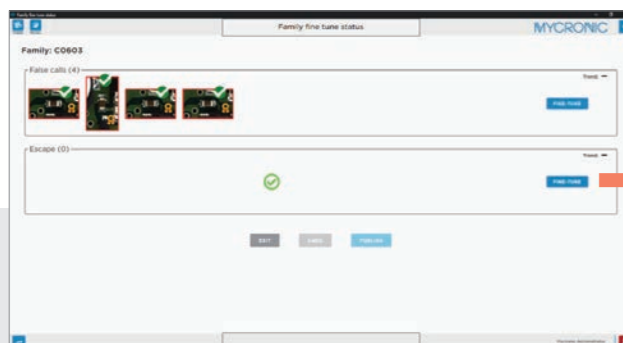
For every new part number, MYPro Link automatically detects component body and leads, and finds corresponding package in the central library.

## MYWIZARD: UP TO 30% FASTER PROGRAMMING

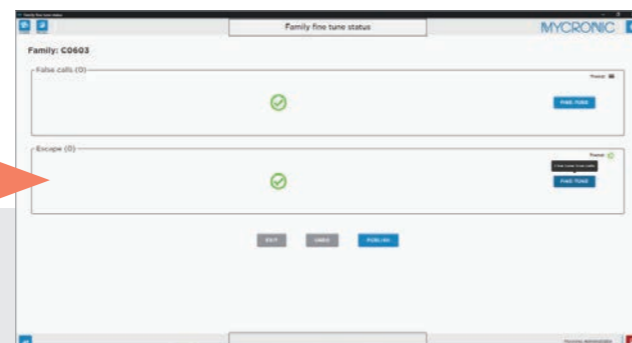
The new MYWizard user interface integrates two artificial intelligence systems—Parts Linking, an advanced component recognition technology, and new machine learning algorithms that locate fiducials and component's polarity—in order to guide operators through the programming faster. It results in up to 30% reduction in programming time compared with previous generations, with reduced operator experience and training.

## ESCAPE TRACKER FOR AUTOMATED PERFORMANCE OPTIMIZATION

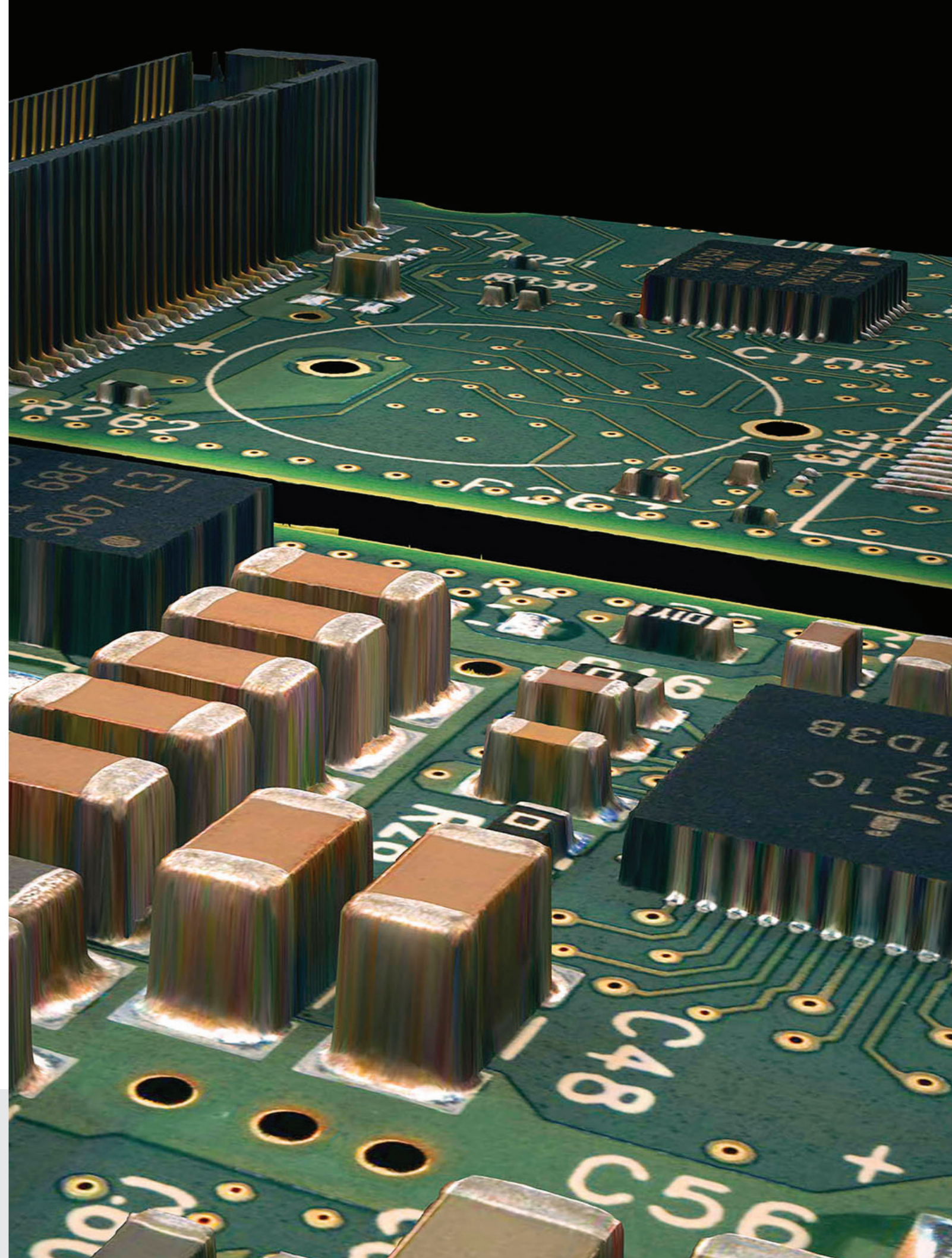
MYPro I series features a next-generation self-checking inspection performance system. With Escape Tracker, the user is immediately informed of any errors or programming weaknesses that could potentially generate false calls or escapes. Central library items that need to be corrected are clearly displayed allowing for easier, faster and safer fine-tuning.



4 During programming process, Escape Tracker alerts on three potential false calls.



After fine-tuning, Escape Tracker confirms false calls are eradicated, and no escapes are introduced.



# Gen I™

## Generative AOI programming

### The industry's fastest AOI programming is here

Gen I™ revolutionizes how inspection programs are created. Using generative AI, it automatically transforms Mycronic placement data into complete, optimized AOI programs — dramatically accelerating new product introduction while ensuring expert-level inspection quality from the very first board.



From placement data to a full AOI program in less than 15 minutes.

#### UP TO 90% FASTER NPI SETUP

Gen I eliminates the need for manual, step-by-step program creation. It analyzes panel layout file, identifies components, and generates inspection strategies automatically.

#### RAPID VALIDATION AND TUNING

By producing highly accurate initial programs, Gen I minimizes the number of adjustments required before going live, shortening time to stable production.

#### EXPERT-LEVEL PERFORMANCE, BUILT IN

Gen I applies industry best-practice parameters, ensuring consistent and reliable test coverage — independent of operator experience.

#### CONTINUOUSLY LEARNING INTELLIGENCE

As Gen I processes more panels in production, its recognition capabilities become even sharper thanks to Auto-tune — supporting evolving package types, solder technologies and increasingly complex assemblies.

| GEN I™ AVAILABILITY | MYPRO I50Xz | MYPRO I51z | MYPRO I91z | MYPRO I50X | MYPRO I51 | MYPRO I81 | MYPRO I91 |
|---------------------|-------------|------------|------------|------------|-----------|-----------|-----------|
| Standard            | •           | •          | •          |            |           |           |           |
| Optional            |             |            |            | •          | •         | •         | •         |



# MYPro I series 3D AOI

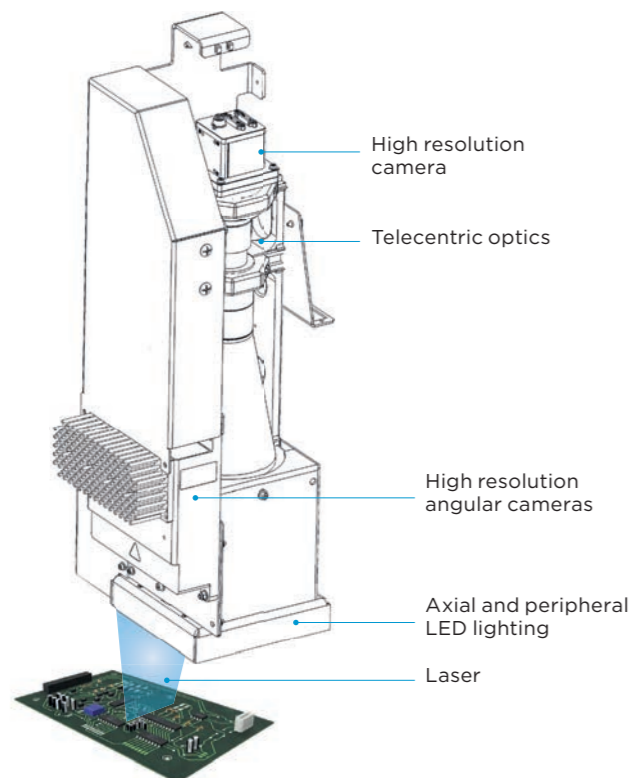
## World-class inspection starts with outstanding image acquisition

In the world of high-reliability electronics, the pace of change continues to accelerate. To handle even the most advanced assemblies with any size of components, the MYPro I series offers you an industry-renowned 3D scanning technology with outstanding reliability, accuracy and flexibility.



### NEXT-GENERATION IRIS™ 3D VISION TECHNOLOGY - DESIGNED FOR THE MOST DEMANDING APPLICATIONS

Thanks to a new generation of laser-based 3D sensor, optics and computing systems, Iris enables the industry's highest quality for 2D and 3D image capture. High-definition Iris scanning is now available for high-speed lines with the MYPro I51, I81 or I91, and for slower lines with the MYPro I50X.



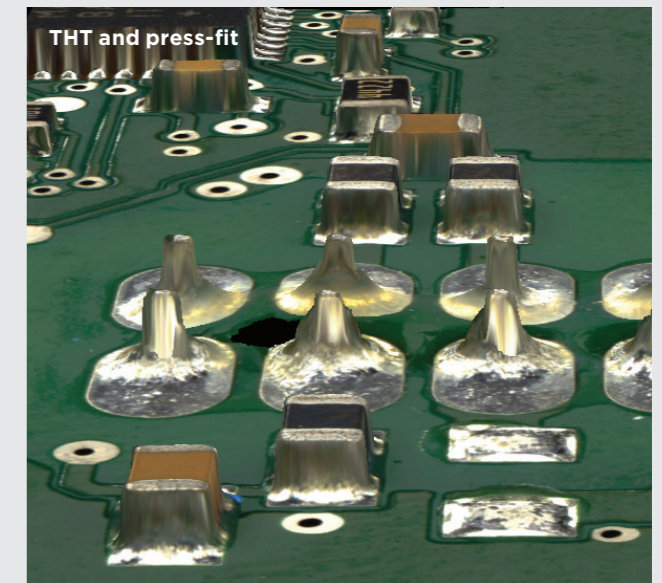
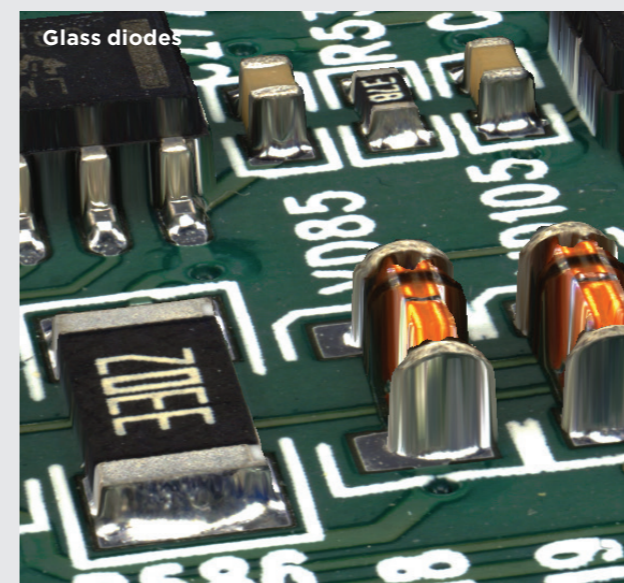
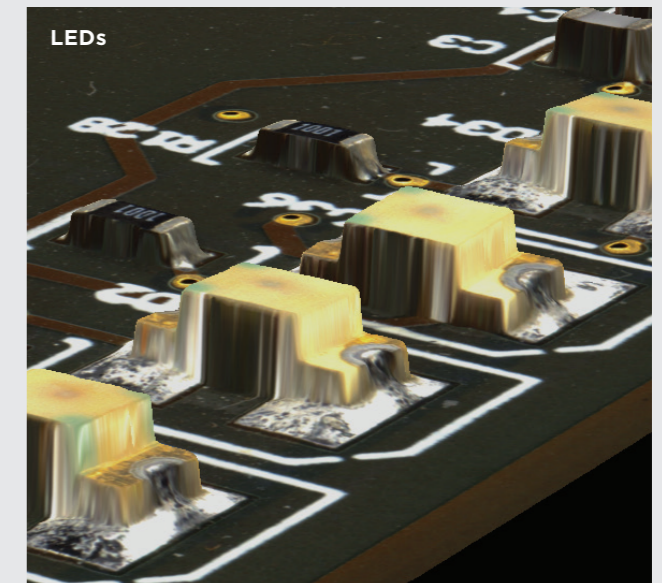
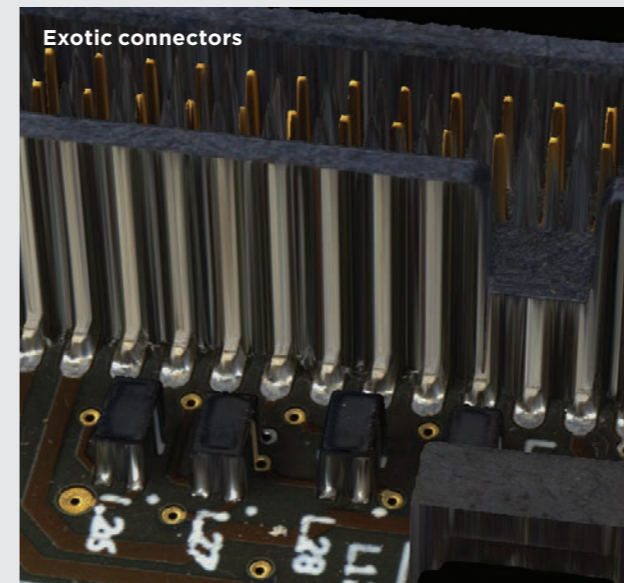
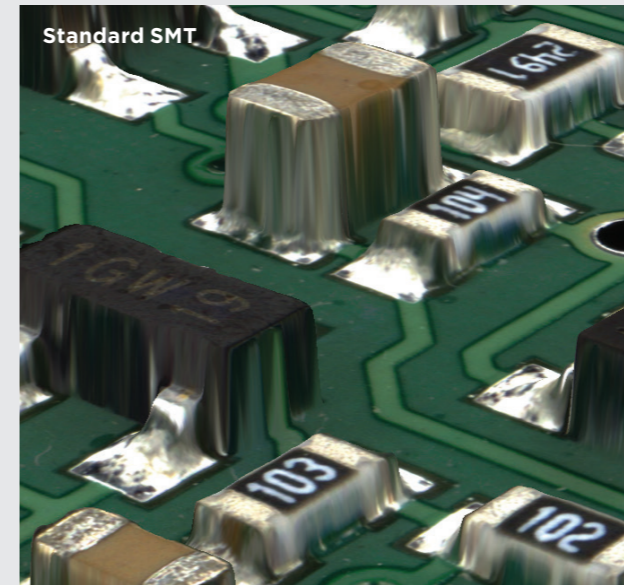
**HIGH-RESOLUTION CAMERA** with fully telecentric lens captures high-quality RGB images for inspection and review.

**HIGH-PERFORMANCE 3D SENSOR** combines vertical laser and angled cameras to avoid projection shadows, optimized angles to minimize intrinsic shadow effects and adaptive height filtering that the sensor's sensitivity to component geometry.

#### SOPHISTICATED CONCEPTION

- High-precision motion system with 0.1  $\mu\text{m}$  accuracy
- +/- 5 mm warpage compensation
- Constant Z resolution of 1  $\mu\text{m}$  from -5 to +20 mm
- Vectoral imaging pattern matching.

|                                   |                      |
|-----------------------------------|----------------------|
| Resolution - sub-pixel technology | 3.45 $\mu\text{m}$   |
| Min. inspectable package size     | 008004 / 0201 metric |



Actual images from MYPro I series 3D AOI

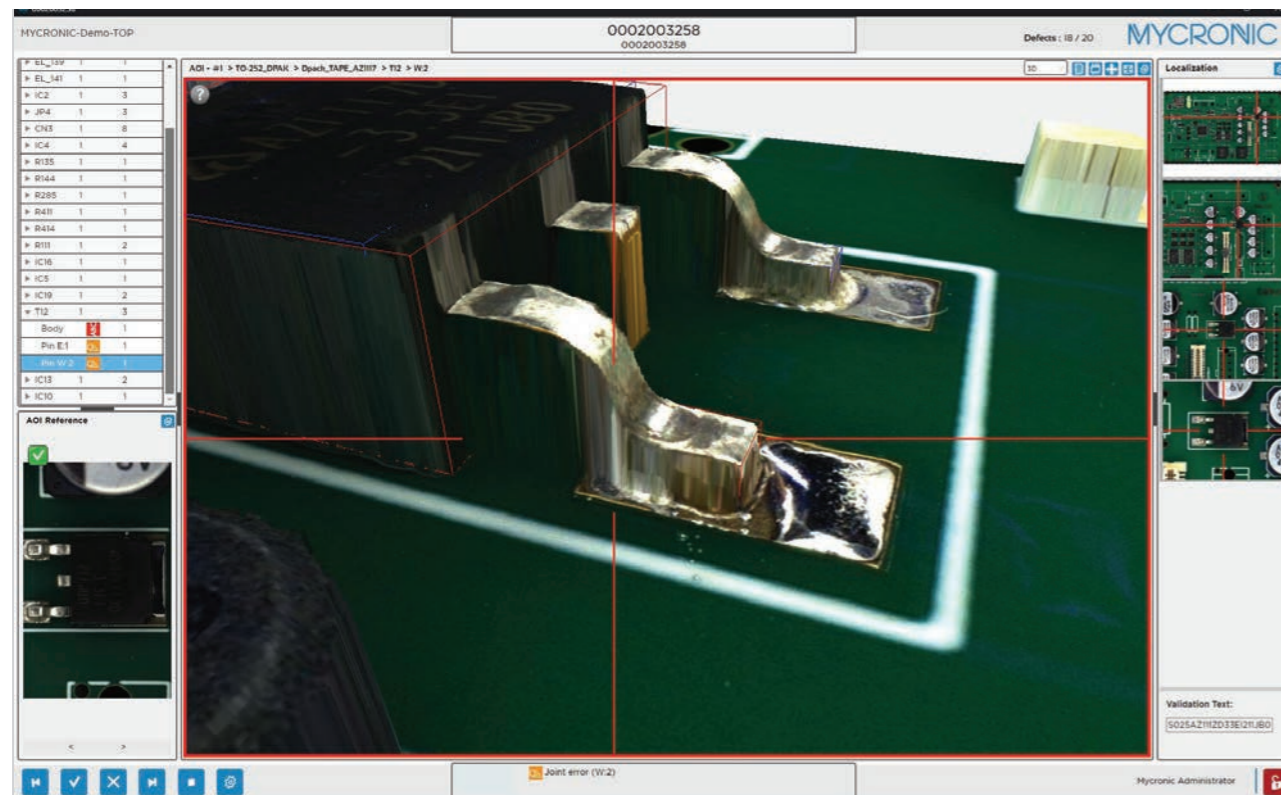
# Results at a glance with **MYPro Review**

MYPro Review gives operators an easy way to make pass/fail diagnoses at a glance. By automatically correlating SPI and AOI results into a single on-screen overview, it not only provides a highly accurate and simplified defect classification system, but also helps fine-tuning SPI tolerances for optimal first-pass yield.

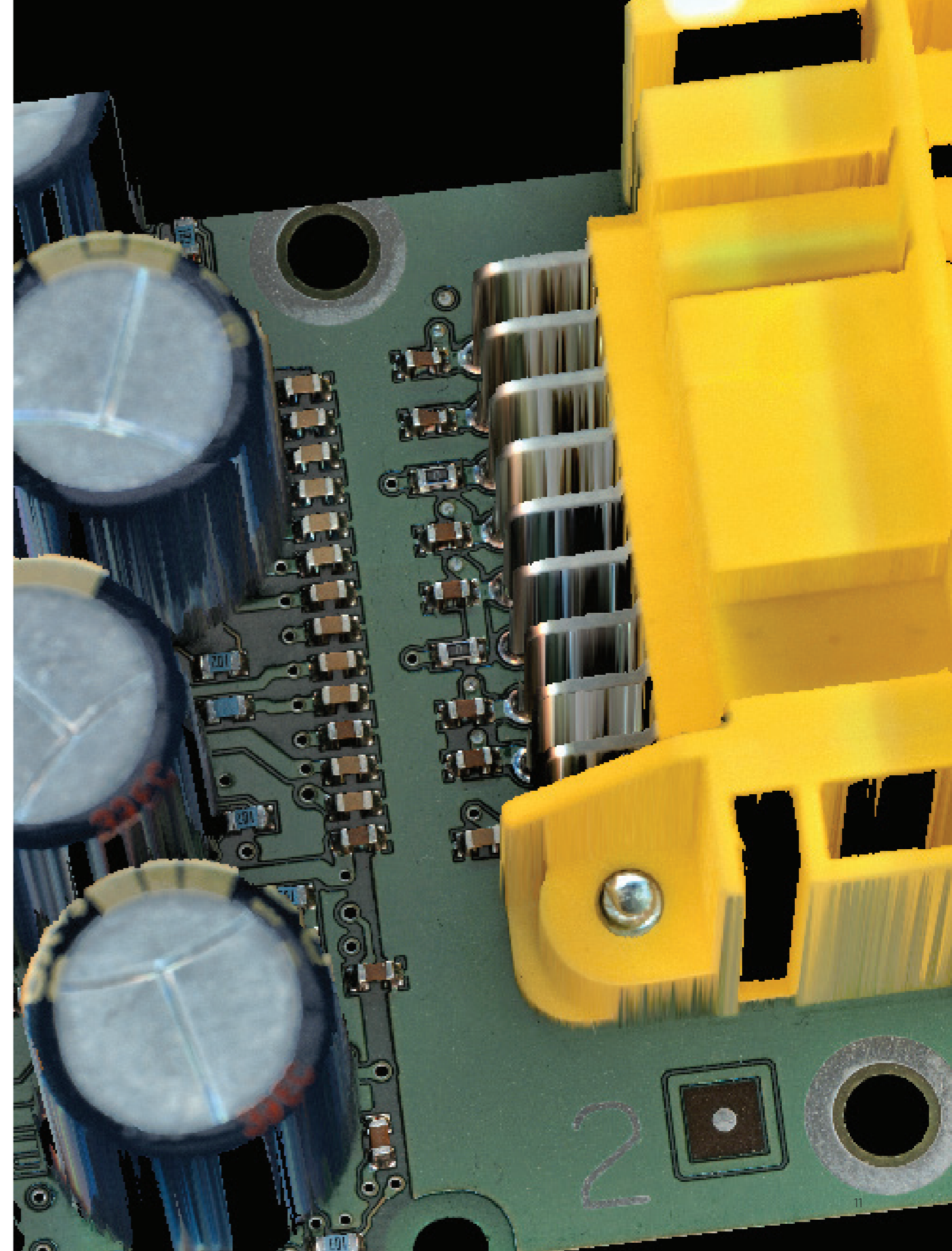


MYPro Review

- Review high-quality 3D defect images to localize defects at a glance
- Easy classification using reference images
- Use IPC or user-defined defect categories
- Speed up reaction times with pre-defined corrective action messages
- Optimize review environment with customized screen layouts

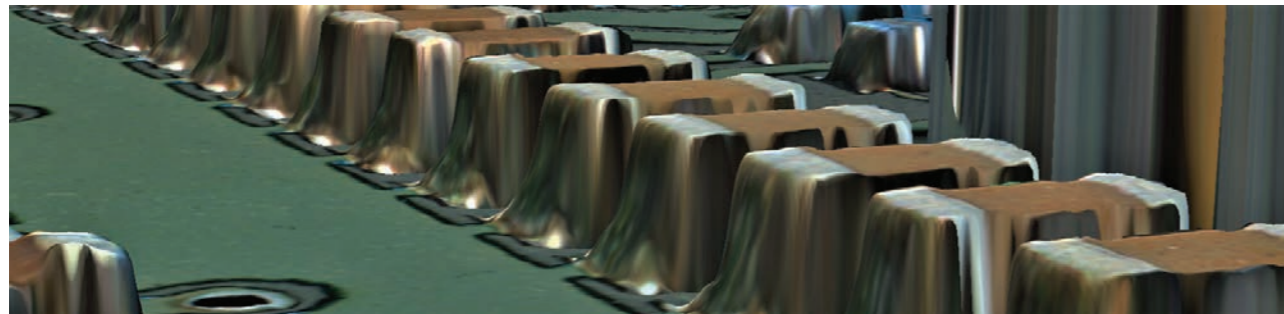


High viewing comfort, for greater efficiency of review operations.



## Superior accuracy for any product geometry

The MYPro I series offers best-in-class accuracy and repeatability in X, Y, Z and Theta for efficient process control. The unique combination of sub-pixel geometric pattern matching technology, proprietary 3D algorithms and unique warpage and distortion compensation leads to superior critical measurement capabilities.



## All-in-one inspection capabilities

The MYPro I series expands defect coverage using a combination of 2D imaging and shadow-free 3D inspection enabled by state-of-the-art cameras, 3D sensor and motion system technologies.

In addition to a comprehensive SMT test coverage, the MYPro I series offers advanced inspection capabilities for top and bottom THT and press-fit components, and an Automated Optical Metrology (AOM) feature for high-precision distance, coordinate, and angle measurement.

### COMPLETE TEST COVERAGE

Comprehensive defect coverage accurately measures component body and solder joints to identify misplaced components, tombstones, lifted leads and more.

### ALL-COMPONENT INSPECTION

Comprehensive toolbox of ready-to-use 2D and 3D tests to inspect any SMT components, but also through-hole or press-fit components, connectors of any type and shape, as well as novel

components. The geometry and relative positions of components, pins, or connectors can also be inspected to further expand your test coverage.

## Industry-leading performance and production stability

Today's lean and agile manufacturing calls for superior first pass yield efficiency and 100% performance portability from one line to another. MYPro I series satisfies the most demanding customers in the electronics assembly industry where quality and productivity are both mission- and business-critical. The system has been designed to optimize test coverage at line speed for the smart factory while offering 100% offline capabilities.

**Superior uptime** above 99.5%.

**Unified software suite** for pre-reflow, post-reflow and post-wave AOI applications.

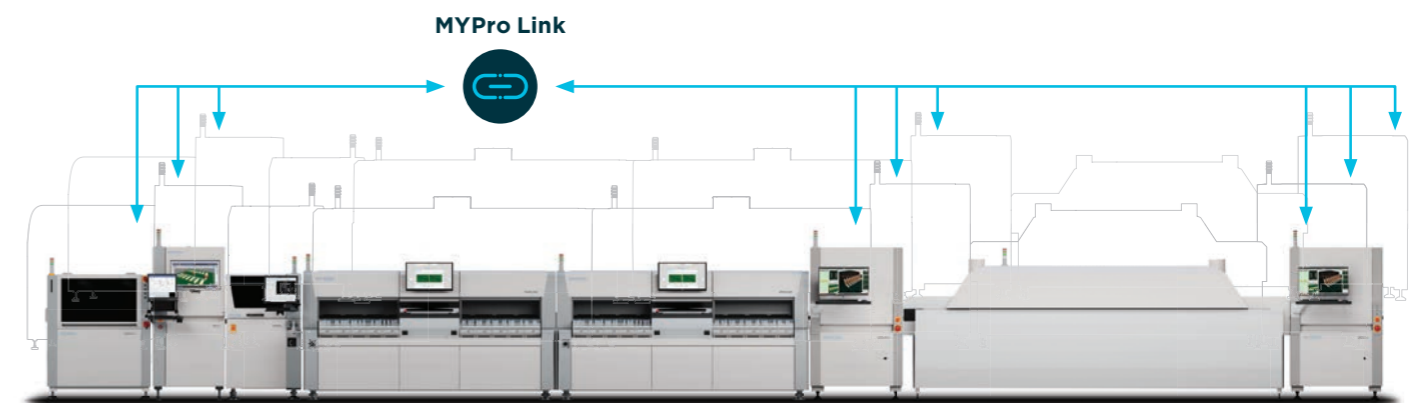
**100% offline programming** and tuning capabilities.

**Full machine-to-machine portability** for all programs.

## Fully integrated process control

MYPro Link, Mycronic's award-winning web-based process control software suite, puts the benefits of inspection data correlation into real-time production. All so you can monitor your line performance over time or at a glance, and get to the root cause of every defect in just a few clicks.

**Unified source of SPI and AOI data** with MYPro Link, allowing you to view your process in real time, quickly drill down to the defect image and take immediate corrective action.



# A complete range of 3D AOI to fulfill all your needs

The MYPro I series 3D AOI system is available in several versions to cover all SMT inspection needs: single lane, dual lane, and heavy duty. Field upgrades are also available.


| MYPro I50X / I50Xz / I51 / I51z / I81 / I91 / I91z |   |
|--|---|
| <b>INSPECTION TECHNOLOGY</b>                       |   |
| Image acquisition system                           | Iris™ 3D vision technology  |
| Optics   | High-precision telecentric lens   |
| Field of View (X x Y)                              | 60.5x60.5mm (2.38x2.38")  |
| X, Y resolution                                    | 3.45µm with subpixel technology - 13.7µm native   |
| Z resolution                                       | Constant resolution of 1µm over a 25mm range in Z   |
| Scanning speed                                     | Standard speed on MYPro I50X / I50Xz<br>Up to 30% faster on MYPro I51 / I51z / I81 / I91 / I91z |
| Gantry system                                      | Linear motors with 1µm-repeatability optical encoders   |

| INSPECTION PERFORMANCE     |   |
|----------------------------|---|
| Defect types               | Component body, Missing component, Misplacement (X, Y, Z, θ), Tombstone, Polarity, Coplanarity, Upside-down component, OCR/OCV, Solder joint, Missing joint, Solder excess, Bridging, Lifted lead, Head-in-pillow |
| Metrology                  | Critical distance measurement capability with 10µm precision  |
| Foreign material detection | Embedded in standard software version   |
| 3D Inspection range        | -5 to +20mm (2D Inspection up to +40mm)   |

| SOFTWARE SUITE              | MYWIZARD  | GENI  |
|-----------------------------|---|---|
| Inspection library          | Standard, based on JEDEC packages   | No library  |
| Auto programming assistance | AI-powered algorithms for automatic association of new part numbers and for creation of new packages: Parts Linking on MYWizard | Automated programming from Mycronic pick-and-place data |
| Library quality control     | Escape Tracker  | Not needed  |
| Operating system            | Windows 11, 64 bit  |   |

| OPTIONS                          |  |
|----------------------------------|--|
| External barcode readers (1D/2D) | Cognex DM152 or Keyence SR1000W—also compatible with major barcode reader brands   |
| Internal barcode reader (1D/2D)  | Software option enabling reading from scanning head  |
| Uninterruptible power supply     | For PC 230V  |
| 115V power supply                | Single phase 115V/60Hz/16A   |
| Offline programming solution     | Offline programming software, including MYPro Create for SPI and AOI program creation, and MYPro Optimize for AOI library optimization |
| Review software                  | MYPro Review   |
| Offline SPC                      | MYPro Analyze  |
| GenI                             | AI-powered solution for 3D AOI programming in minutes  |

MYPro I50X / I50Xz / I51 / I51z / I81 / I91 / I91z

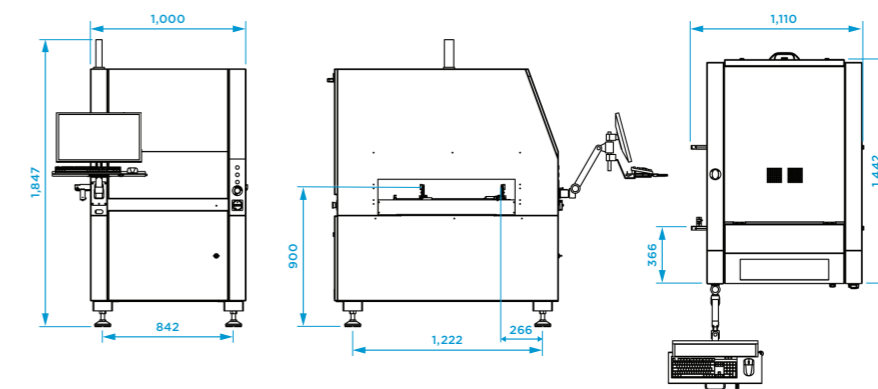
| FACILITIES                   |   |
|------------------------------|---|
| Interface                    | IPC-SMEMA-9851 (standard); HERMES (optional)  |
| Power requirements           | Single phase 230V - 50Hz - 10A  |
| Dimensions in mm (W x D x H) | 1,110 x 1,351 x (1,975-2,075)   |
| Weight                       | 900kg   |
| Operating temperature        | 15°C-30°C   |
| Relative humidity            | 20-75% (without condensing)   |
| Network                      | TCP/IP, RJ45 plug   |
| Laser                        | Class-2 laser product according to the IEC 60825-1 standard, CAN/CSA E60825-1:15(R2020)<br>λ=405 nm P < 1 mW<br> |

MYPro I50X / I50Xz / I51 / I51z    MYPro I81    MYPro I91 / I91z

| PCB HANDLING                   |  |  |                              |  |
|--------------------------------|--|--|------------------------------|--|
| Minimum PCB dimensions         | 51x51mm - 2x2"                                       |  |                              |  |
| Maximum PCB dimensions (X x Y) | 533 x 609mm<br>21x24"                                | Scan X mode<br>Single lane:<br>533x600mm<br>21x23.6"<br>Dual lane:<br>2 x (533x280mm)<br>2 x (21x11")<br><br>Scan Y mode<br>Single lane:<br>391x600mm<br>19.4x23.6"<br>Dual lane:<br>2 x (391x325mm)<br>2 x (19.4x12.8") | 533 x 609mm<br>21x24"        |  |
| PCB thickness                  | 0.5-4mm  | 0.5-4mm  | 0.5-15mm                     |  |
| Maximum PCB weight             | 3kg  | 3kg  | 15kg                         |  |
| Minimum edge clearance         | 3mm  | 3mm  | Standard: 4mm<br>Option: 3mm |  |
| Top clearance                  | 40mm   | 40mm   | 40mm                         |  |
| Bottom clearance               | 60mm   |  |                              |  |
| Conveying height               | Standard: from 860 to 960mm<br>Option: up to 1,060mm |  |                              |  |

DIMENSIONS MYPRO I SERIES

[ mm ]



# Bringing tomorrow's electronics to life

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