

Eureka AI Vision System™

📷 Eureka 3D Camera + 🎯 Eureka Controller

An advanced AI vision solution that gives robots eyes and brain.

The Eureka AI Vision System™, composed of **the Eureka Controller** and **the Eureka 3D Camera**, is a next-generation AI vision solution that expands the capabilities of industrial and collaborative robots. It simplifies applications that were previously challenging with conventional vision systems, such as bin picking, precise pick and place, and quality inspection.



◆ High-accuracy Calibration

- Calibrate robots, cameras, and tools for precise picking
- Sub-millimeter accuracy (<0.2 mm) for vision-guided tasks

◆ High-speed 3D Image Generation

- From image capture to 3D reconstruction, shape recognition, and grasp point output – all within 0.5 seconds

◆ Force Control Capability

- Combination of vision and force control enables more complex and delicate applications

◆ Quick and Easy Setup

- Fully integrated system enables setup in as little as half a day

◆ Masterless Picking Capability

- Automatic recognition and grasp-pose computation
- Super Models for automotive parts, small metal components, and consumer goods

◆ Compatibility with Robots and PLCs

- Seamlessly integrate with major robots brands and PLCs to accelerate automation

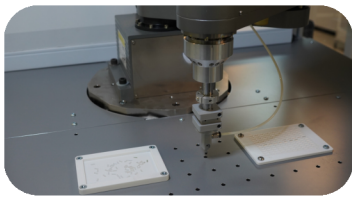
Eureka Controller

One-stop Solution for Robotics & AI Vision Applications



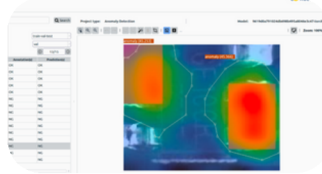
The Eureka Controller seamlessly connects to robots, cameras, sensors, and PLCs, and orchestrates them for powerful Robotics & AI applications. Built-in GPU enables fast, on-device vision processing.

◆ High-Accuracy Calibration



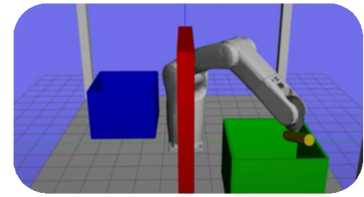
- Sub-millimeter accuracy (<0.2 mm) for vision-guided tasks
- Calibrate robots, cameras, and tools for precise picking
- Uses standard 2D or Eureka 3D cameras – no other specialized equipment required

◆ Deep-Learning-Based Computer Vision



- Easy tools for labeling, AI model tuning, training, and inference
- Defect and anomaly detection with out-of-box, powerful, pre-trained models for fast and reliable deployment
- Scalable cloud-based training

◆ Real-Time Motion Planning

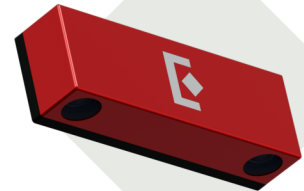


- Automatically generates optimal robot paths
- Avoids collisions using full environment awareness
- Fast path computation times (<1 sec) for real-time operations
- Adapts to changing environments and object layouts

Model	EC3-A1
Power Supply & Voltage	9 ~ 36 V DC
Power Consumption	130 W (typ)、 205 W (max)
I/O	Modbus/TCP、 Modbus/RTU、 Ethernet/IP
Dimensions (W x D x H)	235 x 192 x 127 mm 9.3 x 7.6 x 5.0 in
Ambient Temperature Range	-20 ~ 50°C

Eureka 3D Camera

**Supercharged with AI
to Power Your 3D Vision Applications**



The Eureka 3D Camera adds 3D vision to your robots—no costly hardware or complex software needed. Fully integrated with the Eureka Controller, it makes getting started fast and easy.

◆ AI-Based 3D Reconstruction

- Deep learning enables 3D reconstruction without pattern projection or TOF
- Handles semi-transparent and challenging materials
- No accuracy drift due to heat

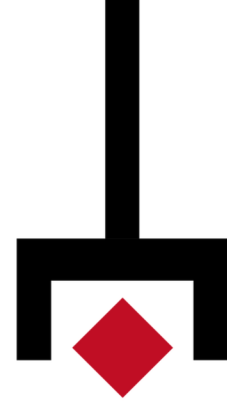
◆ Flexible & Scalable Design

- Easy to install and configure
- Supports a wide range of FOVs and resolutions
- Handles objects of all sizes – from tiny to large, all shapes

◆ Fast & Accurate 3D Vision

- Simple pipeline, from vision to picking
- <0.5s processing time for fast cycle tasks
- Masterless models available for easy deployment
- Generates dense and accurate point clouds (<1 mm)

Model	ECA2-156-N	ECA3-120-F1	ECA3-156-F2	ECA3-156-F3
Recommended working distance	500 - 1200 mm	300 - 600 mm	600 - 1200 mm	1200 - 4000 mm
FOV @min distance	310 x 253 mm	210 x 188 mm	453 x 374 mm	917 x 745 mm
FOV @max distance	830 x 620 mm	448 x 376 mm	918 x 748 mm	3186 x 2485 mm
Resolution Max	1440 x 1080 px	1440 x 1080 px	1440 x 1080 px	1440 x 1080 px
Typical capture time	0.5 - 1.2 s	0.1 - 1.2 s	0.1 - 1.2 s	0.1 - 1.2 s
Dimensions (W x D x H)	250 x 165 x 60 mm	160 x 80 x 40 mm	195 x 80 x 40 mm	195 x 80 x 40 mm
Weight	2.7 kg	0.6 kg	0.7 kg	0.7 kg



Application Use Cases



◆ 3D Picking and QC of Automotive Parts

- Bin picking and inspection of glossy side mirror covers
- Handles picking, classification, and inspection with AI-driven sub-millimeter defect detection



Watch the video



◆ Registration-free 3D Picking

- Pilot with Mitsui Fudosan at e-commerce site
- Picks random items without prior training
- AI controller detects objects and plans optimal, collision-free paths
- Ideal for logistics and kitting in automotive and electronics



Watch the video

Available for Major Robot Brands

FANUC

YASKAWA

MITSUBISHI ELECTRIC

DENSO
DENSO WAVE

Kawasaki
Robotics

YAMAHA

ABB

KUKA

UNIVERSAL
ROBOTS
A Teradyne Robotics Company

Eureka Robotics

Singapore (HQ)

USA

Vietnam

Japan

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