

PX5

Industrial Smart Camera Series

Clear imaging · Accurate decisions · Stable inspection

MV + AI

Conventional vision meets AI

Integrates image acquisition, vision analysis and result output for common industrial tasks, including localization, identification, counting, OCR and defect detection.

Combine vision tools to suit the workpiece. Guided setup in Natural Vision Studio configures image capture, inspection and PLC signal interaction.

**8**

Core vision tools

60 FPS

Max. acquisition frame rate

AF

Autofocus

IP65

Ingress protection

Applications Electronics / Automotive parts / New energy / Semiconductors / Packaging

Eight tools for everyday vision tasks

Combine tools for presence/absence, defect inspection, classification, identification, counting and localization.

01 AI Presence/Absence Detection

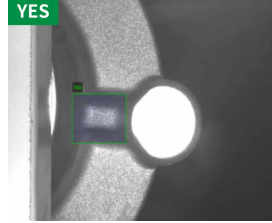
YES



Learns good samples to detect presence or absence. Supports full-field search and configurable inspection regions.

02 AI Defect Detection

YES



Learns good samples to detect surface defects such as scratches, damage, contamination and color variation.

03 AI Classification

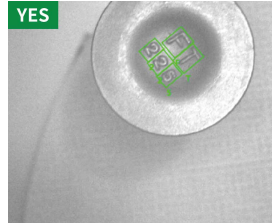
NO



Learns good and defective samples for classification and assembly error-proofing within a fixed inspection region.

04 Character Recognition (OCR)

YES



Recognizes text strings, dates and times, and custom patterns. Additional learning supports custom characters.

05 AI Counting

YES



Learns target features to locate and count multiple objects, accommodating variations in incoming parts.

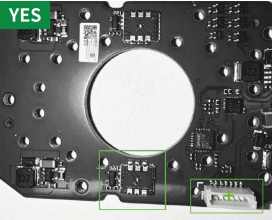
06 Pass-through Counting



Tracks moving objects and counts consecutive passing targets according to the configured counting rules.

07 Position Correction

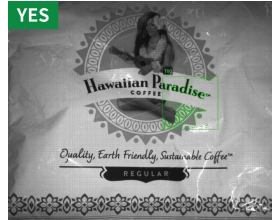
YES



Locates the workpiece reference contour and adjusts inspection-region coordinates to compensate for position changes.

08 Shape Matching

YES



Learns target shape features for localization and comparison. Suitable for workpieces with clear contours.

Additional learning: Add samples with changes in exposure, focus, tilt, position or background, and define YES / NO for the application to accommodate on-site variations.

From image capture to output

Natural Vision Studio (NVS) integrates image acquisition, reference registration, tool setup and result output.

01

Capture & Register

Adjust imaging parameters with AI-assisted capture. Register live, stored or local images as references.

02

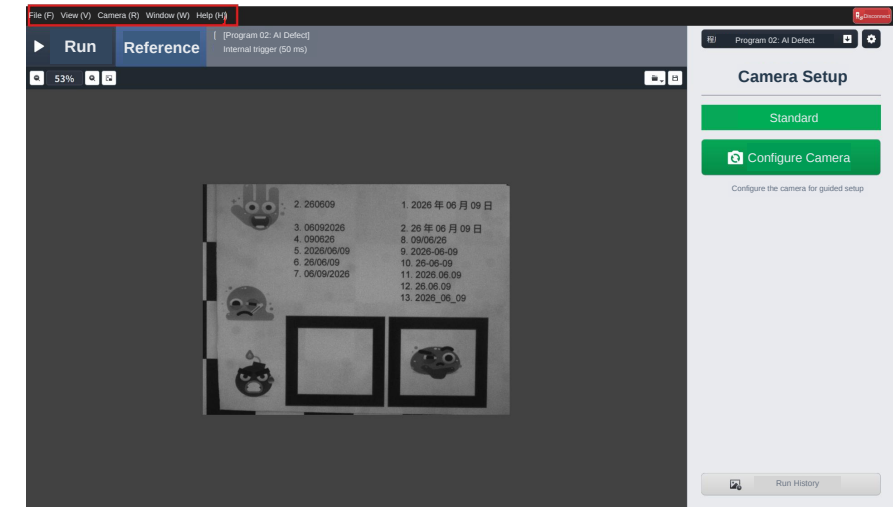
Set Up Vision Tools

Add tools, define inspection regions, learn samples and set inspection parameters.

03

Assign Result Outputs

Configure AND / OR result logic. Map results to I/O outputs for PLC integration.



On-site Deployment

Autofocus and multiple lighting options accommodate different installation distances and workpiece surfaces.

Manage and switch inspection programs, adapting tool and output settings to each production task.

Lenses & Field of View

Units: mm | D = Working distance | H = Horizontal FOV | V = Vertical FOV

8 mm			12 mm			16 mm			25 mm		
D	H	V	D	H	V	D	H	V	D	H	V
30	21	16	70	31	22	90	27	20	220	40	29
70	46	35	90	39	29	200	63	47	300	57	44
90	58	44	200	85	64	300	92	68	500	98	72
200	125	93	300	125	95	500	155	114	700	138	108
300	187	140	500	212	160	700	216	164	1000	204	150
500	310	233	700	296	223	1000	316	245	1500	300	225
700	434	326	1000	423	318	1500	470	353	2000	400	300

FOV values are examples at typical mounting distances from the original documentation. Confirm the actual imaging field of view under the installation conditions.

Specifications & Dimensions

PX5-CA: Color configuration / PX5-MA: Monochrome configuration

Model	PX5-CA	PX5-MA
Image Sensor	Color CMOS	Monochrome CMOS
Supported Tools	AI Presence/Absence Detection, AI Defect Detection, AI Classification, OCR, AI Counting, Pass-through Counting, Position Correction, Shape Matching	
Max. Acquisition Frame Rate	60 FPS	
Illumination System*	Semi-polarized / Fully polarized / Direct / Uniform illumination; default: semi-polarized	
Light Color*	White / Red; default: white	
Lens Focal Length*	8 / 12 / 16 / 25 mm	
Working Distance	8 mm: 20-2000 mm; 12 mm: 60-2000 mm 16 mm: 85-2000 mm; 25 mm: 220-2000 mm	
Field of View (at 300 mm working distance)	8 mm: 187 × 140; 12 mm: 125 × 95 16 mm: 92 × 68; 25 mm: 57 × 44 (H × V, mm)	
Focus System	Autofocus	
Communication Interface	Ethernet, 100 Mbps	
Communication Protocols	TCP/IP, EtherNet/IP (EIP), PROFINET (PN), Modbus TCP, MC	
Inputs / Outputs (I/O)	2 polarity-independent isolated inputs + 3 isolated outputs	
Power Supply	24 VDC ±10%	
Ambient Temperature	-20 °C to +45 °C	
Ingress Protection	IP65	

* Optional configurations. Confirm the lens, light color and illumination type when ordering.

Dimensions

Units: mm

