

# NV-AX Vision Sensor

**NACHI**  
NACHI ROBOTIC SYSTEMS INC.

## Image Processing System

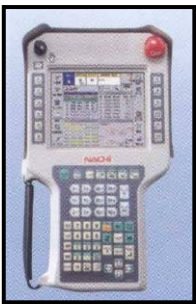


- **Nachi's proprietary stereo recognition algorithm measures part positions in 3D - the robot excels in "bin picking" applications**
- **High-performance digital image processing technology and image defect tolerant search tool delivers outstanding object recognition**
- **High-speed robot/vision interface**
- **Easy-to-operate and program via the robot teach pendant**

# NV-AX Vision Sensor

Items		Specifications
Image Input	Camera	RS-170/NTSC
	Number of Cameras	Black/White 4 (maximum)
	Resolution	640x480 pixels 256 grayscale levels
Image Processing	Pre-Processing	Edge, smoothing, morphology, hi-pass filter, and more
	Blob	Hard binarization (fixed, relative, automatic) / soft binarization (fixed, relative)
	Search (Normalized Correlation)	Pattern search
Image Measurement	Rotation Search	Pattern search (rotation, scale, obstruction)
	Data Files	256 measurements x 20 files
	Window	Circle, ellipse, rectangle, generalized rectangle, affinerectangle, full image
	Calibration	2 dimensions, 3 dimensions, for laser lines
Peripheral Equipment	Shift Calculation	Maximum 10 feature point pattern measurement, two points composite measurement, 3D measurement
	Input Operation	Robot teach pendant
	Display	6.5 inch TFT monitor (integrated into the AX controller)
	Data Management	Compact flash
	Robot Communication	Ethernet (connection is possible to a maximum of four AX controllers)
	Robot Function Command	VRESET, VSTART, VSHIFT, VWORK, VDATA, VGROUP, VCHKGRP

## Simple Teach Pendant Operation

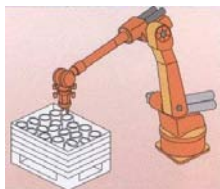


The robot and vision integrated AX control offers easy programming in the intuitive Windows™ environment and provides a single point of operation for both robot and vision.

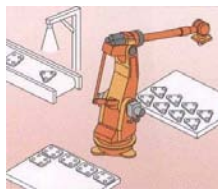
## High-Performance Image Processing

Nachi's high-speed search tool tolerates real world factory conditions and correctly identifies parts.

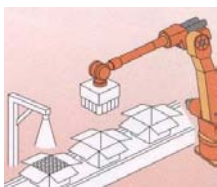
## Applications



Bin Picking



Multi-Part Processing



Product Inspection



Measurement



Reduction



Dark



Rotation



Expansion



Normal Picture



Dust



Obstruction



Background



Dirt