FUZZYSCAN FA490
2D Fixed Mount Scanner

Elite 2D fixed mount scanner for In Vitro Diagnostics and factory automation

Powered by Cino's exclusive **AI-driven** imaging technology and a **1.3-megapixel** high-resolution global-shutter image sensor, the FA490 delivers unmatched reading performance for a vast array of challenging and problematic barcodes. Along with ultra-fast reading speed and high motion tolerance, it stands as the best-in-class model of the FA400 series to fulfill the requirements of demanding applications. Built with an **IP54** rated durable construction and a broad operating temperature range of **-30˚C to 60˚C**, the FA490 is well-suited for both indoor and outdoor environments. The extensive lineup of models provides a comprehensive coverage for diverse applications. The FA490 is an ideal solution for In Vitro Diagnostics (IVD), Reverse Vending Machine (RVM), factory automation, and more.

- Cino exclusive imaging technology powered by AI and deep learning
- 1.3 megapixel high resolution image sensor
- Up to 120 frames per second high speed scanning
- High motion tolerance design with UW and MR models
- Read super high density codes with DP model
- Super large scanning field on UW model
- Special algorithm enhanced for DPM on DP model
- Compact and durable design with IP54 sealing
- Side-view model for space constrained applications
- Choice of USB, standard RS232, or Universal interface
- Operating temperature from -30˚C to 60˚C
- Inherit Cino's powerful FuzzyScan DNA

Scan All Your Needs

The FA490 not only reads even the most hard-to-read barcodes with ease, but also delivers swift reading speed of up to **120 frames** per second and exceptional motion tolerance. A wide range of models is available to meet diverse application needs.

AI-Driven Imaging Technology

Powered by AI technology and deep-learning algorithm, the FA490 delivers unrivaled reading performance and snappiness to empower productivity and efficiency.

Unique Ultra-Wide-Angle Solution

The purpose-build Ultra-Wide-Angle solution features a broad scanning field nearly four times larger than most typical scanners on the market. It can read barcodes at near range and capture fast-moving barcodes at speeds of 4.6 meters per second and higher. This solution is well-suited for In Vitro Diagnostics (IVD), Reverse Vending Machine (RVM), conveyor lines and robotics automation.

Advanced DPM Reading Solution

The Direct-Part-Marking model is specifically designed to read **extremely high density** barcodes and **DPM** codes. It delivers a reliable solution for rapidly and accurately capturing these barcodes in the automotive and electronics industries.

Exclusive FuzzyScan Imaging Technology

Ease of Integration

With its compact form factor, an Intelli Button™, the choice of front or side scan directions and three host interfaces, the FA490 is designed for ease of integration and exceptional adaptability.

Compact with Two Scanning Directions

The FA490's small footprint allows an easy fit into various devices. You can select either a front-view or side-view model depending on your orientation needs. The side-view model is particularly suited for space constrained applications.

Enterprise-Class Durability

To ensure maximum reliability, the FA490 is purposely designed to operate in temperatures ranging from -30°C to 60°C (-22°F to 140°F). With its IP54 sealing, the FA490 is well-suited for both indoor and outdoor applications.

Intelli Button™ for Optimal Installation

The FA490 features an Intelli Button™, which functions as both a physical trigger for manual programming and a switch to activate the test mode. It helps users determine the most optimal installation position.

Multiple interfaces

To meet diverse host connection requirements, the FA490 offers three interface options: RS232, USB, and Universal. The Universal model supports both RS232 and USB interfaces while also providing external trigger and OK/NG signal outputs, catering to more advanced needs.

Useful User-defined Trigger Command

This fixed-mount scanner supports user-defined serial trigger commands, allowing for easy emulation of other brands' scanner trigger commands. The feature provides an easy replacement solution with minimal effort.

Smart Scenes™ for Rapid Adaptation

Similar to a digital camera, the FA490 offers a variety of scene options optimized for specific application scenarios, enabling users to achieve optimal scanning results with ease.

An Extensive Lineup

To meet different scanning requirements across diverse application scenarios, a lineup of models is available for selection.

Direct-Part-Marking model (DP)

Infused with powerful DPM decoding algorithm to read extremely high-density barcodes and DPM codes

Mid-Range model (MR)

Reads most enterprise barcodes with an optimal balance of motion tolerance and reading range

Ultra-Wide-Angle model (UW)

Features a large scanning filed for reading barcodes at near distances with extremely high motion tolerance

High-Density model (HD)

Optimized to read high-density barcodes with a moderate reading range

FUZZYSCAN DNA

Standard-Range model (SR)

Extended reading range to fulfill most general purpose applications

Value Beyond Measure

FuzzyScan DNA is a collection of useful features with added-values available for every Cino imager at no additional cost. These exclusive features not only elevate your user experience, but also help you overcome various technical limitations beyond barcode scanning.

DataWizard Premium

A powerful feature that allows advanced formatting on GS1 and UDI data. By using data scripts, it is able to perform complex data processing, such as US driver's license parsing

iCode

A useful macro command barcode for enabling one-step configuration with a single scan

Multilingual Edge

A comprehensive function for converting data output into your desired languages

Smart Scene

A series of preset configurations for easy adaptation to specific scenarios

Security Plus

A programmable security script for preventing unauthorized access

FuzzyScan Enabling Solution

A suite of software utilities and SDK that enables easy integration, management, and deployment of scanners

SPECIFICATIONS

Performance Characteristics

Image Sensor	1280 x 1080 Pixels
Print Contrast	15% minimum reflective difference
Light Source	Warm white LED
Imager Field of View*1	**FA490-DP** 39.7˚H x 33.1˚V **FA490-HD** 39.9˚H x 33.3˚V **FA490-SR** 40.2˚H x 33.5˚V **FA490-MR** 45.9˚H x 38.2˚V **FA490-UW** 73.2˚H x 63.8˚V
Min. Resolution	**FA490-DP** 2.0mil Code39, 4.0mil DM/QR **FA490-HD** 2.3mil Code39, 4.5mil DM/QR **FA490-SR** 2.7mil Code39, 4.8mil DM/QR **FA490-MR** 3.0mil Code39, 5.0mil DM/QR **FA490-UW** 3.8mil Code39, 7.0mil DM/QR
Reading Range *2	**FA490-DP** 13 mil UPC/EAN up to 9" **FA490-HD** 13 mil UPC/EAN up to 20" **FA490-SR** 13 mil UPC/EAN up to 28" **FA490-MR** 13 mil UPC/EAN up to 17" **FA490-UW** 13 mil UPC/EAN up to 14"
Roll, Pitch, Skew	Roll: 360˚; Pitch: ± 75˚; Skew: ± 65˚
Motion Tolerance	**FA490-DP** Steadily read over 153 cm/s, with max. speed up to 617 cm/s (243 in/s) **FA490-HD** Steadily read over 153 cm/s, with max. speed up to 617 cm/s (243 in/s) **FA490-SR** Steadily read over 153 cm/s, with max. speed up to 617 cm/s (243 in/s) **FA490-MR** Steadily read over 335 cm/s, with max. speed up to 780 cm/s (307 in/s) **FA490-UW** Steadily read over 460 cm/s, with max. speed up to 920 cm/s (362 in/s)
Configuration Setup	FuzzyScan Barcode commands FuzzyScan iCode FuzzyScan PowerTool
Host Interfaces	USB HID (USB Keyboard) USB VCOM (USB COM port emulation) Standard RS232 serial
Data Processing	DataWizard
Image Capture	BMP or JEPG format

Physical & Electrical Characteristics

Dimensions	47.6 mm (L) x 40.6 mm (W) x 25.6 mm (H) 1.87 in. (L) x 1.60 in. (W) x 1.01 in.(H)
Weight	101g
Scanning Directions	Choice of front-view or side-view scanning direction
Connector	FA490-xx-00x 9-pin D-sub female FA490-xx-11x 4-pin USB Type A FA490-xx-98x 15-pin D-sub HD female
Input Voltage	5VDC ± 10%
Current	Operating: Typical 360 mA @5VDC Standby: Typical 220 mA @5VDC

Decode Capabilities

1D Linear Codes	Code 39, Code 39 Full ASCII, Code 32, Code 128, GS1-128, Codabar, Code 11, Code 93, GS1 DataBar, Standard & Industrial 2 of 5, Interleaved & Matrix 2 of 5, IATA, UPC/EAN/JAN, UPC/EAN/JAN with Addendum, Telepen, MSI/Plessey & UK/Plessey
2D Codes *3	PDF417, Micro PDF417, Composite Codes, DataMatrix, MaxiCode, QR Code, MicroQR, Aztec, Codablock F, Code 16K, Code 49, Chinese Sensible (Han Xin) Code
Postal Barcodes	Australian Post, US Planet, US POSTNET, Japan Post, Posi LAPA 4 State Code, German Post, British Post, Intelligent Mail, Korean Post, Dutch KIX Post, China Post
OCR	OCR A/B, MICR-E13B, US Currency

User Environment

Drop Specifications	Withstands drops from 1.5m (5ft) to concrete
Environmental Sealing	IP54
Operating Temperature	-30°C to 60°C (-22°F to 140°F)
Storage Temperature	-40˚C to 70˚C (-40˚F to 158˚F)
Humidity	5% to 95% relative humidity, non-condensing
Ambient Light Immunity	0 ~ 100,000 Lux
ESD Protection	Functional after 15KV discharge

Safety & Regulatory

EMC	CE, FCC, BSMI, VCCI, KC
Safety *4	LED Eye Safety IEC 62471/EN 62471, Exempt Group
Environmental	Compliant with RoHS 2.0 and REACH

Accessories

Cables	USB Cable Converter RS232 Cable Converter USB Power Cable
Others	Power Supply Unit (5VDC, 2A outlet)

1. The Ultraviolet (UV) model is available upon project request.
2. The Reading Range are measured under Cino's test environmental condition.
3. Codablock F, Code 16K, Code 49 and Chinese Sensible (Han Xin) Code are available upon request.
4. Don't stare into the LED beam.

www.cino.com.tw