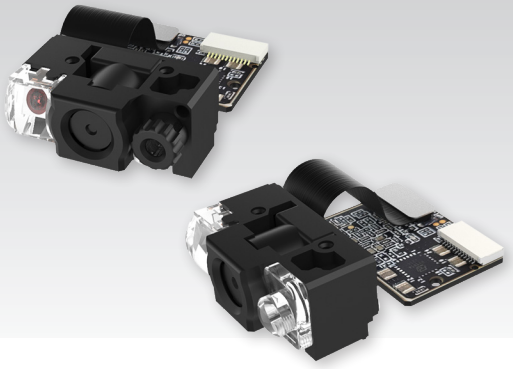
FUZZYSCAN SE6960

Elite 1D/2D Decoded OEM Scan Engine



Slim decoded 1D/2D imaging engine

The SE6960 is a high-performance decoded 1D/2D imaging engine that offers exceptional scanning capabilities in a slim form factor. With its built-in decoder, there is no need for an external decoder board or host-based software, allowing you to simplify integration and accelerate time-to-market.

Powered by Cino's exclusive FuzzyScan imaging technology, the FuzzyScan SE6960 can read most of real-world problematic and challenging barcodes. Equipped with a 1.3 megapixel global-shutter image sensor, the SE6960 boasts top-notch reading speed and motion tolerance with an image capture rate of up to **120 frames per second**. A lineup of models is available to meet diverse scanning requirements.

Whether you are developing tablets, mobile computers, or other compact devices with extremely limited space, you can count on Cino's SE6960 to provide a high price-performance solution and an optimal user experience.

- Slim design for easy integration
- Integrated decoder for minimum development effort
- Cino exclusive technology powered by AI
- 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
- Super large scanning field with UW model
- Choice of USB or Serial host interface
- Operating temperature from -30°C to 60°C
- Inherit Cino's powerful FuzzyScan DNA

Maximum Flexibility and Accelerated Time to Market

The SE6960 is a decoded 2D engine crafted with adaptive mechanisms and versatile features. It not only provides exceptional flexibility for diverse embedded applications, but also significantly reduces the development efforts of your products for a faster time to market of your products.

Optimized and Flexible Design

Featuring a separate engine body and a decoder board, the SE6960 is purpose-built for applications with extremely space-constrained environments, such as tablets, mobile computers, and other compact devices. To fulfill different host interface needs, you can select either USB or Serial model. Moreover, both LED aimer and laser aimer are available for choice.

Accelerated Time to Market

The SE6960 comes with an integrated decoder just as every member of the SE6000 family. A separate decoder or software license for decoding is not needed, resulting in reduced engineering efforts and an accelerated time to market of your new products.

Exclusive FuzzyScan Imaging Technology

Scan All Your Needs

Powered by Cino's exclusive FuzzyScan imaging technology, the SE6960 is capable of reading a vast array of problematic and challenging real-world barcodes, including wrinkled, dirty, soiled, or watermark barcodes that are displayed on paper, plastic, metal, digital screens, and curved surfaces.

Cutting Edge Imaging Technology

Powered by AI technology and deep learning, Cino's exclusive FuzzyScan imaging technology delivers unrivaled readability and motion tolerance, as well as accuracy across most challenging and problematic real-world barcodes.

Unsurpassed Reading Performance

The SE6960 brings an exceptional balance of motion tolerance and reading range on both regular and difficult-to-read barcodes. The snappiness also dramatically improves user's experience. The first-time, every-time scanning makes SE6960 ideal for a wide range of applications.

Unique Ultra-Wide-Angle Solution

The SE6960 Ultra-Wide-Angle (UW) model features an amplified scanning field approximately 4x larger than conventional products and a near-contact reading range, improving user experience in various applications. Engineered with curve/ladder distortion compensation algorithm, it captures extremely fast-moving barcode at 4.6 m/s and higher without image deformation, making it the perfect addition to In Vitro Diagnostics (IVD), Reverse Vending Machine (RVM), mobile payment and other applications

An Extensive Lineup

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

Ultra-Wide-Angle model (UW)

Not only provides an exceptionally broad scanning field, but also excels at capturing extremely fast-moving codes

Mid-Range model (MR & ML)

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

High-Density model (HD & HL)

Optimized to read high-density barcodes and DPM-like codes with a moderate reading range

Standard-Range model (SR & SL)

Reads most real-world barcodes with an excellent reading range, ideal for various general-purpose applications

FUZZYSCAN DNA

Enterprise-class Reliability

All of Cino's products are designed with enterprise-class reliability in mind. Leveraging Cino's proven technology, the SE6960 offers the highest quality that you can trust, whether in terms of reading performance or durability.

Durable Design Assures Longevity

The SE6960 is well-constructed and sturdy. It supports an excellent shock rating and a wide operating temperature range from -30°C to 60°C (-22°F to 140°F), delivering the required durability for automation, healthcare, commercial and industrial applications.

Proven Technology You Can Trust

When you choose the SE6960, you will find the peace of mind that comes from Cino's high quality data capture solutions.

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

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 reflectance difference
Light Source	Red or warm white LED
Aimer [*1]	Green dot LED aimer or Red box-with-cross laser aimer
Imager Field of View	**SE6960-UW** 73.2°H x 63.8°V **SE6960-MR, SE6960-ML** 45.9°H x 38.2°V **SE6960-HD, SE6960-HL** 39.9°H x 33.1°V **SE6960-SR, SE6960-SL** 40.2°H x 33.5°V
Minimum Resolution	**SE6960-UW** 3.8mil Code39, 7.0mil DM/QR **SE6960-MR, SE6960-ML** 3.0mil Code39, 5.0mil DM/QR **SE6960-HD, SE6960-HL** 2.3mil Code39, 4.5mil DM/QR **SE6960-SR, SE6960-SL** 2.7mil Code39, 4.8mil DM/QR
Reading Range [*2]	**SE6960-UW** 13mil UPC/EAN up to 14" **SE6960-MR, SE6960-ML** 13mil UPC/EAN up to 17" **SE6960-HD, SE6960-HL** 13mil UPC/EAN up to 20" **SE6960-SR, SE6960-SL** 13mil UPC/EAN up to 28"
Roll, Pitch, Skew	Roll: 360˚; Pitch: ± 75˚; Skew: ± 65˚
Motion Tolerance	**SE6960-UW** Steadily read over 460 cm/s, with max. speed up to 920 cm/s (362 in./s) **SE6960-MR, SE6960-ML** Steadily read over 335 cm/s, with max. speed up to 780 cm/s (307 in./s) **SE6960-HD, SE6960-HL** Steadily read over 153 cm/s, with max. speed up to 617 cm/s (243 in./s) **SE6960-SR, SE6960-SL** Steadily read over 153 cm/s, with max. speed up to 617 cm/s (243 in./s)
Configuration Setup	FuzzyScan Barcode commands FuzzyScan iCode FuzzyScan PowerTool
Host Interface	TTL Serial (UART) or USB
Data Processing	DataWizard
Image Capture	BMP or JPEG format

Supported Symbologies

1D 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, ataMatrix, MaxiCode, QR Code, MicroQR, Aztec, Codablock F, Code 16K, Code 49, Chinese Sensible (Han Xin) Code
Postal Codes	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 [*4]	OCR A/B, MICR-E13B, US Currency

User Environment

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	0% to 95% relative humidity, non-condensing
Ambient Light Immunity	0 to 106,000 lux

Physical Characteristics

Dimensions	Scan Engine: 12.2 mm (D) x 21.4 mm (W) x 8 mm / 9.2 mm (H) 0.48 in. (D) x 0.84 in. (W) x 0.31 in. / 0.36 in.(H) Decoder Board: 14.5 mm (D) x 21.2 mm (W) x 0.8mm (H) 0.57 in. (D) x 0.83 in. (W) x 0.03 in.(H)
Weight	3g

Electrical Characteristics

Connector	12-pin ZIF
Input Voltage	3.3~5.5Vdc
Current	60FPS Operating: Typical 245mA@5Vdc Typical 311mA@3.3Vdc 120FPS Operating: Typical 305mA@5Vdc Typical 358mA@3.3Vdc

Safety & Regulatory

Safety [*5]	LED Eye Safety: IEC/EN62417 - Exempt Group Laser Eye Safety: IEC/EN60825-1 - Class 1
Environmental	Compliant with RoHS 2.0 and REACH

1. SL, ML, and HL models come with a red laser aimer.
2. The Reading Range are measured under Cino's test environmental condition.
3. Codablock F, Code 49, Han Xin Code, and DotCode are available upon request.
4. MICR-E13B and US Currency are available upon request.
5. Don't stare into the LED or laser beam.