

## IN-SIGHT 7905V SERIES BARCODE VERIFIER

Run visual inspections  
and verify barcode quality,  
at the same time

Combining powerful vision technologies with proven verification methods, the In-Sight® 7905V allows you to perform inspections and grade the quality of your codes in parallel. Previously, this has required a multi-device or customized solution, but In-Sight 7905V gives users the ability to automate multiple tasks at once, right out of the box. Leveraging the embedded dimensioning, OCR, and verification tools, you can simultaneously check the placement of codes on parts, read text, verify code quality, and produce ISO compliant reports.



### Key features



#### Fully ISO compliant

Grade your barcodes with confidence using a robust vision system with ISO 15426-1/15426-2 compliant verification.

- ISO/IEC 15415
- ISO/IEC 15416
- ISO/IEC 29158
- ISO/IEC 15426-1
- ISO/IEC 15426-2



#### 21 CFR Part 11/EU Annex 11 support

Meet key components of stringent industry requirements, while saving time and money compared to developing your own compliant solution.



#### Inline verification and vision inspection

Streamline your operations with an all-in-one solution that grades barcodes and validates OCR text.



#### Advanced code quality diagnostic tools

Eliminate inconsistencies common to conventional barcode grading software and gain more insight to specifically pinpoint quality issues.



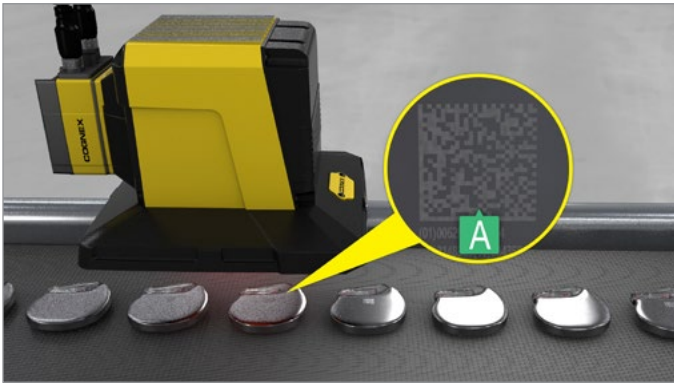
#### Simple setup

Take the guesswork out of deployment with pre-configured lighting and out of the box functionality.

# Automate tasks across a broad range of industries

Versatile by design, the In-Sight 7905V is ideal for inspecting parts, reading text, and verifying barcodes in many industries including medical device, pharmaceutical, automotive, electronics, consumer packaged goods, food and beverage, aerospace, semiconductor, and solar.

## Verifying DPM codes on medical devices



## OCR and label reading on pharmaceutical vials



## Measuring placement of codes on automotive parts

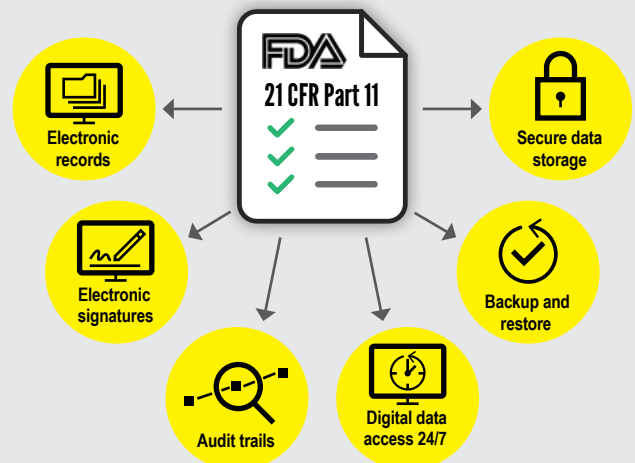


## Reading DPM codes on electronics parts



## 21 CFR Part 11

21 CFR Part 11 is a Food and Drug Administration regulation that ensures accountability and traceability in managing electronic documents. Among other requirements, it enforces companies to secure data and track user logins and software changes. In-Sight 7905V can be connected to the Cognex Network Server (CNS) for added security, helping you become fully compliant with 21 CFR Part 11 and taking the stress out of adhering to these demanding standards.



# Simple setup enables rapid deployment

The In-Sight 7905V barcode verification software provides intuitive visual diagnostic information to identify one-off or trending code quality issues. It assigns an overall grade to a code based on measurements of ISO-defined quality parameters. These parameters measure several factors that affect a barcode reader's ability to identify and decode a code, therefore maximizing read rates down-process.

Whether using the software for real-time diagnostics, archiving results for traceability and compliance purposes, or aggregating data for statistical process analysis, it provides the flexibility to meet your code quality assurance needs.

## 1D code, results view

Report Summary		
Data	0587090123450	
Symbology	UPCA	
Quality Grades	2.0	
Application Standard	Pass	
ISO/IEC 15416 Quality Parameters		
EDGE	4.0	4.0
Modulation (MOD)	4.0	4.0
Defect (DEF)	3.0	4.0
Decode (DCD)	4.0	4.0
Decodability (DEC)	85.2	4.0
Minimum Quiet Zone (MinQZ)	2.0	2.0
General Characteristics		
BW/G	6.0	

Code characteristics including code size, bar width growth percentage, and error correction breakdown

## 2D code, results view

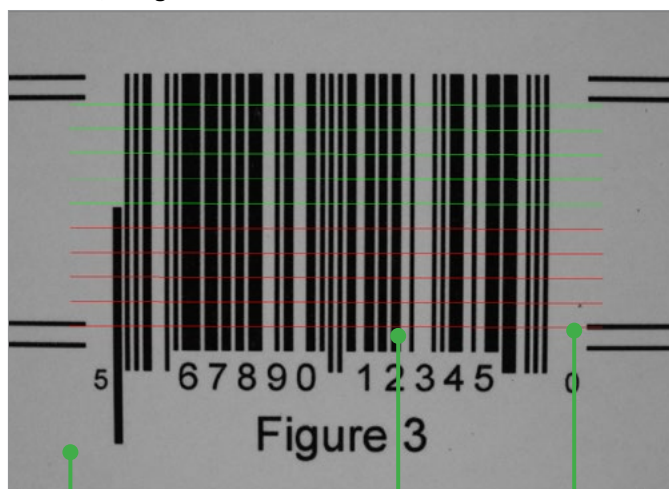
Report Summary					
Data	20 mil				
Symbology	QR				
Quality Grade	0.0				
Acceptance Criteria	Fail (Quality)				
ISO/IEC 15415 Quality Parameters			General Characteristics		
Unused Error Correction (UEC)	Value	Grade	Pass/Fail	QR Size	21x21
Modulation (MOD)	100	4.0	Pass	Horizontal BW/G	0
Reflectance Margin (RM)		3.0	Pass	Vertical BW/G	0
Axial NonUniformity (ANU)		3.0	Pass	Encoded Characters	6
Grid NonUniformity (GNU)	0.8	4.0	Pass	Total Codewords	26
Fixed Pattern Damage (FPD)	0.0	4.0	Pass	Data Codewords	19
Upper Left Pattern (ULP)		0.0	Fail	Error Correction Budget	7
Upper Right Pattern (URP)		4.0	Pass	Errors Corrected	0
Lower Left Pattern (LLP)		3.0	Pass	Error Capacity Used	0
Horizontal Clock Track (HCT)		0.0	Fail	Error Correction Level	L
Vertical Clock Track (VCT)		4.0	Pass	Data Mask Pattern	0
Alignment Pattern (ALP)		4.0	Pass	ECI	000003
Version Information Block (VIB)		#ERR	Fail		
Format Information Block (FIB)		#ERR	Fail		
DECODE		0.0	Pass		
			Fail		

Data, symbology type, application standard pass or fail, and overall grade

Individual parameter grade and values with color pass/fail indicator

OCR and dimensioning tools (if applicable)

## 1D code, image view

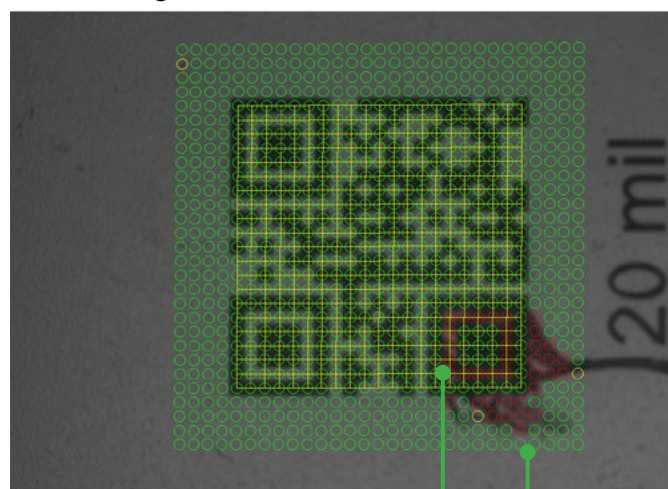


Easily locate scan lines

Identify problem areas with color-coding (1D) and poor quality modules with color-coded capture circles (2D)

Zoom-in for deeper analysis



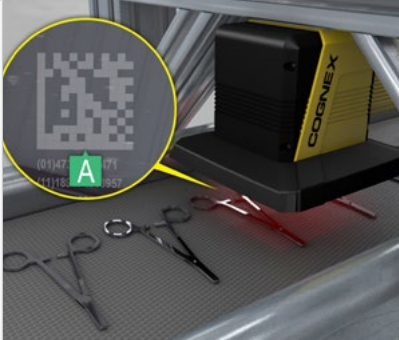
## 2D code, image view



Turn optional grid on/off for better visualization

## Choosing between verification methods

There are three primary options for deploying verification — offline, inline, and standards-based grading (SBG) — with each serving a specific purpose. Using a combination of fully ISO-compliant In-Sight 7905V systems and In-Sight SBG cameras gives you the ability to achieve reliable code quality, even in your most challenging applications. Learn more about the use cases of each verification type below.

	STANDARDS-BASED GRADING	OFFLINE VERIFICATION	INLINE VERIFICATION
			
<b>What is it?</b>	Verification software that grades the same parameters with the same algorithms and calibration as a verifier, without the fixed lighting. Monitors code quality but is not ISO-compliant.	Portable barcode verifier that spot checks individual parts for batch sampling. Provides ISO-compliant reports proving the level code quality when leaving or arriving facilities.	Barcode verifier that is installed on a production line to verify 100% of codes. Provides ISO-compliant grading to meet industry standards.
<b>Speed</b>	Application dependent	1D and 2D: 4 seconds/code*	1D: 20 codes/second* 2D: 10 codes/second*
<b>When to use</b>	<ul style="list-style-type: none"> <li>ISO-compliant verification is not required or possible</li> <li>Code or part size does not fit verifier specifications</li> <li>Helps ensure downstream code readability and gives early warning of decreased mark quality</li> </ul>	<ul style="list-style-type: none"> <li>ISO-compliant verification is required</li> <li>Codes or parts are inconsistently placed on the manufacturing line, or parts are variable in shape or size</li> <li>Batch sampling is OK</li> <li>Portability is needed</li> </ul>	<ul style="list-style-type: none"> <li>ISO-compliant verification is required or mandated by law</li> <li>Codes or parts are consistently placed on the manufacturing line and do not have much variation</li> <li>Proof of code quality level is necessary</li> <li>To calibrate or monitor marking machines</li> </ul>

\*Code symbology, size, placement, part substrate, and marking type all affect the verification speed.

To learn more about these code quality monitoring options, visit [www.cognex.com/barcode-verifiers](http://www.cognex.com/barcode-verifiers)



## IN-SIGHT 7905 SPECIFICATIONS

	In-Sight 7905   Label	In-Sight 7905   DPM
Lighting Types	660 nm, 45°, 4-quadrant	660 nm, 45°, 4-quadrant 660 nm, 30°, 1-quadrant, 2 quadrant, 4-quadrant 660 nm, 90°
Symbologies	1D: UPC/EAN, Code 128, ITF-14, I25, Code 39, Code 93, Codabar 2D: Data Matrix (ECC 200), QR Code, Micro QR Code, PDF417	2D: Data Matrix (ECC 200), QR Code, Micro QR Code, UPC/EAN, Code 128, Code 39
Field of View	80 x 60 mm	35 x 29 mm
Working Distance	60 mm	41 mm
Depth of Field (WD Tolerance)	+/- 3 mm	5 mil symbols: +/- 1.5 mm 15 mil symbols: +/- 2.5 mm
Minimum X-Dimension	6 mil (0.15 mm)	3.75 mil (0.095 mm)
Image Sensor	Sony IMX264LLR 5 MP (2448 x 2048 pixels) 2/3 inch CMOS, global shutter 8.8 mm x 6.6 mm (H x V); 3.45 µm square pixels	
Lens Type	12 mm fixed focal length, f/4 fixed aperture, 2/3 inch sensor format, C-mount lens (users cannot alter lens)	35 mm fixed focal length, f/4 fixed aperture, 2/3 inch sensor format, C-mount lens (users cannot alter lens)
Communications	Ethernet	
Power Consumption	24 VDC±10%, 1.5 A max (36 W peak)	
Weight	839 g (1.85 lb)	1814 g (4.00 lb)
Dimensions	185 x 185 x 128 mm	236 x 193 x 145 mm
Approvals	CE, TUV, FCC, KC	
Industry Standards Compliance	ISO/IEC 15415, ISO/IEC 15416, ISO/IEC TR 29158, ISO/IEC 15426-1, ISO/IEC 15426-2	
Application Standards	GS1, MIL-STD 130 UID, UDI, HIBCC, ISO 15434, Russian Crypto-Code, Custom Application Standards	
Maximum Codes per Second	1D: ~20 codes/second <sup>1</sup> 2D: ~10 codes/second <sup>1</sup>	1D: ~20 codes/second <sup>1</sup> 2D: ~10 codes/second <sup>1</sup>
Maximum Linear Line Speed	1.1 m/second (3.6 ft/second)	1.4 m/sec (4.6 ft/sec)
Coplanarity Tolerance	+/- 3° of coplanar	+/- 2° of coplanar

<sup>1</sup> Code symbology, size, placement, part substrate, and marking type all affect the verification speed.



## Product IDs and descriptions

### IN-SIGHT 7905V


	Product ID	Description
	ISV-7905V-LBL	7905V with LBL lighting attachment and Cognex calibration card
	ISV-7905V-DPM	7905V with DPM lighting attachment and Cognex calibration card

## Components and accessories

### IN-SIGHT 7905V OFFLINE KIT

	Product ID	Description
	ISV-7905V-S-LBL	7905V with LBL lighting attachment, stand, IS mounting bracket, power supply, US and EU outlet connection cable, 5M Ethernet cable, and Cognex calibration card
	ISV-7905V-S-DPM	7905V with DPM lighting attachment, stand, IS mounting bracket, power supply, EU and US power outlet cable, 5M Ethernet cable, and Cognex calibration card

### ADJUSTABLE HEIGHT STAND

	Product ID	Description
	DMV-FMOL-STAND	Adjustable height stand accessory
	DMV-BRK-IS7905	Mounting bracket for 7905V on stand accessory

### CABLES

Product ID	Description
DMV-PS-110VAC-24DC	Power supply cable
DMCB-EZCCM-M12-03	Power supply adapter cable to connect directly to In-Sight unit
CCB-84901-2001	Ethernet cable

# COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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