ZEBRA
CAPTURE YOUR EDGE

FS40 Fixed Industrial Scanner

Comprehensive feature set, extraordinary flexibility, unsurpassed value

Today more than ever, the increasing demands of international commerce and its global supply chain are pressuring companies to deliver more—and to do it faster. From manufacturing to logistics to the end customer, success is driven by the ability to quickly move and track the products that drive your business.



Address it all with Zebra's FS40 Fixed Industrial Scanner, designed to meet the comprehensive requirements of today's production and delivery processes. The FS40 easily keeps pace with the fastest moving operations, enabling track-and-trace through the automatic and flawless decode of information on every part and package as it moves through production, storage and fulfillment—capturing even the most challenging barcodes. The result? Best-in-class production, warehousing, distribution and logistics processes that inspire businesses to reach their highest potential.



Zebra's FS40 Fixed Industrial Scanner sets the bar for simplicity, advanced data capture and return on investment. It all starts with Zebra Aurora—a powerful and intuitive software platform that makes it exceptionally easy to set up, deploy and run all Zebra Fixed Industrial Scanners, including the FS40. Once up and running, Zebra-exclusive features like ImagePerfect+ and PRZM Intelligent Imaging deliver first-time, every-time data capture. As your needs change, easily add support for new codes, increase scanning speed and upgrade to machine vision functionality—all through the simple purchase of software licenses that future-proof your investment. Take your success to the next level with extraordinary visibility into the processes that power your operations with the FS40—only from Zebra.

Zebra Aurora™ Software

A Single Unified Platform Across Zebra's Fixed Industrial Scanner and Machine Vision Portfolio

Zebra Aurora brings a new level of elegance and simplicity to controlling enterprise-wide manufacturing and logistics automation solutions. This powerful interface makes it easy to set up, deploy and run all of Zebra's Fixed Industrial Scanners and Machine Vision Smart Cameras, while eliminating the need for different tools.

For Experts and Beginners

Experienced and first-time users can easily navigate the highly intuitive modern interface, reducing training and deployment time. Experienced users will appreciate easy access to all functions and streamlined processes, while first-time users are guided through all the steps in the proper order. And if users need a little help, Learn-As-You-Go offers built-in tutorials, walk-throughs and videos on all aspects of the software and its comprehensive management toolset.

The FS40—Enable performance. Inspire potential. Experience the difference with Zebra.
For more information, visit www.zebra.com/fs40

Easy to Set Up

Automatic Setup With Auto-Tune
Just Auto-Tune and run for consistent, reliable read rates – right out of the box. With the press of one button, Auto-Tune dials in the perfect image for faster and more accurate set up.

IoT Ready With Zebra Savanna™
The IoT-ready FS40 can send images to Zebra's subscription-based cloud service, Zebra Savanna—or any other cloud service—allowing you to meet industry regulations or store images for further analysis, all without the need to purchase and manage servers.

Power it All Over Ethernet
Reduce setup complexity and cost with support for Power-over-Ethernet (PoE). This standard feature powers the FS40 and attached accessories right over the network, eliminating the cost of power drops and power supplies. Don't have a PoE infrastructure? No problem. You can also power the FS40 with a standard 24V DC power supply or even a standard USB-C port.

Limitless Expansion Options With USB-C
Ready for a new level of flexibility? USB-C allows you to power your camera with a single cable and provides limitless accessory options. Seamlessly integrate with other Zebra devices such as a printer or tablet. You can also backup your system or save images for future analysis by connecting external storage devices to the FS40.

Easy to Deploy

Programmable Input/Output (I/O) Ports
Get the ultimate in I/O flexibility. Up to nine digital I/O ports can be individually controlled to expand application functionality and improve error-proofing. Support additional peripherals, activate lights, or trigger an action to more fully automate your processes.

Powerful Integrated Lighting
Reliable barcode capture starts with the highest quality image—something which frequently requires the purchase and management of expensive, external lighting. With Zebra's FS40, you can do more with less via the powerful integrated illumination system. Choose the lighting that's best suited for the types of codes you scan today—red, white, blue, infrared, or a single model that includes them all. The result? High quality images for highly reliable barcode reading.

Ultra-Rugged and Ready For Industrial Spaces
Rely on dependable operation in the most demanding environments with an ultra-rugged design. The aluminum housing is chemical and oil resistant. IP65 and IP67 sealing ratings make the device dust tight and able to withstand high-power wash downs—or even total immersion in water.

Operator Feedback/Status Indicators
With 360° LED lights, your operators can instantly see decode status. Workers can see at a glance if a decode was successful or unsuccessful—protecting product quality and traceability. Five built-in camera status LEDs—Power, Online/Run, Focus Warning, Error and Ethernet Status—make it easy to verify whether cameras are fully operational or in need of attention. In addition, a beeper with adjustable volume provides an audible cue of a successful decode, so workers can keep their eyes on the job—instead of the device.

Aiming Simplicity
A unique 8-point sunburst pattern with sharp, laser-generated lines makes it easy to ensure that barcodes are in the field of view for foolproof, reliable aiming—and faster deployment.

Added Flexibility With Zebra Aurora HMI Dashboard
Give workers actionable intelligence right where they need it–at their station. Operators can see and interact with the Zebra Aurora Human Machine Interface (HMI) dashboard via any web browser or by directly connecting a monitor to the FS40. The need to install a PC at every workstation is eliminated, reducing hardware requirements and installation costs.

Simple, Easy and Fast Integration With Your Network Infrastructure
Built-in Ethernet/IP with Add-On Profile, PROFINET and other network protocols enable painless integration with any common PLC or host system. Network architecture is simplified and deployment time and cost are reduced.

Easy to Run

First-Time Every-Time Data Capture
Superior optics and Zebra's exclusive PRZM Intelligent Imaging technology work together to deliver the reliable data capture you need to keep your operations running at peak capacity. The optical system enables the simultaneous capture of multiple barcodes, extends read ranges and

Key Differentiators

The FS40 is loaded with class-leading features, including:

ImagePerfect+

Achieve the highest read rates with perfect images

Capture up to 16 different images of a single item, each with its own unique setting for focus, exposure, gain, illumination control and more.

PRZM Intelligent Imaging

First-time every-time barcode capture

Capture virtually any barcode in practically any condition—from 1D and 2D barcodes on a fast-moving conveyor belt, to DPM codes that are printed on challenging curved and reflective surfaces and more.

Software Licensing

Add what you need, whenever you need it

Add support for new barcode symbologies, faster barcode capture and all the machine vision tools you need through simple software licensing.

USB-C

Limitless expansion options

Easily connect all the peripherals you need—from a printer or tablet to an external drive and more.

PoE+

Power it all over Ethernet

Power the FS40 right over your Ethernet cable—no more costly power drops and no more power supplies to purchase and manage.

focal distances, and allows a larger field of view to capture more information with less equipment. PRZM Intelligent Imaging is designed for the data capture demands of your environment, enabling the first-time capture of virtually any barcode in practically any condition—from damaged or poorly printed 1D and 2D barcodes on a fast-moving conveyor belt to challenging under or over-marked DPM codes printed on curved and reflective surfaces.

Achieve the Highest Read Rates With ImagePerfect+
Uneven lighting and the need to read barcodes at various distances can create the need for additional cameras, external lights or complex costly custom code—additions that can substantially increase overall costs as well as the total cost of ownership. Address it all with a groundbreaking new feature—ImagePerfect+. This Zebra-exclusive feature captures up to 16 different images of a single item, each with its own unique setting for focus, exposure, gain, illumination control and more. The result? High quality images that enable high read rates. A significant reduction in solution complexity. And a lower total cost of ownership.

Capture All the Data That Drives Your Business
Do it all with the FS40—1D, 2D and DPM barcodes, plus OCR human readable characters. Choose the configuration that supports the codes that drive your business processes today, knowing you can add functionality to meet the data capture needs of tomorrow. Just purchase licenses to support additional barcode symbologies, increased scanning speed, or upgrade to an MV Toolset to turn your FS40 into a Smart Camera, complete with machine vision capabilities.

Rapid Troubleshooting With Golden Image Compare
If any barcode reads fail, this Zebra-only tool allows you to quickly identify and resolve the issue by comparing any image to a golden 'perfect' image created at setup. The source of any image degradation can be immediately diagnosed, enabling the rapid correction needed to minimize downtime—from a dirty lens or a lighting problem to misalignment of the camera, which can skew the image and impact dimensional accuracy.

Scan All Barcodes Simultaneously With ManyCode
Need to read multiple barcodes on an item? With one click in Zebra Aurora, you can enable ManyCode mode to capture all barcodes simultaneously, regardless of quantity, symbology or barcode data.

Eliminate Production Delays With Dual Ethernet Connections
The FS40 is the only Fixed Industrial Scanner in its class to offer dual Ethernet ports. Completely isolate the Controls Network to protect key production data and utilize a second Ethernet connection to send images to the cloud or local server for storage. Don't need a second Ethernet port? Just choose the single port configuration to pay only for what you need.

Complete Support Service—Everything's Covered
Get the constant peak performance and device uptime today's businesses demand with Zebra OneCare™ Essential and Select Support Services. Unexpected disruptions and unbudgeted repair expenses are eliminated. Everything is covered—including normal wear and tear and accidental damage. You can customize your support plan with numerous options to get the service level your business needs, including next-day delivery of a replacement device, on-site support, cloud-based visibility into your contracts, repair data, tech support cases—and more.

Introducing the Zebra Fixed Industrial Scanner and Machine Vision Portfolio



FS10



FS20/VS20



FS40/VS40



FS70/VS70

Specifications

Device Characteristics	
Dimensions	2.1 in. H x 2.5 in. W x 3.6 in. D 54.0 mm H x 64.0 mm W x 91.4 mm D
Weight	14.1 oz./400.0 g
Power	External power supply: 10-30 VDC, 1.5 A max @ 24 VDC (36 W max) PoE+ supply: Class 4, 25.5 W max PoE supply: Class 3, 13 W max USB-C host: 5 VDC, 3 A max (15 W max)
Configurable IO	Four opto-isolated GPIO: GPIO0,1,2,3 Five non-isolated GPIO: GPIO4,5,6*,7*,8* *Unavailable when External Light Mode is enabled
Color and Material	Industrial green aluminum housing
Interface Ports	One M12 X-Coded 1000/100/10 Mbps Ethernet* One M12 12-pin Power/GPIO/RS-232 One M12 5-pin External Light Power & Control/GPIO One USB 3.0 SuperSpeed Type-C with DisplayPort Alt Mode *Available with one or two Ethernet ports; PoE is only supported by the primary Ethernet port
Communication Protocols	Ethernet/IP, PROFINET, Modbus TCP, TCP/IP, RS-232
Keyboard Support	USB HID
User Indicators	360 Degree Decode/Job Status LEDs, Power LED, Online/Run LED, Focus Warning LED, Error LED, Ethernet Status LED; Beeper (adjustable volume)
Performance Characteristics	
Image Sensor	**2.3MP:** 1/2.3 inch CMOS, global shutter 1920 x 1200 3.0 um square pixels Monochrome **5.1MP:** 1/2.5 inch CMOS, rolling shutter 2592 x 1952 2.2 um square pixels Monochrome
Acquisition Rate	2.3MP: Up to 60 frames/second 5.1MP: Up to 30 frames/second
Aimer	Red Class II Laser; 8-point sunburst pattern
Illumination	Field replaceable modules: • Eight 660nm Red LEDs • Eight 470nm Blue LEDs • Eight 850nm IR LEDs • Eight 2700K (Color Temperature) White LEDs • Four 660nm Red LEDs + Eight 850nm IR LEDs + Four 470nm Blue LEDs + Eight 2700K (Color Temperature) White LEDs
Imager Field of View	SR (Standard Range): 10.8mm Liquid Lens 30° H x 19° V Nominal WA (Wide Angle): 6.8mm Liquid Lens 46° H x 29° V Nominal
User Environment	
Operating Temp.	32° F to 113° F/0° C to 45° C (10-30VDC external power supply, duty cycle-dependent) 32° F to 113° F/0° C to 40° C (POE, duty cycle-dependent)
Storage Temp.	-40° F to 158° F/-40° C to 70° C
Environmental Sealing	IP65 and IP67

*Available with one or two Ethernet ports; PoE is only supported by the primary Ethernet port

Humidity	5% to 90% RH, non-condensing
Shock Resistance	EN 60068-2-27, 30 g; 11 ms; 3 shocks on each axis
Vibration Resistance	EN 60068-2-6, 14 mm @ 2 to 10 Hz, 1.5 mm @ 13 to 55 Hz; 2 g @ 70 to 500 Hz; 2 hours on each axis
Supported Symbologies[2]	
1D	Codabar, Code 39, Code 93, Code 128, I 2 of 5, MSI Plessey, UPC/EAN
2D	Aztec, Data Matrix, DotCode, MaxiCode, PDF417, Micro PDF417, QR Code, Micro QR
OCR	Deep Learning-based OCR via an add-on license[1]. Supports Latin Letters (A-Z, a-z, digits or one of: !#$%&()*+,-./:;<=>?@[]^_`{|}~”\€£¥)
Software	
Management	Zebra Aurora
Decoder Packages	1D/2D Standard (5 FPS); 1D/2D Fast (60 FPS); 1D/2D DPM Full (60 FPS) (Decoder packages vary by SKU; software Decoder Package upgrades available via an upgrade license.)
Machine Vision (MV) Toolsets	Sensor, Standard, Advanced (Available via an upgrade license)
Regulatory	
Environmental	EN 50581:2012; EN IEC 63000:2018
Electrical Safety	IEC 62368-1 (Ed.2); EN 62368-1:2014/A11:2017
Laser Safety	21CFR1040.10 & 21CFR1040.11 IEC/EN 60825-1:2014 (Ed.3)
LED Safety	IEC 62471:2006 (Ed.1); EN 62471:2008
EMI/EMS	EN 55032:2015/A11:2020 (Class B) EN 55035:2017 EN 61000-3-2:2014 (Class A) EN 61000-3-3:2013 47 CFR Part 15, Subpart B, Class B ICES-003, Issue 7, Class B
EU Declaration of Conformity	2014/30/EU; 2014/35/EU; 2011/65/EU. For more information visit: www.zebra.com/doc

Accessories

Internal illumination, external illumination, internal filters, brackets, cables, power supplies

Warranty

Subject to the terms of Zebra's hardware warranty statement, the FS40 is warranted against defects in workmanship and materials for a period of Two (2) Years from the date of shipment. Complete Zebra hardware product warranty statement: www.zebra.com/warranty

Recommended Services

Zebra OneCare Select™; Zebra OneCare Essential™

Specifications

Decode Ranges (Typical Working Ranges)[3]		
FS40-SR—30° FOV Lens		
Symbology/Resolution	**Near**	**Far**
5 mil Code 128	3 in./8 cm	24 in./61 cm
10 mil Code 128	3 in./8 cm	49 in./124 cm
15 mil Code 128	3 in./8 cm	70 in./178 cm
20 mil Code 128	3 in./8 cm	92 in./234 cm
5 mil DataMatrix	3 in./8 cm	13 in./33 cm
10 mil DataMatrix	3 in./8 cm	28 in./71 cm
15 mil DataMatrix	3 in./8 cm	40 in./102 cm
30 mil DataMatrix	3 in./8 cm	78 in./198 cm
FS40-WA—46° FOV Lens		
Symbology/Resolution	**Near**	**Far**
5 mil Code 128	3 in./8 cm	14 in./36 cm
10 mil Code 128	3 in./8 cm	30 in./76 cm
15 mil Code 128	3 in./8 cm	42 in./107 cm
20 mil Code 128	3 in./8 cm	56 in./142 cm
5 mil DataMatrix	3 in./8 cm	8 in./20 cm
10 mil DataMatrix	3 in./8 cm	18 in./46 cm
15 mil DataMatrix	3 in./8 cm	27 in./69 cm
30 mil DataMatrix	3 in./8 cm	52 in./132 cm

Footnotes

1. Some features available in a future release. Contact your Zebra Partner or sales representative for more information.
2. Refer to Product Reference Guide for complete list of symbologies.
3. Printing resolution, contrast, power source, illumination source, and ambient light dependent.

Specifications subject to change without notice.

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