FlexSystems™

FlexVision™

Reading and Verifying

A Complete Solution for Code Creation, Reading and Processing

The FlexVision system is developed for deployment in the document production and processing environment like addressing and inserting. The system is designed to increase productivity and integrity with an easy to use and affordable solution. FlexVision is developed with the following applications in mind:

- **Read-and-print.** Read a barcode, look up the address or any additional data in a database and print the information. Fast random searches are supported.
- **Closed-loop processing.** Monitor mail piece printing or inserting and enable easy reconciliation of faulty or missing mail pieces by checking off or time stamp records in a database when they pass the reader to ensure 100% mailings and/or reprints.
- **Matching.** Match documents that are collated from different stations on inserters (including swing-arm-inserters) or other production lines and make sure the items match.
- **In-line barcode grading.** In-line barcode grading according to several ISO/IEC standards to ensure that printed barcodes meet the (postal) specifications. Includes verification of postal 4-state barcodes (e.g. IMB, Royal Mail 4-state etc.).
- **Image capture.** Capture and index images of documents or envelopes for archiving and as proof that the item was handled correctly.

One Single Integrated System

Putting a vision system together no longer requires the risky and time consuming integration of hardware and software of different vendors. Flex Systems' FlexVision system is developed as a single turnkey system consisting of all necessary key components that seamlessly fit together:

- A choice of two different industry standard cameras for code reading depending on your needs and application. Both have integrated lighting and autofocus.
- An I/O controller offering connections for cameras, encoders, digital inputs, and TCP/IP as well as outputs to control devices and an optional light tower with alarm.
- FlexMail or FlexStream professional printing and document processing software with access and control of the controller, camera and any other connected device completely integrated. No need for additional software.

Easy Deployment and Operation

The system is easy to setup and guarantees a very fast turn-around time between varying jobs.

- Plug and Play installation with automatic detection of both the FlexVision I/O controller as well as any connected FlexVision camera.
- Camera setup from within the software with intelligent tuning. Image based reader visualization allows you to see what the reader sees for image review or no-read feedback, directly and completely integrated in the FlexMail and FlexStream software.
- Powerful processing of received input by FlexMail or FlexStream. Processing steps are defined by filling out some simple setup windows.

FlexVision Components for any Requirement

The FlexVision hardware consists of a universal I/O controller and a choice of two different camera systems. The system can be extended with additional cameras and in- and output devices to control any production environment. If necessary, multiple FlexVision systems can be linked. No matter what your production requirements may be, there is a FlexVision solution that fits your needs and budget.

FlexVision Cameras

The FlexVision cameras are optimized for the highest read rates in the most challenging applications. Advantages include: Omnidirectional code reading, extreme perspective code reading and reading of damaged, poorly printed or barcodes with quiet zone violations, reading through windows envelopes.

FlexVision 260

FlexVision 260 offers industry-leading performance with patented code-reading technology, fast communication and superior optics.

- Integrated lighting, camera, processor and communications.
- Variable focus liquid lens technology, so there is no need to manually adjust the focus.
- Up to 45 decodes per second.
- Integrated laser aimer.
- Straight or right-angled configurations to fit into the tightest spaces.

The FlexVision 260 model is your choice for fixed setups and/or limited spaces.

FlexVision 360

Capable of handling the most difficult-to-read codes as well as challenging 1-D and 2-D codes. This reader also supports barcode grading.

- Controllable powerful lighting ensuring the highest read rates.
- Intelligent tuning automatically adjusts the settings of the integrated lighting.
- Variable focus optics automatically finds the optimal setup for the camera.
- In-line barcode grading and postal barcode (e.g. IMB, Royal Mail 4-state) verification.

The FlexVision 360 model is your choice for reading at high speeds under variable conditions and barcode inspection.

Universal FlexVision Controller

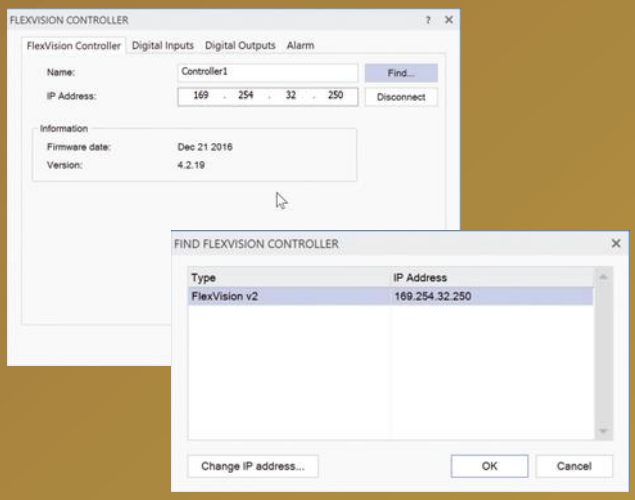
The FlexVision controller is an integrated device that provides all logic and connectors to connect cameras, encoders and an alarm plus handle digital inputs and digital outputs. The controller is connected to the network or PC over a Gigabit Ethernet connection.

- Supports up to 3 FlexVision cameras. FlexVision 260 and FlexVision 360 cameras may be mixed.
- 3 high speed encoder inputs allow for tracking items over multiple transports.
- 7 digital inputs are available to connect sensors or other input devices.
- 7 digital (relay) outputs enable you to control the machine (e.g. start/stop) and any other hardware like diverters, stackers, batch kickers etc.
- A 3-color alarm with audio can be connected to inform the operator about processing state.

Optional encoders, sensors and light tower are available. All wired and with connectors ready to be plugged in the FlexVision controller.

Easy to Set-up and Flexible Processing

Installation, set-up and processing of the FlexVision system is tightly integrated in the professional editions of the FlexMail variable data printing software and the FlexStream document processing software.

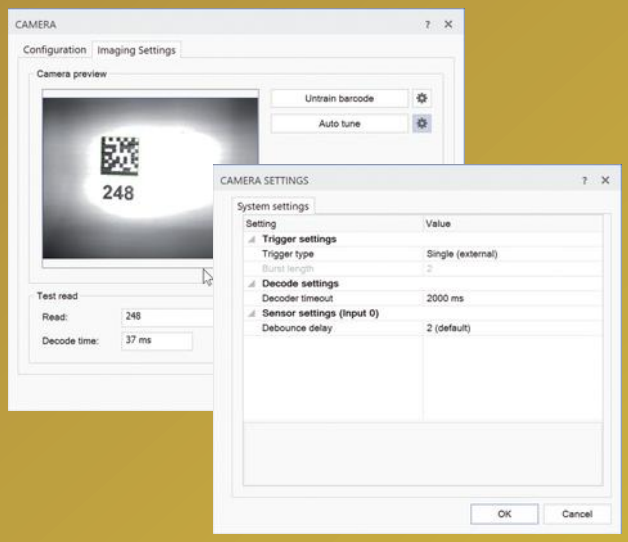


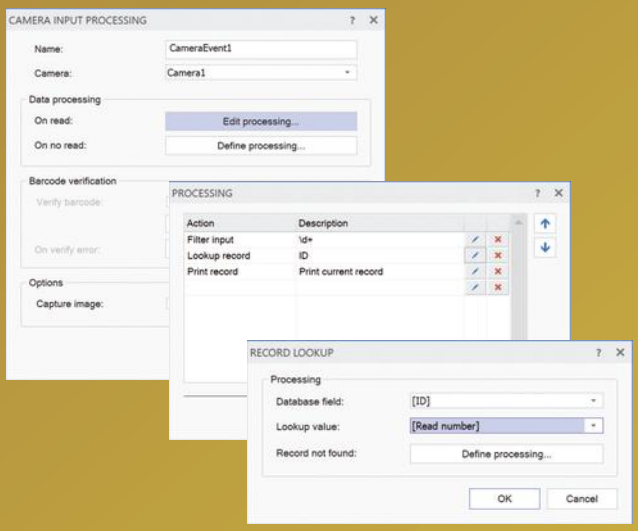
Installation

- All hardware components are included to quickly install the camera system on a transport base, inserter or other hardware.
- With its integration in FlexMail and FlexStream, there is no additional computer or software required.
- Plug and Play installation with automatic detection of both the FlexVision I/O controller as well as any connected FlexVision cameras. Only one single TCP/IP connection between the Vision system and the PC.

Camera Set-up

- See what the reader sees. Image based reader visualization allows you to see what the reader sees for image review or no-read feedback, directly and completely integrated in the FlexMail and FlexStream software.
- Setup from within the software with intelligent tuning of lighting and focus. By putting the most common controls in a single window, allowing you to see how different options affect the reader in real time.





Processing Set-up

- Powerful processing software completely integrated in FlexMail and FlexStream. Processing is defined by filling out some simple setup windows. No programming knowledge necessary.
- Processing is defined by selecting a sequence of processing steps to be performed on receiving input from cameras, digital inputs, serial connections and TCP/IP ports.
- Processing steps include: data filtering, database lookup, database update, marking records, matching values, sequence checking, printing, screen output, setting outputs and alarm, and sending data over serial or TCP/IP connections. Visual Basic can be used to define custom functions.
- Next to decoding and processing barcodes read by the camera, camera processing includes in-line barcode grading for 1-D and 2-D barcodes and verification of postal 4-state barcodes (e.g. IMB, Royal Mail 4-state etc.), and image capture.

FlexVision Specifications

FlexVision Cameras	FlexVision 260	FlexVision 360
Barcodes		
1-D codes	2 of 5, 2 of 5 Interleaved, Codabar, Code 128, Code 39, Code 93, MSI, Pharmacode, UPC/EAN/JAN	
2-D codes	Aztec code, Datamatrix, Maxicode, (micro)QR code	
Composite (stacked) barcodes	Databar, EAN.UCC-128, PDF417, MicroPDF417	
Postal barcodes	Australia 4-State, Japan 4-State, UPU 4-State, Intelligent Mail Barcode	
In-line barcode grading	No	ISO/IEC 15415, ISO/IEC 15416, ISO/IEC TR 29158
4-state (postal) barcode verification	No	Yes
Camera		
Image resolution	1280 x 960	1280 x 1024
Image acquisition	Max. 45 fps	Max. 60 fps
Decode rate	Max 45/sec	Max 45/sec
Lens	Variable auto focus liquid lens	
Sensor	External contrast sensor included	
Aimer	Dual laser	
Lighting	Integrated (2 LEDs)	Integrated (6 light banks)
Status outputs	Beeper 5 Status LEDs	Beeper, 5 multifunctional LEDs, 10x LED bar array, 360 indicator
Dimensions	Straight: 43 mm x 22 mm x 76 mm Right-Angle: 43 mm x 49 mm x 50 mm	92mm x 54mm x 42mm (w/cover and lights)

FlexVision Controller	
Camera Connections	
Number of cameras	3 over Gigabit Ethernet connections
Sensor	3 sensors triggered when camera reads
Encoders	
Number of encoders	3
Encoder speed	1 Ultrafast encoder (max. 5 MHz) 2 Fast encoders (max. 100 kHz)
Voltage	5V
Digital Inputs	
Number of inputs	7 Opto-Isolated 24V inputs
Sensor type	NPN or PNP
IO mode	Digital Input and Counter
Digital Outputs	
Number of outputs	7 relay outputs
Capacity	Max 7A@250VAC / 10A@28VDC
Mode	NO or NC
Alarm	
Light tower	Red / Yellow / Green with Audio
Controller	
Connection	Gigabit Ethernet
Power	110 / 220 VAC
Dimensions	W 12" x L 10" x H 3" W 305 mm x L 255 mm x H 75 mm

For full deltails visit **www.flex-systems.com**

Protect Your Investment

FlexVision comes at a very affordable price for an extremely robust system. It is supplied as a complete, easy to install package, including cameras with lighting, bracketing, the FlexVision I/O controller, and FlexMail or FlexStream software. No matter what camera type you choose, all other elements are the same, so you can always change camera type in case your requirements change, while protecting and leveraging your investment.

Technical Information

For a full technical specification, system requirements, and any other latest information, check out Flex Systems' web site
www.flex-systems.com

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