COGNEX

In-Sight

IN-SIGHT 1010

ID CODE READER

Robust reading of distorted, poorly printed, or otherwise damaged codes can challenge even the most advanced ID code readers. Achieving a high level of code reading performance … providing on-line verification … and communicating ID code information to locations on a computer network … makes the challenge even greater. The In-Sight™ 1010 ID code reader from Cognex® meets all of these challenges … and meets them cost-effectively.

SMALL IN SIZE, BIG IN PERFORMANCE

The compact, standalone In-Sight 1010 from Cognex® is designed to read 2D matrix codes and 1D bar codes … and communicate the information to local or company-wide locations. This innovative ID code reader provides users with powerful code reading performance, integrated CCD camera and processor, and a suite of communication options. Advanced recognition algorithms provide reliable reading of codes that have been poorly formed, degraded, or vary in position or orientation from part to part. This feature is particularly important when reading direct-marked parts, where codes are often significantly less than optimum. The In-Sight 1010 can also verify code quality to established ANSI standards, indicating how well the marking process is working.

2D Data Matrix code direct-marked on automotive part.

Depending upon the application, the In-Sight 1010 can read up to 30 codes per second, making it the perfect choice for high-speed code reading applications.

The In-Sight 1010 supports a variety of commonly-used code formats, including:

- Data Matrix™ ECC200
- Code 3 of 9
- Interleaved 2 of 5
- Code 128
- UPC
- EAN
- PostNet
- Planet Code

Contact Cognex for support of other code formats.

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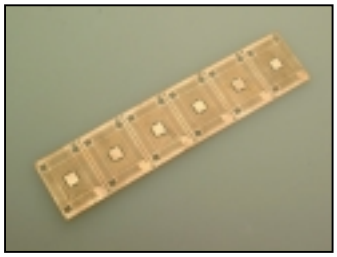
VERSATILE ... FOR A WIDE ARRAY OF APPLICATIONS

The In-Sight 1010 ID code reader facilitates part traceability and process control in virtually all industries, including electronics, automotive, medical, pharmaceutical, consumer products, and packaging. The following are a few of the many In-Sight 1010 applications:

- Reading 2D matrix codes on torque converters
- Tracking contact lens parts
- Reading 2D matrix codes and bar codes on pharmaceutical packages
- Matching bar codes on medical test kit boxes with matrix code-marked contents
- Reading 2D matrix codes on inkjet cartridges
- Reading 2D matrix codes and bar codes on electronics components such as PCBs, IC packages, and lead frames
- Reading laser-etched 2D matrix codes on TV picture tubes, LCD displays, and other glass materials

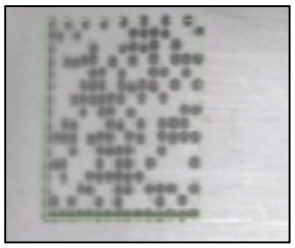


Applications include identification of codes on items such as lead frames and bottles. A variety of code formats can be read with an exceptional level of performance.

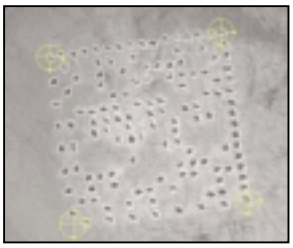
IN-SIGHT 1010 ADVANTAGES

- Compact, integrated camera, ID software, and processor
- Reads the toughest codes
- Provides verification metrics
- Built-in Ethernet 10/100BASE-T communications port
- Easy application setup
- Support of commonly-used code formats
- High-speed reading (up to 30 reads per second)
- Multiple job file storage

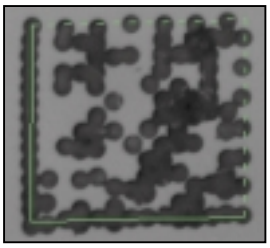
DIFFICULT-TO-READ CODES? NOT A PROBLEM.



Etched 2D code on contact lens



Dot peen 2D code on metal surface



Inkjet 2D code on glass

The wide variety of marking methods in use today, coupled with the surface variations of many product materials, increases code-reading difficulty. Additionally, codes that have been degraded as they move along the production line make the reading task even more difficult. Nothing less than a powerful ID code reader can handle these situations.

The In-Sight 1010 provides outstanding performance with the most popular marking methods … stamped, inkjet, dot peen, etched, and hot stamped … on surfaces such as glass, metal, ceramic, and plastic. Enhanced image processing and the industry's most advanced family of recognition algorithms enable reading of virtually any damaged or degraded code, even when there is variation in position or orientation from part to part.

ON-LINE VERIFICATION PROVIDES CODE QUALITY FEEDBACK

The In-Sight 1010 ID code reader is able to monitor the quality of 2D marks as it reads, providing ANSI Standard verification metrics to operators about how, for example, a dot peen marker is performing (so pins can be replaced if necessary.)

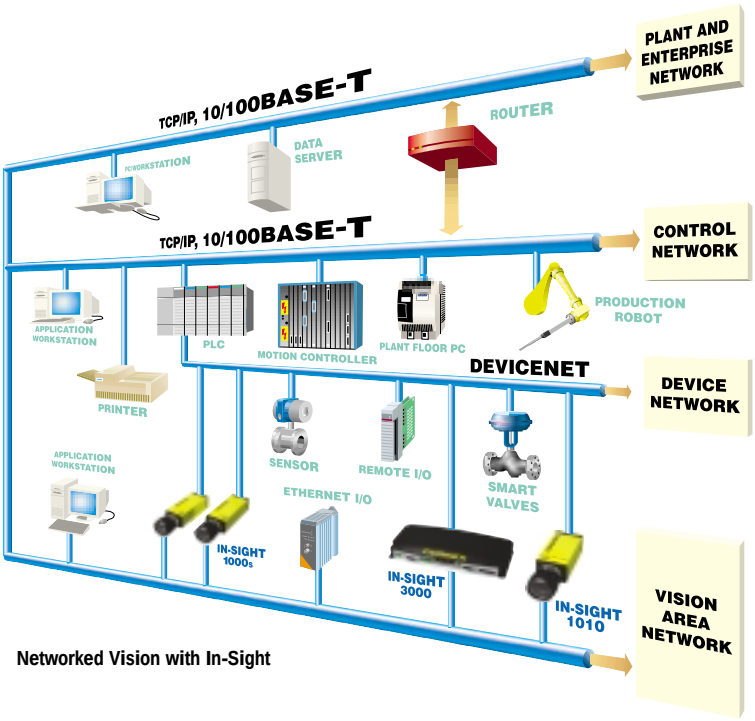
EASY TO USE, QUICK AND INTUITIVE

With the In-Sight 1010, setting up ID applications is fast and simple on a PC; ID applications can also be set up on an In-Sight 3000 system. The In-Sight 1010 comes ready to read the most popular ID code types and combinations of codes in a single field of view.

The In-Sight 1010 allows users to read combinations of codes in a single view.

High-quality marked codes can be read with little or no operator involvement; more difficult codes, such as damaged or degraded codes, are easily handled through an interface that guides users through simple and intuitive setups. And, the In-Sight 1010 stores multiple job files for easy future access.

Quick assistance with problems is provided through built-in context-sensitive help. Additionally, menu text can be displayed in a variety of languages, including English, Japanese, and French.



Networked Vision with In-Sight

REMOTE CONFIGURATION, SHARED INFORMATION

An integrated network interface means easier, more efficient setup and maintenance of networked code readers. The interface allows users to manage and control ID code readers, monitor ID code reading, and diagnose systems on the production line … from anywhere on the network. And, the built-in Ethernet interface facilitates sharing of real-time information with other In-Sight units as well as with networked third-party devices and host computers … within the plant and beyond.

- Set up, monitor, and modify In-Sight 1010 ID code readers from your office, or from anywhere on the factory floor
- Archive code images remotely to troubleshoot problems
- Enable data collection throughout the plant

The In-Sight 1010 also supports discrete I/O, serial, and point-to-point (such as In-Sight 1010 to In-Sight 3000) communications. Support for DeviceNet communications is available via the Cognex DeviceNet Interface Module.

LIGHTING OPTIONS

The large number of code marking methods, coupled with surface variations of product materials, requires lighting flexibility in order to optimize code reading performance. To meet that need, Cognex offers a choice of LED-based light modules for superior part illumination. The Cognex Light Module datasheet provides additional information on these modules.

WORLD-CLASS SUPPORT, FROM CONFIGURATION TO DEPLOYMENT

Cognex provides a variety of support resources to help guide users from configuration through deployment. These resources include CD-ROM based interactive product tutorials and PC-based help files. Cognex also offers In-Sight web-based technical support, as well as hardware service programs.

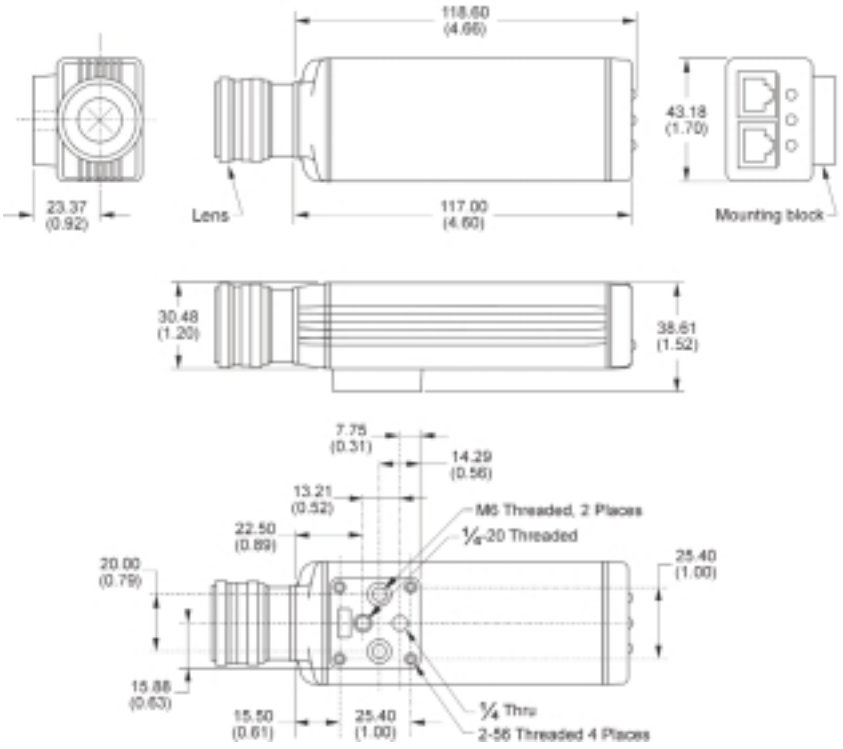
Educational services are provided on-line, at customer sites, and at Cognex facilities worldwide.

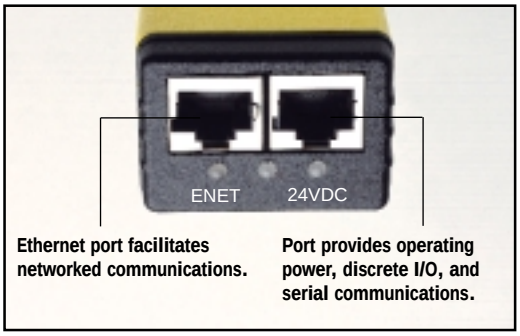
IN-SIGHT 1010 SPECIFICATIONS

SPECIFICATIONS	DESCRIPTION
Model	Cognex In-Sight 1010
Processor	Motorola Power PC architecture
Codes Supported	Data Matrix ECC200, Code 3 of 9, Interleaved 2 of 5, Code 128, UPC, EAN, PostNet, Planet Code. Contact Cognex for other code support.
Memory	Job and program storage: 4 MB non-volatile flash memory to store up to 20 jobs Image acquisition and processing: 16 MB SDRAM
Acquisition	Rapid reset, progressive scan, full-frame integration; up to 30 frames per second; up to 640 x 480 image size, with 256 gray levels (8 bits per pixel)
Sensor	1/3-inch CCD (4.8 x 3.6 mm, 6 mm diagonal), 307,200 pixels (640 x 480); square pixels, 7.4 x 7.4 um; Electronic shutter speed 0.1 ms to 30 ms
I/O	One discrete input (acquisition trigger), Two discrete outputs, Two configurable LEDs (one green and one red)
Communications	Ethernet (10/100 MBits/sec) TCP/IP protocol, RS-232C serial communications, DeviceNet (optional)

SPECIFICATIONS	DESCRIPTION
Mechanical	Dimensions (excludes lens, includes mounting block) Length: 118.60 mm (4.66 in.), Width: 43.18 mm (1.70 in.), Height: 38.61 mm (1.52 in.), Aluminum housing, Weight 210 g (7.5 oz)
Housing	Aluminum
Mounting Block	Non-conductive plastic mounting block with one 1/4-20 threaded hole and two M6 threaded holes
Weight	160 g (5.6 oz)
Gain	Controlled by software
Power	24VDC +/- 5%; 125mA, One yellow LED power status indicator
Environmental	Operating temperature: 10 to 45°C Operating humidity: 10 to 90%, non-condensing Storage temperature: –10 to 65°C Storage humidity: 10 to 90%, non-condensing

Note: Dimensions are in millimeters (inches)





Rear view of the In-Sight 1010, showing ports for external connections.

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