

Connectivity and Networking are Key

Connectivity is essential to vision and ID applications as a means to share data, support decision-making and enable highly-efficient integrated processes. Networking enables vision systems to transmit pass/fail results to PCs for analysis, or communicate directly with PLCs, robots and other factory automation devices in an integrated process control system.

If you need to link your vision and ID systems to PLCs at the enterprise level, it is important to find a system that supports the complete set of standard networking protocols:

- **TCP/IP** client/server enables vision and ID systems to easily share results data with other systems and control devices over Ethernet without any code development.
- **DNS** (Domain Name Service) allows you to assign each vision or ID system a meaningful name, such as "Bottling Line System 1," instead of having to use a numeric IP address.
- **FTP** (File Transfer Protocol) allows inspection images to be stored on the network for later analysis.
- **Telnet** is an Internet standard protocol that enables remote login and connection from host devices.
- **DHCP** (Dynamic Host Configuration Protocol) allows a vision or ID system to automatically receive its network IP address from a server, enabling true plug-and-play performance.
- **SMTP** (Simple Mail Transfer Protocol) enables you to immediately receive an e-mail on your PC or cell phone when a problem occurs on the production line.

To integrate a vision or ID system with the PLCs, robots and other automation devices in your plant, it is important to find a system that also supports the following:

- **Industrial Ethernet** protocols enable vision and ID systems to be linked to the most popular PLCs and other devices over a single Ethernet cable, eliminating the need for complex wiring schemes and costly network gateways.

And industrial protocols such as:

- **Fieldbus networks.** A protocol gateway accessory is usually needed to add a vision or ID system to a Fieldbus network.
- **RS-232 and RS-485** serial protocols. Needed to communicate with many robot controllers.











Finally, as more and more vision and ID systems are used throughout the manufacturing process, the need for a centralized way of managing them becomes increasingly important. You should look for a vision or ID system that comes with software that allows you to easily control and monitor the operation of all your vision and ID systems remotely over the network from any location—on or off the plant floor.

Simplifying integration with Cognex Connect reduces costs and downtime

Cognex products link to a wider range of factory automation equipment than any other range of products. Whether you connect directly to a PLC (Programmable Logic Controller) or robot controller or manage multiple systems remotely from a networked PC or HMI (Human Machine Interface), Cognex Connect™ assures a seamless reliable communications link between Cognex products and all of your equipment on the factory floor. Cognex Connect is available with In-Sight® vision systems, Checker® vision sensors and DataMan® barcode readers.

Supported protocols:

- EtherNet/IP with Rockwell® Add On Profile (AOP)
- PROFINET with Siemens® GSD
- Modbus/TCP
- Seamless Message Protocol (SLMP)
- POWERLINK
- DeviceNet
- And more!

	Factory Device	Checker	DataMan	In-Sight	Protocol	Protocol Type	
PLCs	B&R			✓		Industrial Ethernet	
	Mitsubishi			✓	SLMP	Industrial Ethernet	
				✓		Industrial Ethernet	
				✓		Fieldbus	
				✓	PLC Function Blocks	Pre-configured device commands and attributes	
	Rockwell		✓	✓	✓		Industrial Ethernet
					✓		Fieldbus
			✓	✓	✓	Add-On Profile (AOP)	Pre-configured device commands and attributes
	Siemens		✓	✓	✓		Industrial Ethernet
				✓	✓		Fieldbus
	Other Protocols			✓	✓	MODBUS TCP	Industrial Ethernet
				✓	✓	Modbus	Serial
					✓	ASCII String Commands	Serial
					✓		Industrial Ethernet
			✓	✓	✓	TCP	Industrial Ethernet
		✓	✓	✓	UDP	Industrial Ethernet	
FTP Server		✓	✓	✓	FTP	FTP Image Transfer	
Robots	ABB, Denso, FANUC, Kuka, Mitsubishi, Motoman & Staubli			✓	Pre-configured drivers and ASCII string commands	Serial / Ethernet	
	Adept, Epson, IAI, Kawasaki, Nachi, Yamaha, & other Robots			✓	ASCII string commands	Serial / Ethernet	

If you need to integrate inspection images, quality data and interactive controls into your own operator interface Cognex Connect gives you an array of visualization options:

- In-Sight Display Control embeds an In-Sight image and CustomView display in your .NET or ActiveX compatible custom application, or a PC-based HMI/SCADA system from Rockwell, WonderWare, Citect and others.

- In-Sight and Checker allow you to upload data to your HMI displays, SPC (Statistical Process Control) systems, plant supervisory systems, and even Microsoft Excel to monitor operations and record statistical data.
- Checker, DataMan and In-Sight offer SDKs (Software Development Kit) to allow systems integrators to create a custom user interface for managing your systems, tailored to your exact requirements.

COGNEX

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

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