



# 54RF General Purpose Industrial RFID System

SENSING

## A general purpose RFID solution to streamline your manufacturing processes

In today's global market, manufacturers are challenged more than ever to reduce costs and improve quality to stay competitive. At the same time, new regulations that impact business procedures—especially in the plant floor or process environment—must be factored into those efforts. In some cases the tracking of product genealogy and history may also be required to meet evolving regulations. Industrial Radio Frequency Identification (RFID) systems have emerged as a rugged and reliable way to track and document products as they move through the manufacturing process. Unlike the bar code systems used for similar, less demanding applications, industrial RFID systems are designed to withstand harsh environments. Plus, reusable read/write tags allow for flexibility in information and application.

As a market leader in industrial control solutions, Rockwell Automation® now offers a complete line of Allen-Bradley® RFID solutions to help you streamline and enhance your manufacturing processes.

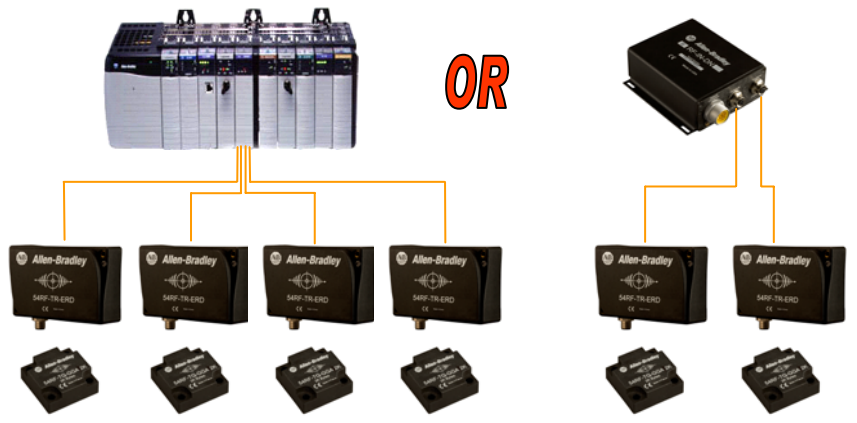


### FAMILY FEATURES & CHARACTERISTICS

- Interfaces available for EtherNet/IP™, ControlNet™ and DeviceNet™, as well as MicroLogix™ (DF1) and 1746 backplanes
- Three rugged transceiver styles designed for industrial locations
- 1.5MHz low frequency technology for enhanced immunity to EMI, interference from metallic reflective surfaces, oil, water, and other potentially disruptive materials
- Seven character read-only or 2Kbyte read/write tags
- Read and write speeds up to 200 characters per second (cps)
- Four tag styles with sensing distances of 3.5 inches (100mm)
- Reusable Rislan® tags assure long life and reliable performance in harsh environments

*An Allen-Bradley 54RF Industrial RFID system consists of three key components:*

- **Communication Interfaces** to either a network or controller
- **Transceivers** at each point or station in the manufacturing process where identification or the reading/writing of information is desired
- **Tags:** one for each item, pallet, tote, or transport fixture used in the manufacturing process



## 54RF Family RFID Tags

54RF family Industrial RFID tags are available in 7 byte (character) read-only and 2Kbyte read/write memory configurations. Designed for billions of read/write cycles, these reusable tags feature a rugged, urethane-filled Rislan® housing to ensure long life and reliable operation in the most demanding industrial environments. 54RF tags are available in 4 different shapes and styles for sensing distances up to 3.5 inches (100mm). Data can be read from or transferred to the tags at speeds up to 200 bytes (characters) per second, allowing for use in high-speed applications.



Tag	Transceiver-Tag Maximum Sensing Distance			Tag Memory
	54RF-TR-ERC	54RF-TR-ERD	54RF-TR-ERE	
54RF-TG-FFA	25mm	55mm	80mm	7 byte
54RF-TG-FFB	25mm	68mm	100mm	7 byte
54RF-TG-FFB7FP	25mm	68mm	100mm	7 byte
54RF-TG-GGA2K	23mm	55mm	n/a	2K byte
54RF-TG-GGB2K	45mm	80mm	100mm	2K byte

## 54RF Family RFID Transceivers

54RF family Industrial RFID transceivers are available in three different physical shapes allowing for optimal read distance and mounting in locations where tags are being read or written to. Plus, 54RF family transceivers can be mounted up to 1000 feet from the network or I/O interface modules, allowing for extreme flexibility in system design and layout.

Transceivers are connected to network or Allen-Bradley I/O interface modules via 57RF family cables with M12 quick connectors for additional modularity and ease of use.



Transceiver	Maximum Sensing Distance
54RF-TR-ERC	25mm to 45mm depending on tag style used
54RF-TR-ERD	55mm to 80mm depending on tag style used
54RF-TR-ERE	80mm to 100mm depending on tag style used

## 54RF Family RFID Interfaces

54RF family Industrial RFID interfaces provide integration of the transceivers used for reading and writing to tags with EtherNet/IP, ControlNet and DeviceNet networks or the SLC and MicroLogix (DF1) backplanes. Integration into an Allen-Bradley Logix System is easily accomplished with Logix Profiles, sample code and other developer tools.

54RF family RFID interfaces are available in a variety of styles and are specified for the network or backplane required as shown in the chart below.



Interface	Network or Backplane
54RF-IN-46F	SLC Backplane Control Interface for FF style tags
54RF-IN-46G	SLC Backplane Control Interface for GG style tags
54RF-IN-DF1F	MicroLogix DF1 Control Interface for FF style tags
54RF-IN-DF1G	MicroLogix DF1 Control Interface for GG style tags
54RF-IN-CNF	ControlNet Control Interface for FF style tags
54RF-IN-CNG	ControlNet Control Interface for GG style tags
54RF-IN-DNF	DeviceNet Control Interface for FF style tags
54RF-IN-DNG	DeviceNet Control Interface for GG style tags

*Note: For additional interface options, contact your local authorized Allen-Bradley Distributor or Rockwell Automation Sales Office*

## 57RF Cables and Accessories



### 57RF Cables

- Shielding designed specifically for transceiver to interface communications
- Single ended cordsets for use with chassis-based and MicroLogix interfaces
- Double ended patchcords in straight or right angle configurations for transceiver to network -interfaces
- PUR jacketing for improved oil and abrasion resistance
- Available in lengths up to 1000 feet for 54RF family use and 150 feet for 55RF and 56RF family systems.

### 57RF Handheld RFID Maintenance and Field Programming Units

- Versions available for 54RF, 55RF and 56RF families
- Rugged industrial construction, designed for programming, maintenance and troubleshooting of tags in any location
- For additional information, please contact your local authorized Allen-Bradley Distributor or RA Sales Office.

## 54RF Industries and Applications

Radio Frequency Identification (RFID) is becoming a required method of scanning for retailers and manufacturers.

In addition to a retailer-driven approach to RFID, extending dynamic data collection deeper into your production process can produce bottom-line results across your entire supply chain — turning your RFID investment into sustainable competitive advantage.

- Surgical precision in product tracking and genealogy by collecting historical information on product ID, time stamp, lot number at each step of manufacturing, and into the supply chain
- Improving asset utilization by tracking reusable assets and providing visibility into their location, usage, maintenance schedules, etc.
- Improving quality control by tagging raw material, WIP, and finished goods inventory
- Improving MRO operations by providing accurate, timely and detailed information to CMMS applications
- Reducing scrap and increasing line performance by controlling line operations based on tag information



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DeviceNet is a trademark of the Open DeviceNet Vendor Association.  
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