

RF INTERCONNECT SOLUTIONS FOR SMART RETAIL TECHNOLOGY

Robots serving food, guiding customers and operating behind the scenes have become an integral part of today's retail environment. As artificial intelligence, automation and connected technologies continue to reshape the industry, engineers are tasked with designing increasingly compact, intelligent systems that demand reliable wireless connectivity. From smart checkout and AI-powered machine vision to autonomous robotics and connected infrastructure, RF interconnects must deliver compact, high-density designs, high-frequency performance and secure mating to ensure dependable operation. Backed by a global team of experienced engineers, Amphenol RF provides proven RF interconnect solutions that help customers simplify integration, accelerate development and confidently bring next-generation smart retail technologies to market.



RFID Inventory & Asset Tracking

RFID readers to track and monitor assets and inventory in real time.

- RFID Inventory tracking
- Smart shelves with RFID readers
- Asset tracking

Computer Vision & In-Store Analytics

Uses AI-powered camera to understand shopper behavior, and improve operations.

- AI-powered camera
- Shopper traffic analysis
- Theft detection

Automated Checkout & Payment Systems

Enables faster checkout and more autonomous shopping experiences.

- Self-checkout kiosks
- Smart shopping carts
- Contactless payment terminals

Wireless Network Infrastructure

Provides the connectivity backbone for smart retail systems.

- In store Wi-Fi
- Private 5G networks
- Distributed antenna systems
- Small cells
- Wireless sensor networks
- Edge gateways and IoT hubs

AUTONOMOUS RETAIL



SERVICE ROBOTS



LAST-MILE
DELIVERY ROBOTS



DELIVERY DRONES



AUTONOMOUS
VENDING MACHINES

KEY CONNECTIVITY TECHNOLOGIES



Private 5G



Wi-Fi 6E / 7



GNSS/GPS



RFID



AI Cameras



mmWave Radar



Edge Computing

PRODUCTS



AUTOMATE®
MINI-FAKRA



FAKRA



FAKRA CABLE
ASSEMBLIES



HD-BNC



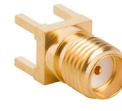
MCX



MMCX



N-TYPE



SMA



TNC/RP-TNC

ALSO AVAILABLE



FIXED LENGTH CABLE ASSEMBLIES

Pre-configured cable assemblies featuring common connector and cable configurations, available in standard lengths.



CUSTOM CAMERA INTERCONNECT

Sealed automotive camera interconnect are designed with overmolding of cable and connectors for a fully integrated, clean solution. Sealed interconnect prevent ingress of fluids and dust while high float solutions allow for blind mating of camera back.



ADAPTERS

Designed for applications requiring two RF interfaces (between-series or in-series) to be connected together.

DESIGN FEATURES



IP67/68 Sealed Solutions

Waterproof sealed solutions are engineered to protect your application from outside elements and are fully tested to IP67/68 specifications in the mated and unmated condition.



Vibration Resistant Designs

One-piece bodies and other design considerations are taken into account to provide a more robust option for applications that experience movement and harsh external conditions.