ALR-F800-X

Industrial UHF Fixed Reader

- ARM9 677MHz processor
- EPC Gen 2; ISO 18000-6c
- 512 MBytes DDR3 RAM, 2 GBytes Flash
- Wi-Fi

DSA

SDT

RUBY Program

Model	Features
ALR-F800-X0	Single Reader Management
	Up to 4 antennas / read-points
ALR-F800-X	Multiple Reader Management
	F800-X plus 4 additional Alien readers
	Up to 20 antennas/read-points
ALR-F800-X2	Multiple Reader Management
	F800-X2 plus 8 additional Alien reader
	Up to 36 antennas/read-points

BENEFITS

- Simple RFID installation and configuration
- Streamlines complex network of RFID & non-RFID device management
- Plug & Play infrastructure & GUI that Alien partners can leverage
- Fast tracks time to deployment
- 3 configurations to choose from, for application size and/or budget requirements

FEATURES

- Reader + Multiple Reader Configuration and Management in one device
- PoE & 12VDC power options available
- Proven Alien Reader Protocol feature set
- Dynamic Authentication of Higgs™ ICs
- Class leading sensitivity and performance
- Built-in Autonomous state machine

Need	Feature	Benefit
Straight forward multiple reader: **• Installation** **• Configuration** **• Maintenance**	• Combined ALR-F800 Enterprise Reader + Edge Server • Multi-reader controller with no additional hardware or boxes • Logical/user-friendly device & location naming • VESA M4 threaded mount compatibility	**• Reduced time to deployment** **• Less hardware to maintain / upgrade**
Simplified multiple reader workflow development & management	• Built-in common Activities • Simple tool to build Activities into a Workflow (across readers) • Built in recognition of RFID data allows interpretation by the correct Tag Data Standard (TDS 1.8) • Aggregates multiple-reader data reports • Send Consolidated data reports to the cloud (minimizing data transferred)	**• Lower overall cost and time to market** **• Flexibility to change the workflow** **• Simplified IT integration (commission 1 device vs. multiple)**

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ALR-F800-X

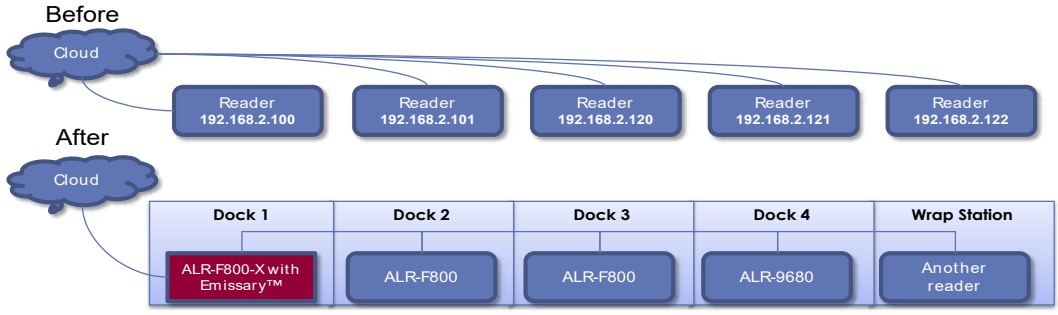
Industrial UHF Fixed Reader

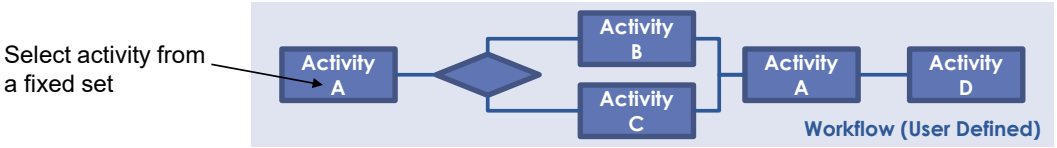
What is Emissary?

As the industry's first dynamic reader and peripheral management platform included at no additional cost, Emissary is included as standard in every ALR-F800-X Series reader. Enabled "out of the box", Emissary allows configuration and support of additional readers and read points without the need of a traditional Edge Server in an intuitive and simple to use Graphical User Interface.
Emissary enables visualization of readers, antennas and peripherals such as traditional I/O devices (light stacks, motion sensors, door switches etc.) Into an easy to use GUI. Complete work flows may be developed using built-in Activities which result in simplified installation, operation and maintenance of an application.

Emissary consists of:
• Intuitive structured visualization of devices, functions and read points
• Allows usage of real-world naming conventions such as: "Dock Door #1", or "Wrap Station"…
• Provides a set of common Activities (e.g. Read tag, turn on light, send data...)
• Provides Windows based tool for the creation and handling of Work flows built from these Activities
• Simple set-up, control and maintenance of multiple local readers
• Automatic interpretation of the correct Tag Data Standard when tags are read
• Manage tag read data (reports) into ALR-F800-X where consolidated reports are transferred to a cloud or server (reducing data flowing between them)
• All built-in to the ALR-F800-X. **No downloads, installation or setup required to install Emissary**

Example Application : 5 reader deployment (F800 X plus 4 readers versus 5 stand-alone readers)





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ALR-F800-X

Industrial UHF Fixed Reader

What common problems does ALR-F800-X Series w/ Emissary Solve?

- Reduced overall cost of deployment & on-going maintenance
- Simplified workflow change / addition without having to re-write software code
- Instead of RFID tags & readers posing a challenge, customer may now focus on
- Optimizing workflow process
- Fast-tracked integration
- Worry free addition of additional read points & workflow modification
- Treat RFID readers as conduits of data
- All data collected is routed, articulated and formatted through F800-X versus server or PC
- Reduced number of devices requiring security enrollment on secure networks
- Reduction of potential cost and failure points in overall deployment

Many traditional implementations fail for many reasons:
- Required involvement of project managers to continually synchronize HW and SW elements
- Excessive layers of complexity and cost of SW maintenance, HW management, overall maintenance
- Overall lack of system elegance and efficiency

Flexibility

- Depending upon application size and/or budget, there are 3 main Emissary platforms to choose:
- F800-X0
- Single Reader option (just -X0) with no additional readers managed
- Maximum 4 read points / antennas
- F800-X
- Up to 5 readers managed (4 additional Alien readers plus -X)
- Maximum 20 read points / antennas
- F800-X2
- Up to 9 readers managed (8 additional Alien readers plus -X2)
- Maximum 36 read points / antennas

Key Points

- No recurring license fees, no hassle
- Ability to manage multiple readers, multiple read points from a single Emissary unit

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ALR-F800-X

Industrial UHF Fixed Reader

Simplified	Feature	Benefit
Installation **Configuration** **Maintenance**	• Integrated Enterprise Reader and Edge Service Device • Multi-reader controller w/ no additional hardware or boxes • Full ALR-F800 enterprise class reader integrated • Logical/user-friendly device naming • Logical/user-friendly location naming	**Minimize time to system live date and cost of system realization** **Less hardware to go wrong/ replace**
Work-flow Creation	• Built in common Activities • Simple tool to build Activities into a Workflow (across readers) • Built in recognition of RFID data allow interpretation by the correct Tag Data Standard (TDS 1.8) • Aggregates multiple-reader data reports • Send Consolidated data reports to the cloud (minimizing data transferred)	**Ease and flexibility to generate, change and deploy workflow design without complex software coding**

Integrated Enterprise-class 4-Port Reader

As an industry game changer, ALR-F800-X changes the perception of traditional RFID equipment from that of simple read/write devices to full Enterprise level management platform. Combined with the pioneering ALR-F800 Enterprise reader platform, ALR-F800-X also offers the highest transmit power of any RFID reader regardless of Power-Over-Ethernet (PoE) or DC power operation and also features seamless transition between PoE power and DC power. This eliminates the need to decide between power source with regards to read performance. Simply choose which works for the application at hand. Alien GATESCAPE integrated configuration tool allows straight forward reader set-up and configuration via web browser.

Proven Performance

Poised to handle real-world dynamic shifts in RF environment, ALR-F800-X is able to adjust and optimize real-time with the Alien **DSA** (Dynamic Self-Adapting) system which monitors the RF environment real-time adjusting reader settings, parameters, filters and effectively tunes the reader's behavior maximizing throughput and tag data handling.

Industry Standard I/O and Firmware Schema

ALR-F800-X is obsolescence proof via microSD memory card slot for memory extension and USB-A for addition of Wi-Fi & Bluetooth adapters). In addition, the reader RF subsystem including features and functions are upgrade able via firmware without the need to replace physical hardware.

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What common problems does ALR-F800-X Series w/ Emissary Solve?

Kit Name	Target User	Kit Model Number CCC = Country Code (FCC units do not have additional CCC in P/N)	Contents	Notes
Reader	Large installations that have an existing PoE power supply infrastructure.	ALR-F800-CCC-X0-RDR-ONLY ALR-F800-CCC-X-RDR-ONLY ALR-F800-CCC-X2-RDR-ONLY	Reader only (country/region specific) I/O mating connector	No power supply (DC or Power-over Ethernet Injector) provided. If you need one, order the “Kit” below.
Reader Kit	Someone planning to evaluate or develop with the reader and required a power source to power the reader. Good for working on a lab bench.	ALR-F800-CCC-X0-RDR-KIT ALR-F800-CCC-X-RDR-KIT ALR-F800-CCC-X2-RDR-KIT	ALR-F800 Reader (country/region specific) PoE Injector Power Cable for PoE injector/reader Two Ethernet cables USB Cable (Type B to A) I/O mating connector	Reader with a power supply in the form of a Power-over-Ethernet Injector (which supplies both power and data to the reader). Comes complete with power cord for the injector and 2 Ethernet cables, one for data and one for both data and power).

Model Number	ALR-F800-X0/X/X2 (All Models and Country Variants)
Architecture	ARM9 677MHz processor, Linux, 1GB DDR3 RAM, 2 GB Flash
Supported RFID Tag Protocols	EPC Gen 2; ISO 18000-6c
Reader Protocols	Alien Reader Protocol, LLRP
LAN Protocols	TCP/IP, NTP, DNS, DHCP, SNMP
Dense reader management	Dense Reader Mode, auto event triggering and event management
Power	Power over Ethernet or robust universal AC-DC power converter; 100-240 VAC, 50/60Hz
Reader Power (with PoE)	≥31.5 dBm (lower as required by law in specific regions - see tables below)
Communications	LAN TCPI/IP (RJ-45), RS-232 (DB-9 F), USB Host, USB Console
Antennas	4 reverse polarity TNC monostatic ports; circular or linear polarization; near and far field compatible
General Purpose I/O	Optically isolated. 0-24VDC rail. 4 inputs. 8 outputs (1500mA capacity).
Dimensions	(L) 20.2 cm x (W) 19.1 cm x (D) 2.8 cm (7.5” x 7.9” x 1.1”)
Weight	0.85 kg (1.88 lb)
Operational Temperature	-20°C to +50°C (-4°F to +122°F)
Environmental Rating	IP53
LED Indicators	Power, CPU, Read, Sniff, Ant 0-3
Software SDK	Java, .NET, Ruby APIs
RoHS	EU 2002/95/EC compliant

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ALR–F800–X

Industrial UHF Fixed Reader

Reader Kit Model Numbers by Country Available as X0, X, X2 (ZZ)

Model Number	Countries	Frequency	Transmit Channels	Channel Spacing	RF Power	Compliance Certification
ALR-F800-ZZ-RDR-KIT	USA, Bolivia, Canada, Colombia, Mexico, Panama, Puerto Rico, Venezuela	902 - 928 MHz	50	500 KHz	4W EIRP	Emissions: FCC Part 15 Safety: cTUVus tested to: CAN/CSA–C22.2 No.60950-1-03, and UL 60950-1:2007 specifications IEC 60950-1 and EN60950-1, UL 2043 ATT, CRC, IFETEL, ASEP, CONATEL
ALR-F800-ARG-ZZ-RDR-KIT	Argentina*	902 - 928 MHz	50	500 KHz	4W EIRP	Enacom
ALR-F800-BRA-ZZ-RDR-KIT	Brazil	902 - 907.5 MHz & 915 - 928 MHz	35	500 KHz	4W EIRP	Emissions: Agência Nacional de Telecomunicações - ANATEL Safety: UL Brazil
ALR-F800-CHN-ZZ-RDR-KIT	China, Singapore	920 - 925 MHz	16	250 KHz	2W EIRP	Emissions: CMII Safety: IEC 60950-1:2005 2nd edition & CCC
ALR-F800-EMA-ZZ-RDR-KIT	Europe, UAE, New Zealand, South Africa	865.7 - 867.5 MHz	4	600 KHz	2W EIRP	Emissions: ETSI EN 302-208-2 (4 channel plan), EN 301-489. Safety: EN 60950, EN 50364
ALR-F800-IND-ZZ-RDR-KIT	India	865.6-867.0 MHz	3	600 KHz	2W EIRP	Emissions: EN 302-208, N 301-489. Safety: EN 60950, EN 50364
ALR-F800-ID-ZZ-RDR-KIT	Indonesia	923 - 925 MHz	4	500 KHz	2W ERP	Ministry of Communications and Information Technology
ALR-F800-JP3-ZZ-RDR-KIT	Japan*	915.8 - 921.4 MHz	4	1200KHz	4W EIRP	ARIB STD-T106
ALR-F800-KR2-ZZ-RDR-KIT	South Korea*	916.7 - 920.9 MHz	6	600KHz	4W EIRP	KC
ALR-F800-MY-ZZ-RDR-KIT	Malaysia	919 - 923 - MHz	8	500 KHz	2W ERP	SIRIM
ALR-F800-RSA-ZZ-RDR-KIT	South Africa	915.4 - 919 MHz	17	200KHz	4W EIRP	Emissions: ICASA Safety: NRCS
ALR-F800-TAI-ZZ-RDR-KIT	Taiwan	922 - 928 MHz	19	250KHz	1W ERP	NCC
ALR-F800-URY-ZZ-RDR-KIT	Uruguay, Peru	916 - 928 MHz	23	500 KHz	4W EIRP	Unidad Reguladora de Servicios de Comunicaciones (URSEC), Ministerio de Transportes y Comunicaciones
ALR-F800-VN1-ZZ-RDR-KIT	Vietnam	918 - 923 MHz	9	500 KHz	500mW ERP	QCVN 47:2015/BTTTTT, QCVN 18:2014/BTTTT
ALR-F800-WR1-ZZ-RDR-KIT	Australia, Hong Kong, Thailand	920 - 925 MHz	8	500 KHz	4W EIRP	ACMA, OFTA

Powered by

* Due to country specific regulations, power supplies must be obtained locally for Argentina, Japan and South Korea

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