Allen-Bradley 58UHF Series RFID Short-Range Transceiver Instruction Manual

Allen-Bradley 58UHF Series RFID Short-Range Transceiver

Contents

IMPORTANT INFORMATIONS

Catalog Numbers 58UHF-TR-100-SR15US, 58UHF-TR-100-SR15EU

⚠️ **WARNING**: Never disassemble or modify the scanner. Doing so could result in an accident such as fire or electric shock.

Features

- Global Ultra-High Frequency (UHF) RFID solution
    - 865…868 MHz EU and UK model (CE)
      902…928 MHz US and North America model (FCC)
- Tag compatibility: ISO 18000-63 (EPC global Gen2) compliant
- Sensing range up to 1.5 m (4.92 ft)
- Built-in status indicators for diagnostics
- All-in-one linear and circular antennas
- Excellent reliability in harsh environments

Typical Applications

- Asset tracking
- Data acquisition
- Product handling
- Automotive
- Food and pharmaceutical

Specifications

Attribute	Value
Enclosure rating	IP66/67
Operating temperature [°C (°F)]	-20…+55 (-4…+131)
Storage temperature [°C (°F)]	-40…+85 (-40…+185)
Relative humidity (1)	- Operating: 35…95% - Storage: 25…85%
Vibration	10 g at 10…500 Hz
Shock resistance [g]	50
Tag compatibility	ISO 18000-63
Sensing distance, max (2) [m (ft.)]	1.5 (4.92)
Compliance	FCC, UL/cUL, CE, UKCA, and ISED
Connector	- EtherNet/IP™: M12 4-pin plug DC Micro - Power and I/O: M12 4-pin socket DC Micro
Communication protocol	EtherNet/IP
Supply voltage	19.2…26.4V DC
Current consumption at 24V DC, max	- Supply: 1 A CLASS2/SELVS - Input: 15 mA - Output: 0.5 A
Communication rate	- RFID: 1024 bps - Ethernet: 10/100 Mbps, half or full-duplex
Frequency	865.7…867.5 MHz EU and UK model (at 600 kHz intervals, 4 channels total) 902.75…927.25 MHz US and North America model (at 500 kHz intervals, 50 channels total)

(1) No condensation
(2) The setting limits depend on the country or the function. This reference value can vary depending on the operating environment tag type.
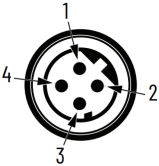
Status Indicator Functionality

Name	Description	State	Indicates
MOD	Indicates status of the transceivers	Off	No power
		Steady green	Device operational
		Flashing green	Standby (device has not been configured)
		Flashing red	Major recoverable fault
		Steady red	Major nonrecoverable fault
		Flashing green/red	Self-test (power-up testing)
Link1/2	Indicates status of Ethernet (E1/E2) port	Off	No link
		Steady green	Link
		Steady yellow	Port disabled
		Flashing green	Port activity (data packets currently being exchanged)
		Flashing yellow	Collision
		Steady red	Major NIC fault
NET	Indicates status of the connections	Off	No power or powered on with no IP address
		Flashing green	No connections (IP address, but no CIP™ connections are established, and an exclusive owner connection has timed out)
		Steady green	Connected
		Flashing red	Connection timeout
		Steady red	Duplicate IP
		Flashing green/red	Self-test (power-up testing)
R/W	Indicates status of the read/write commands	Off	No power
		Steady green	Powered but idle
		Flashing green	Transmitting RF carrier wave (no tags detected)
		Steady yellow	Succeeded at tag operation (tag read/write complete)
		Flashing yellow	Failed at tag operation (tag read/write incomplete)
		Flashing red	RF transmit failure

IMPORTANT Installation must be in accordance with local and/or national codes. Servicing energized industrial control equipment can be hazardous if not in accordance to recommended safety procedures.
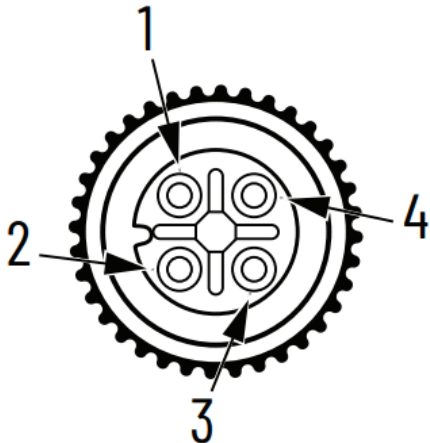
Connector Pinouts

Table 1 – EtherNet/IP [1]

DC M12, D-coded, 4-pin Plug	Pin	Signal	Color
	1	TxData +	White/orange
	2	Recv Data +	White/green
	3	TxData –	Orange
	4	Recv Data –	Green

(1) E1 – Standard right-angle Ethernet cables point left.
E2 – Standard right-angle Ethernet cables point right.

Table 2 – Power I/O

DC M12, D-coded, 4-pin Socket	Pin	Signal	Color
	1	+24V DC	Brown
	2	Input	White
	3	0V DC	Blue
	4	Output	Black

FCC Notice (For U.S. Customers)

This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter. This device complies with Part 15 of the FCC Rules.

Operation is subject to the following conditions: (1) This device will not cause harmful interference; and (2) This device must accept any interference received, including interference that can cause undesired operation of the device. Changes and modifications that are not expressly approved by Rockwell Automation can void your authority to operate this equipment under Federal Communications Commissions rules.

This equipment is tested and found to comply with the limits for a Class A digital device, according to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment.

⚠️ **ATTENTION:** This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, can cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case you must correct the interference at your own expense.

IMPORTANT
This equipment complies with FCC radiation exposure limits for an uncontrolled environment and meets the FCC radio frequency (RF) Exposure Guidelines. When you install and operate this equipment, keep a minimum of 35 cm (13.78 in.) between the radiator and a person's body

ISED Information

This device complies with Innovation, Science and Economic Development Canada license-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference; and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

IMPORTANT
This equipment complies with ISED radiation exposure limits for an uncontrolled environment and meets RSS 102 of the ISED radio frequency (RF) Exposure rules. When you install and operate this equipment, keep a minimum of 35 cm (13.78 in.) between the radiator and a person's body.
Cet équipement est conforme aux limites d'exposition aux rayonnements énoncées pour un environnement non-contrôlé et respecte les règles d'exposition aux fréquences radioélectriques (RF) CNR 102 de l'ISDE. Cet équipement doit être installé et utilisé en gardant une distance de 35 cm (13.78 in.) ou plus entre le radiateur et le corps humain.

Declaration of Conformity

CE Conformity

Rockwell Automation, Inc. declares that the radio equipment type 58UHF-TR-100-LR15EU is in compliance with the 2014/53/EU Radio Equipment Directive and the 2011/65/EU RoHS Directive.
For a comprehensive CE certificate **visit: rok.auto/certifications**.
UKCA Conformity
Rockwell Automation, Inc. declares that the radio equipment type
58UHF-TR-100-LR15EU is in compliance with the Radio Equipment Regulations (2017 No. 1206) and the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations (2012 No. 3032).
For a comprehensive UKCA certificate visit: **rok.auto/certifications**. Türkiye Cumhuriyeti: AEEE Yönetmeliðine Uygundur

Application	Frequency Range	Power
UHF RFID	865…868 MHz	2 W e.r.p.

Rockwell Automation Support

Use these resources to access support information.

Technical Support Center	Find help with how-to videos, FAQs, chat, user forums, Knowledgebase, and product notification updates.	**rok.auto/support**
Local Technical Support Phone Numbers	Locate the telephone number for your country.	**rok.auto/phonesupport**
Technical Documentation Center	Quickly access and download technical specifications, installation instructions, and user manuals.	**rok.auto/techdocs**
Literature Library	Find installation instructions, manuals, brochures, and technical data publications.	**rok.auto/literature**
Product Compatibility and Download Center (PCDC)	Download firmware, associated files (such as AOP, EDS, and DTM), and access product release notes.	**rok.auto/pcdc**

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Waste Electrical and Electronic Equipment (WEEE)

♻ **At the end of life, this equipment should be collected separately from any unsorted municipal waste.**

Rockwell Automation maintains current product environmental compliance information on its website at **rok.auto/pec**.

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Documents / Resources

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Manuals+,