

Wireless module - RAD-900-IFS - 2901540

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Radioline - 900 MHz wireless transceiver with RS-232/485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 250 stations, range of up to 32 km (line of sight), use in North America

Product Description


Radioline is the new wireless system for large systems. Special features include extremely easy assignment of inputs and outputs by simply turning the thumbwheel - without any programming. Radioline transmits I/O signals (I/O mode) or serial data (serial mode) and is therefore very versatile. Alternatively, I/O signals can now also be connected to controllers directly using the Modbus protocol (PLC/Modbus RTU mode). In addition, you can implement various network structures: from a simple point-to-point connection to complex mesh networks. Thanks to the latest Trusted Wireless technology, Radioline is the ideal choice for industrial use.

Your advantages

- ✓ Extended temperature range, -40 °C ... +70 °C
- ✓ Range of several kilometers thanks to adjustable data rates for the wireless interface
- ✓ Integrated RS-232/RS-485 interface
- ✓ Quick and easy startup without programming
- ✓ High degree of reliability due to Trusted Wireless 2.0 technology (AES encryption, frequency hopping method, and coexistence management)
- ✓ Mesh networks of up to 250 devices



Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 610209
GTIN	4046356610209

Technical data

Note

Trade restriction	The products are offered exclusively for export outside the EU and the European Economic Area.
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Dimensions

Ambient conditions

Degree of protection	IP20
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Ambient conditions

Ambient temperature (operation)	-40 °C ... 70 °C
	-40 °F ... 158 °F
Ambient temperature (storage/transport)	-40 °C ... 85 °C
	-40 °F ... 185 °F
Permissible humidity (operation)	20 % ... 85 %
Permissible humidity (storage/transport)	20 % ... 85 %
Altitude	2000 m
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz
Shock	16g, 11 ms

General

Operating mode	PLC / Modbus RTU dual mode (Activation and configuration via PSI-CONF software)
Overvoltage category	II
Assembly instructions	on standard DIN rail NS 35 in accordance with EN 60715
Degree of pollution	2
Housing material	PA 6.6-FR
Flammability rating according to UL 94	V0
Export note	The products are offered exclusively for export outside the European Economic Area (EEA).

Supply

Supply voltage range	10.8 V DC ... 30.5 V DC
Max. current consumption	328 mA (@24 V DC)
Nominal power consumption	1.7 W (30 dBm)
Power consumption	8.4 W (peak; 30 dBm)
Transient surge protection	Yes

Wireless interface

Antenna connection	RSMA (female)
Direction	Bi-directional
Frequency	900 MHz
Frequency range	902 MHz ... 928 MHz
Data rate	16 kbps (adjustable)
	125 kbps (adjustable)
	250 kbps (adjustable)
	500 kbps (adjustable)
Receiver sensitivity	-112 dBm (16 kbps)
	-105 dBm (125 kbps)
	-102 dBm (250 kbps)
	-95 dBm (500 kbps)
Transmission power	max. 1 W (adjustable)

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Wireless interface

Range	± 32 km (The range may be considerably above or below that stated, and depends on the environment, antenna technology, and the product used)
Security	128-bit data encryption

Serial interface

Interface 1	RS-232
Connection method	COMBICON plug-in screw terminal block
	D-SUB-9 female connector
Connection technology	3-wire
Transmission speed	0.3 ... 115.2 kbps
Interface 2	RS-485
Connection method	COMBICON plug-in screw terminal block
Connection technology	2-wire
Termination resistor	390 Ω (switchable via DIP switches)
	150 Ω (switchable via DIP switches)
	390 Ω (switchable via DIP switches)
Transmission speed	0.3 ... 115.2 kbps

RSSI output

Number of outputs	1
Voltage output signal	0 V ... 3 V

RF link relay output

Number of outputs	1
Contact type	PDT
Contact material	PdRu, gold-plated
Maximum switching voltage	30 V AC/DC
Max. switching current	500 mA
Electrical service life	5x 10 ⁵ switching cycles with 0.5 A at 30 V DC

Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm ²
Conductor cross section solid max.	2.5 mm ²
Conductor cross section flexible min.	0.2 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	7 mm
Tightening torque	0.6 Nm
Screw thread	M3

Status indicator

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Status indicator

Status display	Green LED (supply voltage, PWR)
	Green LED (bus communication, DAT)
	Red LED (periphery error, ERR)
	3x green, 1x yellow LED (LED bar graph receive quality, RSSI)
	Green LED (receive data, RX)
	Green LED (transmit data, TX)

Standards and Regulations

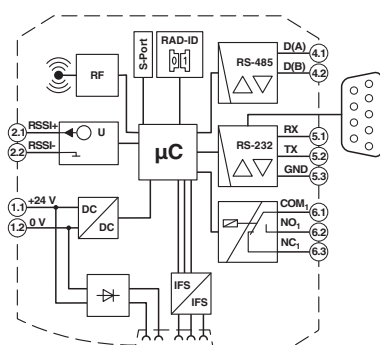
Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Standard designation	NOM
Flammability rating according to UL 94	V0
Interface description	Trusted Wireless
Security	128-bit data encryption
Shock	16g, 11 ms
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz
Conformance	FCC Directive, Part 15.247
	ISC Directive RSS 210
UL, USA	Class I, Zone 2, AEx nA nC IIC T4
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D
UL, Canada	Class I, Zone 2, Ex nA nC nL IIC T4 Gc X
CSA	CSA C22.2

Environmental Product Compliance

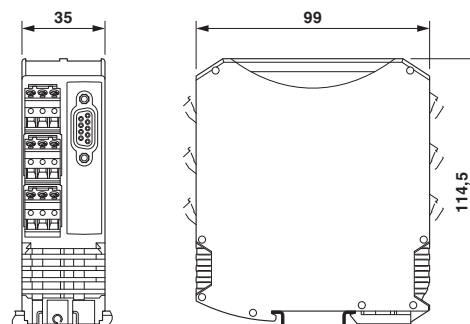
REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

Drawings

Block diagram



Dimensional drawing



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Approvals

Approvals




Approvals

FCC / Industry Canada / UL Listed / cUL Listed / cULus Listed

Ex Approvals

UL Listed / cUL Listed / cULus Listed

Approval details

FCC			SGV-SHR-900
Industry Canada			4720C-SHR900
UL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cUL Listed		http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm	FILE E 238705
cULus Listed			

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