

## Wireless module - RAD-900-IFS - 2901540

Please be informed that the data shown in this PDF Document is generated from our Online Catalog. Please find the complete data in the user's documentation. Our General Terms of Use for Downloads are valid (<http://phoenixcontact.com/download>)



Bidirectional, Radioline 900 MHz transceiver for wireless transmission of serial and I/O data

### 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.

### Why buy this product

- Extended temperature range, -40 °C ... +70 °C
- Range of several kilometers thanks to adjustable data rates for the wireless interface (16 ... 500 kbps)
- 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 STK
GTIN	 4 046356 610209
GTIN	4046356610209
Weight per Piece (excluding packing)	327.400 g
Custom tariff number	85176200
Country of origin	United States

### Technical data

#### Note

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

### Dimensions

# Wireless module - RAD-900-IFS - 2901540

## Technical data

### Dimensions

Width	35 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Degree of protection	IP20
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

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)

## Wireless module - RAD-900-IFS - 2901540

### Technical data

#### Wireless interface

	-102 dBm (250 kbps)
	-95 dBm (500 kbps)
Transmission power	max. 1 W (adjustable)
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
	3-conductor
Transmission speed	0.3 ... 115.2 kbps
Interface 2	RS-485
Connection method	COMBICON plug-in screw terminal block
	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	5 x 10 <sup>5</sup> cycles with 0.5 A @ 30 V DC

#### Connection data

Connection method	Screw connection
Conductor cross section solid min.	0.2 mm <sup>2</sup>
Conductor cross section solid max.	2.5 mm <sup>2</sup>
Conductor cross section flexible min.	0.2 mm <sup>2</sup>
Conductor cross section flexible max.	2.5 mm <sup>2</sup>
Conductor cross section AWG min.	24
Conductor cross section AWG max.	14
Stripping length	7 mm

# Wireless module - RAD-900-IFS - 2901540

## Technical data

### Connection data

Tightening torque	0.6 Nm
Screw thread	M3

### Status indicator

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

### Approvals and conformance

Conformance	FCC Directive, Part 15.247
UL, USA/Canada	Class I, Div. 2, Groups A, B, C, D
Standards/regulations	EN 300328
	EN 61000-6-2
	EN 61000-6-4
	EN 50371
	EN 60950-1

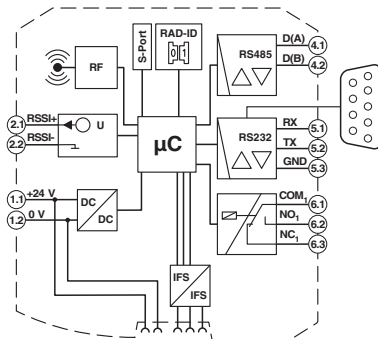
### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
Standards/regulations	EN 300328
	EN 61000-6-2
	EN 61000-6-4
	EN 50371
	EN 60950-1
Shock	16g, 11 ms
Flammability rating according to UL 94	V0
Interface description	Trusted Wireless
Security	128-bit data encryption
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

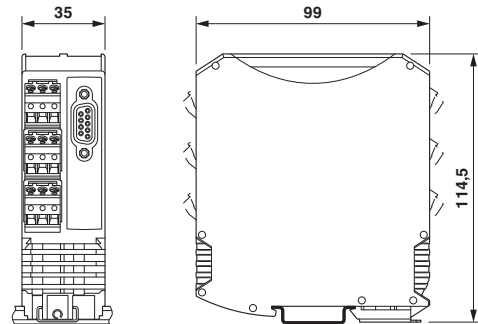
## Drawings

# Wireless module - RAD-900-IFS - 2901540

Block diagram



Dimensional drawing



## Classifications

### eCl@ss

eCl@ss 4.0	27230207
eCl@ss 4.1	27230207
eCl@ss 5.0	27230207
eCl@ss 5.1	27242208
eCl@ss 6.0	27242208
eCl@ss 7.0	27242208
eCl@ss 8.0	19179290
eCl@ss 9.0	19179290

### ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000310
ETIM 5.0	EC000310

### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	43223108
UNSPSC 11	39121008
UNSPSC 12.01	43223108
UNSPSC 13.2	43223108

## Approvals

### Approvals

Approvals

UL Listed / cUL Listed / cULus Listed

# Wireless module - RAD-900-IFS - 2901540


## Approvals

Ex Approvals

UL Listed / cUL Listed / cULus Listed

---

### Approval details

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 

---