

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

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 documentation. Our general terms of use for downloads are valid.



Radioline - 900 MHz wireless transceiver with six integrated I/O channels, NEMA 4X enclosure, N (female) antenna connection, omnidirectional antenna, point-to-point, star, and mesh networks up to 250 stations, range of up to 32 km (line of sight), for use in North America

Your advantages

- Range of several kilometers thanks to adjustable data rates for the wireless interface
- NEMA 4X housing reduces time and complexity of installation
- Power using AC mains or DC control voltages
- Completely compatible with existing Radioline installations

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

Technical data

Notes

Trade restriction

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

Product properties

Product type	Wireless module
Insulation characteristics	
Overvoltage category	II
Degree of pollution	2

Electrical properties

Electrical isolation	300 V (Rated insulation voltage (in each case between the analog inputs/analog outputs/AC supply, reinforced insulation according to EN 61010))
	50 V (Rated insulation voltage (in each case between the analog inputs/analog outputs/DC supply, reinforced insulation according to EN 61010))
	300 V (Rated insulation voltage (in each case between the digital inputs and digital outputs, reinforced insulation according to EN 61010))
	300 V (Rated insulation voltage (in each case between the digital inputs and outputs // analog inputs and outputs, reinforced insulation in accordance with EN/IEC 61010))
Test voltage for digital I/Os	2.5 kV AC (60 Hz, 2 s)
Test voltage for analog I/Os	1.5 kV AC (60 Hz, 2 s)
Transient surge protection	Yes

Supply

Supply voltage	24 V DC
Supply voltage range	10.8 V DC ... 30.5 V DC
	100 V AC ... 240 V AC
Typical current consumption	110 mA (120 V AC)
Max. current consumption	368 mA (10.8 V DC)
	135 mA (30.5 V DC)
	116 mA (100 V AC)
	60 mA (240 V AC)
Nominal power consumption	3.9 W (30 dBm)
Power consumption	7.4 W (peak; 30 dBm)

Input data

Digital

Max. current consumption	< 1 mA
--------------------------	--------

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

Analog

Description of the input	Analog input
Number of inputs	1
Current input signal	0 mA ... 20 mA (can be set via DIP switches) 4 mA ... 20 mA (can be set via DIP switches)
Max. current input signal	22 mA
Input resistance current input	< 70 Ω
Resolution	16 bit
Precision	≤ 0.02 % (at 25 °C)
Protective circuit	Short-circuit and overload protection
Temperature coefficient, typical	typ. 0.0025 %/K (at -40 °C ... +70 °C)
Supply voltage	≥ 12 V DC (For passive sensors (via terminal PWR1, +I1))

Digital

Description of the input	Digital input
Number of inputs	2
Min. voltage input signal	0 V AC/DC
Max. voltage input signal	250 V AC/DC
Switching level "0" signal	0 V AC/DC ... 4 V AC/DC (Low-voltage input) 0 V AC/DC ... 20 V AC/DC (High-voltage input)
Switching level "1" signal	10 V AC/DC ... 50 V AC/DC (Low-voltage input) 50 V AC/DC ... 250 V AC/DC (High-voltage input)
Input frequency	≤ 2 Hz

Output data

Digital

Output name	Relay output
Number of outputs	2
Contact switching type	Changeover contact
Contact material	AgSnO ₂
Maximum switching voltage	250 V AC 24 V DC
Min. switching current	≥ 10 mA
Max. switching current	2 A
Mechanical service life	1x 10 ⁷ cycles
Electrical service life	2x 10 ⁵ cycles (At 2 A, 250 V AC, cosφ 0.4) 2x 10 ⁵ cycles (At 1 A, 24 V DC, L/R = 48 ms)
Maximum switching frequency	2 Hz
Switching capacity	48 W (24 V DC) 60 W (30 V DC) 20 W (48 V DC) 18 W (60 V DC) 22 W (110 V DC)

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

	40 W (220 V DC)
	42 W (250 V DC)
Behavior of the outputs (adjustable via DIP switch)	Hold / Reset

Analog

Output name	Analog output
Number of outputs	1
Voltage output signal	0 V ... 10 V
Max. voltage output signal	approx. 10.83 V
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	approx. 21.67 mA
Load	≥ 10 kΩ
	≤ 500 Ω
Resolution	16 bit
Protective circuit	Transient protection of outputs

Digital

Output name	RF link relay output
Number of outputs	1
Contact switching type	Changeover contact
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

Analog

Output name	RSSI voltage output
Number of outputs	1
Voltage output signal	0 V ... 3 V

Connection data

Connection method	Screw connection
Stripping length	11 mm
Conductor cross section, rigid min.	0.14 mm ²
Conductor cross section, rigid max.	2.5 mm ²
Conductor cross section flexible min.	0.14 mm ²
Conductor cross section flexible max.	2.5 mm ²
Conductor cross section AWG min.	26
Conductor cross section AWG max.	14

Interfaces

Wireless

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

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

Wireless

Interface description	Trusted Wireless
Direction	Bi-directional
Frequency	900 MHz
Frequency range	902 MHz ... 928 MHz
Transmission power	max. 1 W (adjustable)
Data rate	16 kbps (adjustable) 125 kbps (adjustable) 250 kbps (adjustable) 500 kbps (adjustable)
Minimum receiver sensitivity	-112 dBm (16 kbps) -105 dBm (125 kbps) -102 dBm (250 kbps) -95 dBm (500 kbps)
Antenna connection method	N (female)
Security	128-bit data encryption

Functions

Country support	USA (FCC, Part 15.247, ID: SGV-SHR-900) Canada (IC, RSS210, ID: 4720C-SHR900)
-----------------	--

Wireless

Frequency range	902 MHz ... 928 MHz
Frequency band	900 MHz
Wireless standard	Trusted Wireless

Signaling

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) Yellow LED (digital input, DI1) Yellow LED (digital input, DI2) Yellow LED (digital output, DO1) Yellow LED (digital output, DO2)
----------------	--

Dimensions

Width	220 mm
Height	90 mm
Depth	120 mm

Material specifications

Color	black
Flammability rating according to UL 94	V0
Housing material	Glass-reinforced plastic (GRP)

RAD-900-DAIO6 - Wireless module



2702877

<https://www.phoenixcontact.com/gb/products/2702877>

Environmental and real-life conditions

Ambient conditions

Degree of protection	NEMA 4
Ambient temperature (operation)	-40 °C ... 70 °C (DC) -40 °C ... 65 °C (AC)
Ambient temperature (storage/transport)	-40 °C ... 85 °C -40 °F ... 185 °F
Altitude	2000 m
Permissible humidity (operation)	20 % ... 85 %
Permissible humidity (storage/transport)	20 % ... 85 %
Shock	in accordance with DIN EN 60068-2-27: 30g, 18 ms
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz

Approvals

Conformity/Approvals

Conformance	FCC Directive, Part 15.247 ISC Directive RSS 210
UL, USA / Canada	ANSI/ISA/CSA 22.2 61010-2-201, UL 50E Type 4 Class I, Div. 2, Groups A, B, C, D T4 Class I, Zone 2, IIC T4

EMC data

Electromagnetic compatibility	Conformance with EMC Directive 2004/108/EC
-------------------------------	--

Mounting

Mounting type	Panel mount
---------------	-------------

Phoenix Contact 2024 © - all rights reserved

<https://www.phoenixcontact.com>

PHOENIX CONTACT Ltd
Halesfield 13, Telford
Shropshire, TF7 4PG
01952 681700
info@phoenixcontact.co.uk