

DREXELBROOK[®]

900 MHz Wireless Transceiver Module

Model RAD-900-IFS // Part #: 2901540-DRX



FEATURES

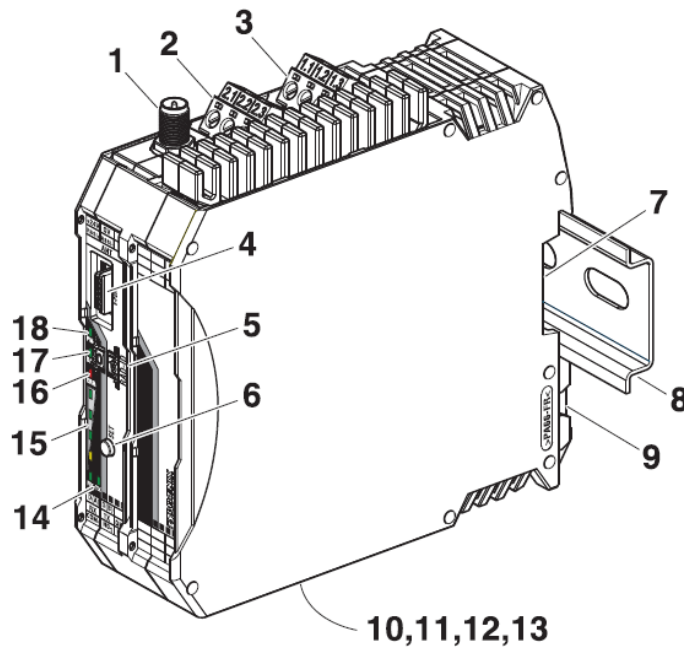
- Extended temperature range, -40°C ... +70°C
- Range of several kilometers thanks to adjustable data rates for the wireless interface
- Integrated RS-232/RS-485 interface
- Quick and easy startup without programming
- High degree of reliability due to Trusted Wireless 2.0 technology
- (AES encryption,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

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.

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.

900 MHz Wireless Transceiver

STRUCTURE

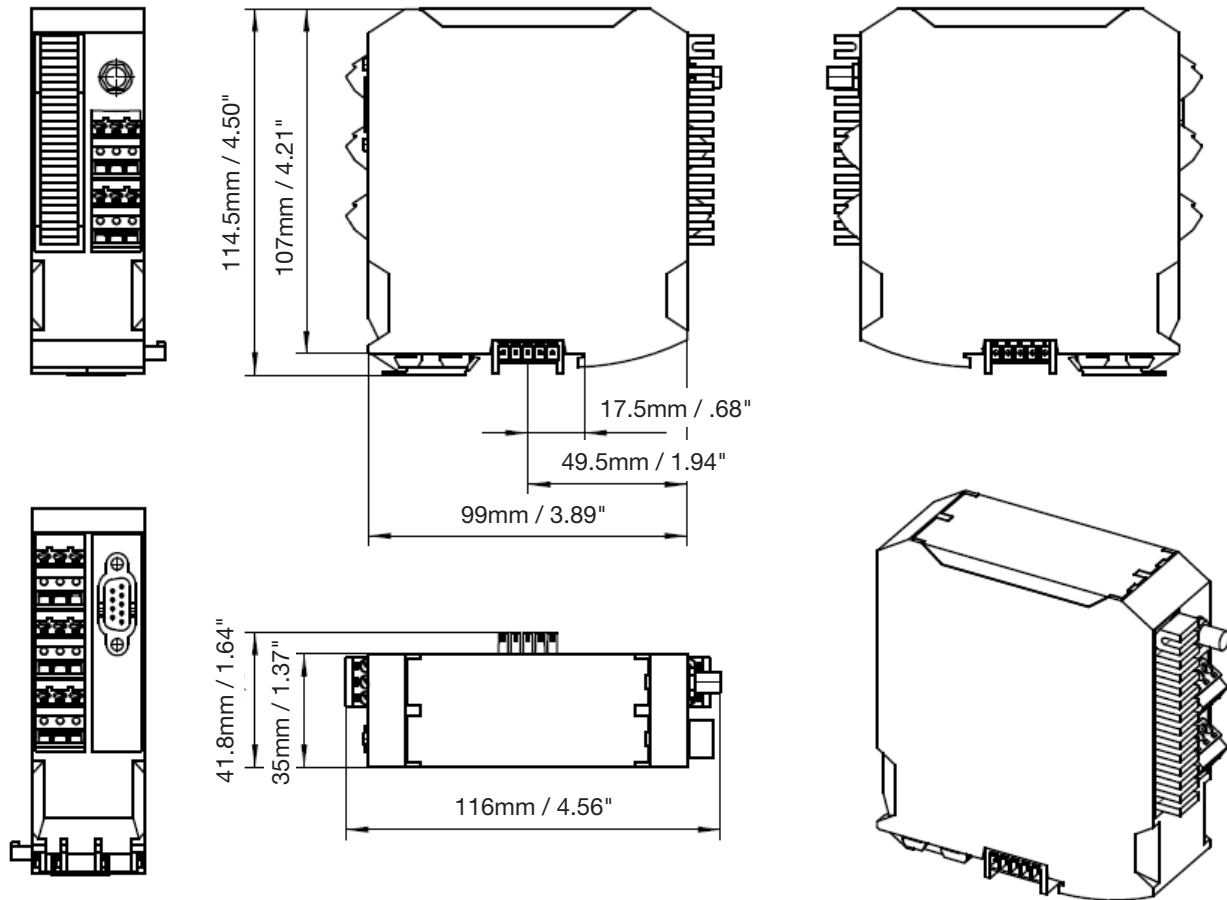


Operating elements

1	RSMA antenna connection (socket)	10	Connection terminal block RS-485 interface
2	Test output RSSI (0...3V DC for evaluation of the wireless signal strength)	11	Connection terminal block RS-232 interface
3	Device supply (+24 V DC, 0 V)	12	Relay output with PDT contact (floating)
4	12-pos. programming interface (S-PORT)	13	D-SUB 9 Connector (RS0232 interface)
5	RAD ID address setting via thumbwheel	14	RS-232/485 serial interface status LED (RX/TX)
6	SET button	15	LED bar graph for displaying the wireless signal strength
7	Connection option for TBUS DIN rail connector	16	ERR status LED, red (communication error)
8	DIN rail	17	DAT status LED, green (BUS communication)
9	DIN rail release latch	18	PWR status LED, green (supply voltage)

900 MHz Wireless Transceiver

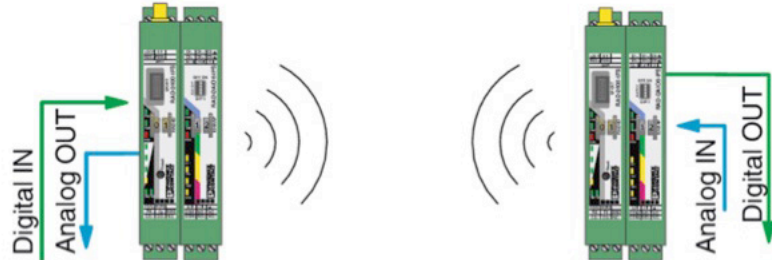
DIMENSIONS



900 MHz Wireless Transceiver

TYPICAL INSTALLATIONS

I/O to I/O Mode (Wire In Wire Out)



RAD-900-IFS Transceiver
(2901540-DRX)

RAD-900-IFS Transceiver
(2901540-DRX)

Point to Point Wireless I/O (Outdoor/Indoor)

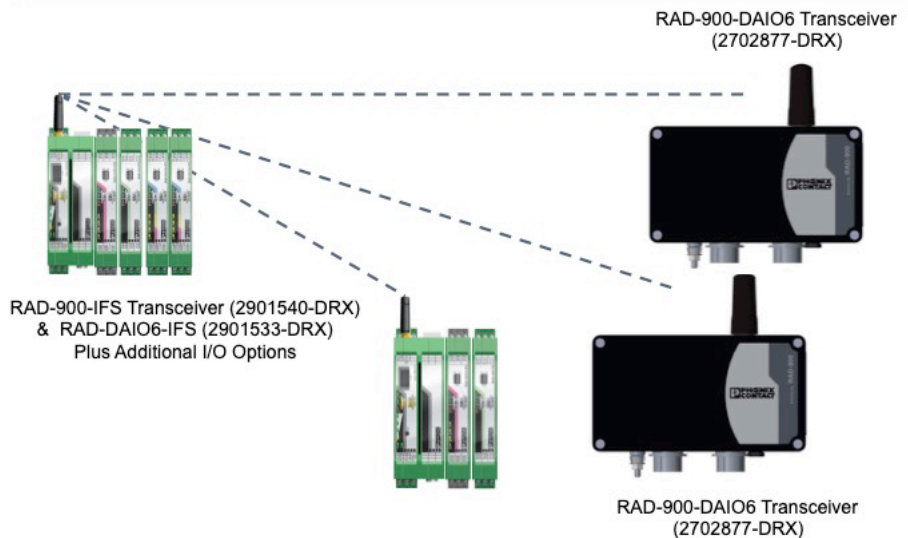


RAD-900-IFS Transceiver (2901540-DRX)
& RAD-DAIO6-IFS (2901533-DRX)



RAD-900-DAIO6 Transceiver
(2702877-DRX)

Point to Multipoint Wireless I/O



900 MHz Wireless Transceiver

TECHNICAL DATA

NOTE	
Trade restriction	The products are offered exclusively for export outside the EU and the European Economic Area.
DIMENSIONS	
Width	35 mm
Height	116 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	
Operating mode	PLC / Modbus RTU dual mode (Activation and configuration via PSI-CONF software)
Overtoltage 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
Wireless licences	USA (FCC, Part 15.247, ID: SGV-SHR-900)
	Canada (IC, RSS210, ID: 4720C-SHR900)
	Mexico (IFT, ID: RCPPHRA17-1113)
	Chile
	Argentina
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)
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
Data rate	300 bps / 600 bps / 1.2 kbps / 2.4 kbps / 4.8 kbps / 9.6 kbps / 19.2 kbps / 38.4 kbps / 57.6 kbps / 93.75 kbps / 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)
Data rate	300 bps / 600 bps / 1.2 kbps / 2.4 kbps / 4.8 kbps / 9.6 kbps / 19.2 kbps / 38.4 kbps / 57.6 kbps / 93.75 kbps / 115.2 kbps / 187.5 kbps
Interface 3	Configuration interface
Connection method	S-PORT (socket)
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

900 MHz Wireless Transceiver

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	
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"	