Radioline

Easy startup
at the turn of a wheel

PHOENIX CONTACT
INSPIRING INNOVATIONS

The Radioline wireless system – distribute signals easily with I/O mapping

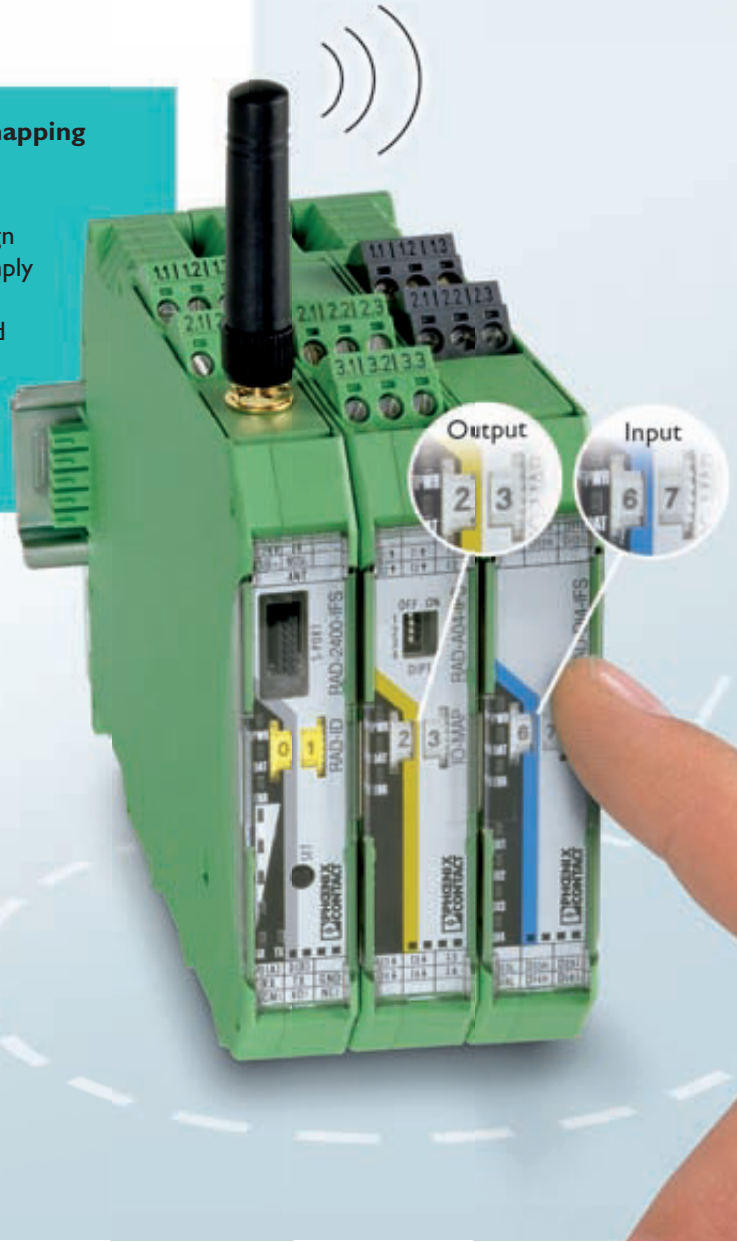
Radioline is the wireless system from Phoenix Contact for extended systems and networks for up to 250 stations.
Special features include extremely easy assignment of inputs and outputs by simply turning the thumbwheel – without any programming. Thanks to the latest Trusted Wireless technology, Radioline is the ideal choice for industrial use.

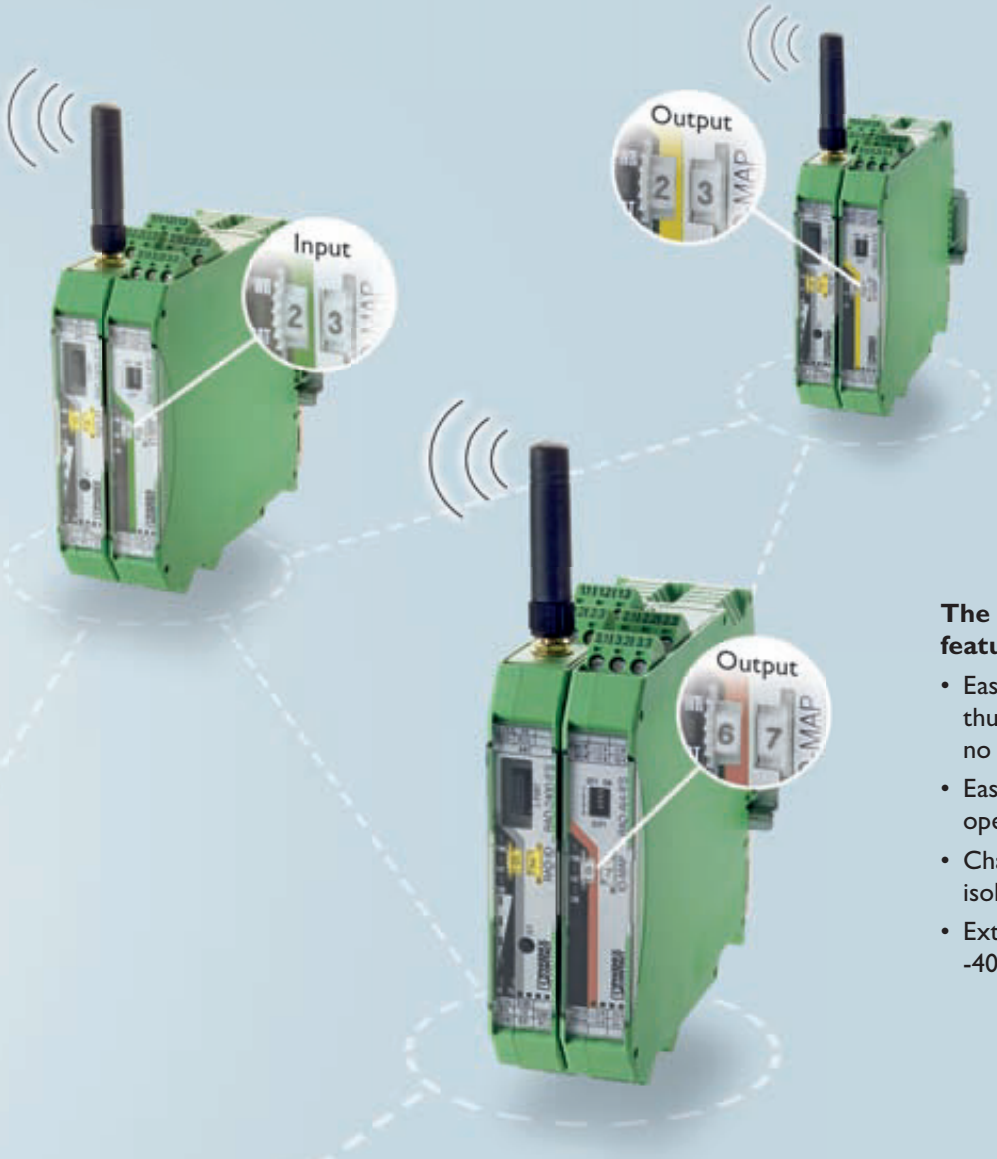
Radioline features:

- Fast and easy startup without programming
- Easy point-to-point or network connections (line, star, mesh)
- Modular station structure with up to 32 I/O modules per station via T-BUS
- Transmission of I/O signals and serial data
- Trusted Wireless 2.0 technology

What advantages does I/O mapping offer?

I/O mapping simplifies signal distribution in your system. Assign inputs and outputs quickly by simply turning the thumbwheel.
In this way you can distribute and multiply I/O signals freely in your network – without the need for any complex programming.

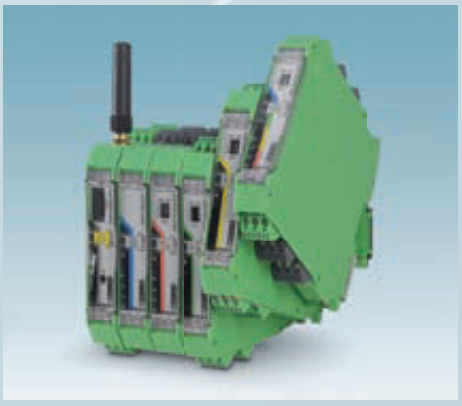




The I/O extension modules feature:

- Easy I/O mapping via the thumbwheel on the front with no need for programming
- Easy module replacement even during operation (hot-swappable)
- Channel-to-channel electrical isolation
- Extended temperature range: -40°C to +70°C

It's easy with Radioline:

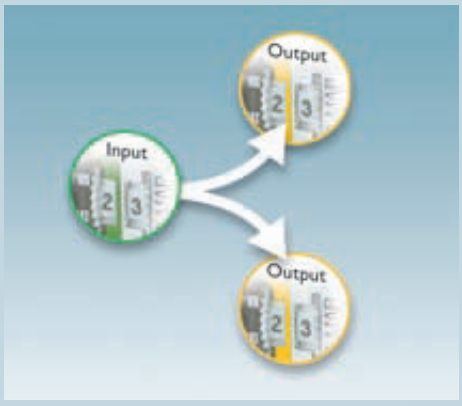


Easy installation

Create a modular wireless station in the control cabinet and extend or replace it easily during operation.

Easy addressing

Set the address on the wireless module by simply turning the thumbwheel.



Easy distribution

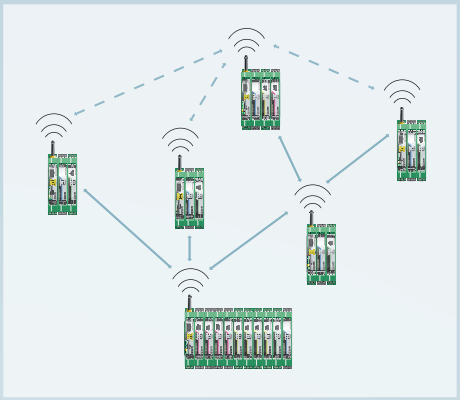
On the I/O module, the thumbwheel is also used to assign the inputs and outputs, thereby easily distributing the I/O signals in the system.

Radioline – more flexibility for all applications

Radioline transmits I/O signals as well as serial data and is therefore very versatile. Serial data transmission is transparent, which means that any protocols, such as Modbus, can be forwarded.

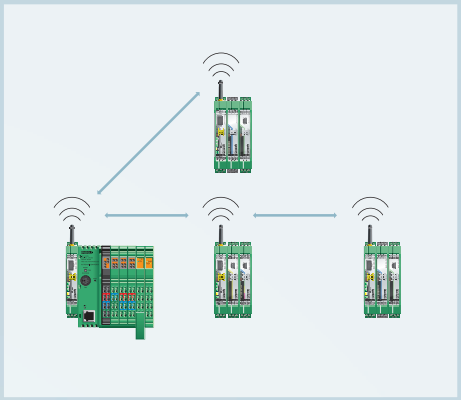
Furthermore, Radioline enables any network structures to be implemented.

Signal transmission with the Radioline wireless system:



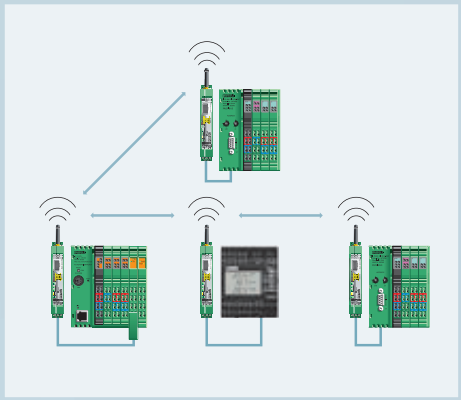
I/O to I/O

Radioline enables easy I/O signal distribution throughout the network and the creation of various network structures – from a simple point-to-point connection, to complex networks.



I/O to serial (Modbus RTU)

With Radioline, I/O modules can be connected to the controller directly via the integrated RS-232 and RS-485 interface by means of wireless communication using the Modbus protocol.



Serial to serial (transparent)

Radioline can be used to network multiple controllers or serial I/O devices quickly and easily using wireless technology. In this way, serial RS-232/RS-485 cables can be replaced.

Advanced configuration and diagnostic options

To operate multiple networks securely in parallel, use unique network addressing with a plug-in configuration memory. A user-friendly software enables comprehensive diagnostics of all network devices via the master as well as enabling advanced network parameter settings.

Radioline – used in industry worldwide

The Radioline wireless system consists of wireless modules for different fields of application. The RAD-2400-IFS wireless module is operated in the license-free 2.4 GHz frequency band and can be used worldwide without restrictions. Furthermore, with the RAD-900-IFS wireless module, the system provides an version for the 900 MHz frequency band, in which longer ranges can be achieved. The 900 MHz frequency band can be used in North and South America and Canada.

Radioline wireless module 900 MHz

- Can be used in the 900 MHz license-free frequency band (North and South America and Canada)
- Wireless module with 10 ... 30 dBm output power and particularly high receiver sensitivity
- Superhet receiver with additional level of filtering and frequency conversion for particularly high immunity to interference and improved coexistence
- High distances up to 32 km (20 miles)

TRUSTED WIRELESS

The Trusted Wireless 2.0 wireless technology was specially developed for industrial use. It features:

- Reliable communication via the frequency hopping spread spectrum (FHSS)
- Excellent coexistence features
- Self-healing network structures
- Secure data encryption according to AES and authentication
- Long ranges thanks to high receiver sensitivity and variable data transmission speeds
- Extensive diagnostic properties

Radioline 2.4 GHz wireless module

- Can be used worldwide in the license-free 2.4 GHz frequency band
- Wireless module with 0 ... 20 dBm output power and particularly high receiver sensitivity
- High distances up to 5 km (3 miles)

Radioline – product range and accessories

The Radioline wireless system consists of wireless modules for the 2.4 GHz and 900 MHz frequency range. The Radioline extension modules enable the transmission of digital and analog signals as well as temperature signals.

Matching accessories are also available.

2.4 GHz

Wireless module 2.4 GHz

RAD-2400-IFS
Order No. 2901541

- Supply voltage: 19.2 to 30.5 V DC
- Can be extended with I/O modules via T-BUS
- Extended temperature range: -40°C to +70°C
- Antenna connection: RSMA (female)

International Ex approval

The 2.4 GHz wireless and extension modules are certified according to 94/9/EC (ATEX) directives and can therefore be used internationally in potentially explosive areas.

900 MHz 2.4 GHz

Digital extension modules with 4 channels

RAD-DI4-IFS
Order No. 2901535

RAD-DOR4-IFS
Order No. 2901536

- 4 digital wide-range inputs: 0 to 250 V AC/DC
- 4 digital relay outputs: 24 V DC/250 V AC/6 A
- Extended temperature range: -40°C to +70°C

900 MHz 2.4 GHz

Digital extension modules with 8 channels

RAD-DI8-IFS
Order No. 2901539

RAD-DO8-IFS
Order No. 2902811

- 8 digital inputs: 0 to 30.5 V DC
- 2 pulse inputs: 100 Hz, 32 bit
- 8 digital transistor outputs: (30.5 V DC/200 mA)
- Extended temperature range: -40°C to +70°C

2.4 GHz

Configuration stick and cable

RAD-CONF-RF3 (RF band 3)
Order No. 2902814

RAD-CONF-RF5 (RF band 5)
Order No. 2902815

RAD-CONF-RF7 (RF band 7)
Order No. 2902816

RAD-MEMORY (freely configurable)
Order No. 2902828

RAD-CABLE-USB
Order No. 2903447

- USB cable for diagnostics and configuration

900 MHz

Wireless module 900 MHz

RAD-900-IFS
Order No. 2901540

- Supply voltage: 10.8 to 30.5 V DC
- Can be extended with I/O modules via T-BUS
- Extended temperature range: -40°C to +70°C
- Antenna connection: RSMA (female)

900 MHz

Configuration stick and cable

RAD-MEMORY (freely configurable)
Order No. 2902828

RAD-CABLE-USB
Order No. 2903447

- USB cable for diagnostics and configuration

900 MHz 2.4 GHz

Analog/digital extension module

RAD-DAIO6-IFS
Order No. 2701533

- 1 analog input: alternatively 0/4 to 20 mA
- 1 analog output: alternatively 0/4 to 20 mA, 0 to 10 V DC
- 2 digital wide-range inputs/outputs: 0 to 250 V AC/DC
- Extended temperature range: -40°C to +70°C

900 MHz 2.4 GHz

Analog extension modules

RAD-AI4-IFS
Order No. 2901537

RAD-AO4-IFS
Order No. 2901538

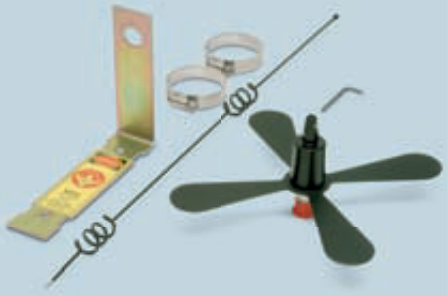
- 4 analog inputs: alternatively 0/4 to 20 mA
- 4 analog outputs: alternatively 0/4 to 20 mA, 0 to 10 V DC
- Extended temperature range: -40°C to +70°C

900 MHz 2.4 GHz

Pt100 extension module

RAD-PT100-4-IFS
Order No. 2904035

- 4 Pt100 inputs
- Temperature measuring range: -50°C to 250°C
- 2/3-wire connection
- Extended temperature range: -40°C to +70°C



900 MHz

Omnidirectional antenna IP65

RAD-ISM-900-ANT-OMNI-5
Order No. 2867199

- Temperature: -40°C to +80°C
- Degree of protection: IP65
- Gain: 7 dBi
- Connection: N (female)

900 MHz

Directional antenna (YAGI) IP65

RAD-ISM-900-ANT-YAGI-6.5-N
Order No. 2867814

- Temperature: -40°C to +80°C
- Degree of protection: IP65
- Gain: 8.5 dBi
- Connection: N (female) with cable (0.6 m)

900 MHz

Directional antenna (YAGI) IP65

RAD-ISM-900-ANT-YAGI-3-N
Order No. 2867801

- Temperature: -40°C to +80°C
- Degree of protection: IP65
- Gain: 5 dBi
- Connection: N (female) with cable (0.6 m)

2.4 GHz

Omnidirectional antenna IP65

RAD-ISM-2400-ANT-OMNI-2-1-RSMA
Order No. 2701362

- Temperature: -20°C to +65°C
- Degree of protection: IP65
- Gain: 2 dBi
- Connection: with 1.5 m cable and RSMA plug (male)

2.4 GHz

Omnidirectional antenna IP55

RAD-ISM-2400-ANT-VAN-3-0-RSMA
Order No. 2701358

- Temperature: -40°C to +80°C
- Degree of protection: IP55, impact-resistant (IK08)
- Gain: 3 dBi
- Vandal proof
- Connection: with 1.5 m cable and RSMA plug (male)

2.4 GHz

Omnidirectional antenna IP55

RAD-ISM-2400-ANT-OMNI-6-0
Order No. 2885919

- Temperature: -40°C to +80°C
- Degree of protection: IP55
- Gain: 6 dBi
- Connection: N (female)
- Including mounting bracket

900 MHz

N-N antenna cable

RAD-CAB-LMR400-20 (6 m long)
Order No. 5606125

RAD-CAB-RG213-50 (15 m long)
Order No. 2867225

RAD-CAB-LMR400-100 (30 m long)
Order No. 2867238

- Connection: N (male) > N (male)

900 MHz

RSMA-N antenna cable

RAD-PIG-RSMA/N-0.5 (0.5 m long)
Order No. 2903263

RAD-PIG-RSMA/N-1 (1 m long)
Order No. 2903264

RAD-PIG-RSMA/N-2 (2 m long)
Order No. 2903265

RAD-PIG-RSMA/N-3 (3 m long)
Order No. 2903266

- Connection: N (male) > RSMA (male)

900 MHz 2.4 GHz

Surge protection

CN-UB-70DC-6-BB (900 MHz)
Order No. 2803166

CN-LAMBDA/4-5.9-BB (2.4 GHz)
Order No. 2803166

- Surge protection for coaxial signal interfaces
- Connection: N (female) > N (female)

2.4 GHz

Panel antenna IP67

ANT-DIR-2459-01
Order No. 2701186

- Temperature: -40°C to +80°C
- Degree of protection: IP67
- Gain: 9 dBi
- Connection: N (female)
- Including mounting bracket

2.4 GHz

RSMA-N antenna cable

RAD-PIG-RSMA/N-0.5 (0.5 m long)
Order No. 2903263

RAD-PIG-RSMA/N-1 (1 m long)
Order No. 2903264

RAD-PIG-RSMA/N-2 (2 m long)
Order No. 2903265

RAD-PIG-RSMA/N-3 (3 m long)
Order No. 2903266

- Connection: N (male) > RSMA (male)

2.4 GHz

N-N antenna cable

RAD-CAB-EF393-3M (3 m long)
Order No. 2867649

RAD-CAB-EF393-5M (5 m long)
Order No. 2867652

RAD-CAB-EF393-10M (10 m long)
Order No. 2867665

RAD-CAB-EF393-15M (15 m long)
Order No. 2885634

- Connection: N (male) > N (male)

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Printed in Germany

ION02-13.000.L3.2013
MNR 52001327/2013-04-01/01

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