

# Antenna barrier - BAR-ANT-N-N-EX



2702198

<https://www.phoenixcontact.com/pc/products/2702198>

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Antenna barrier for control cabinet feed-through, type of protection: Ex i, degree of protection: IP65, barrier installation: Zone 2 / 22, antenna installation: in dust and gas Ex area, frequency range: 0.3 GHz ... 6 GHz, connection: 2 x N (female), ATEX, EAC Ex and IECEx approval

## Product Description

By using the antenna barrier, HF outputs from wireless modules can be designed with intrinsic safety. The antenna barrier limits the ignition energy in the event of an error. The antenna barrier is ATEX-certified and IECEx-certified, and can be installed in zone 2 or in the safe area. The antenna barrier enables the inexpensive use of selected standard antenna in Ex zones 0, 1, and 2. The antenna barrier covers the 0.3 GHz ... 6 GHz frequency range. Selected standard antennas from the wireless accessories range can be connected.

## Your advantages

- Compact housing design
- International approvals
- Use of standard antennas in the hazardous area of zone 0, 1, and 2
- Universal use (frequency range of 0.3 ... 6 GHz)
- Supply of all necessary certified components – including as a system solution
- Inexpensive solution, as there is no need for expensive special antennas

## Commercial Data

Item number	2702198
Packing unit	1 pc
Minimum order quantity	1 pc
Product Key	DNC6Z1
Catalog Page	Page 393 (C-6-2019)
GTIN	4055626033730
Weight per Piece (including packing)	173 g
Weight per Piece (excluding packing)	160 g
Customs tariff number	85177100
Country of origin	TW

## Technical Data

### Notes

#### Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.
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### Product properties

Product type	Coaxial adapter
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### Electrical properties

Frequency range	0.3 GHz ... 6 GHz
Test voltage	2.1 kV AC (50 Hz / 2 s)
Impedance	50 $\Omega$
Insulation voltage input/output	375 V AC/DC

### Connection data

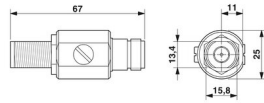
Connection method	N (female)
Connection method	N (female)

### Ex data

#### Safety data

Input power $P_i$	$\leq 2$ W (HF input power, 33 dBm, IIC)
	$\leq 3.5$ W (HF input power, 35.4 dBm, IIB)
	$\leq 6$ W (HF input power, 37.7 dBm, I, IIA, III)
Max. internal inductance $L_i$	negligible
Max. internal capacitance $C_i$	5.64 pF
Max. output voltage $U_o$	negligible
Max. output current $I_o$	negligible
Max. output power $P_o$	Max. HF output power = max. transmission power of the wireless module
Safety-related maximum voltage $U_m$	253 V AC/DC

### Dimensions

Dimensional drawing	
Height	67 mm
Diameter	25.00 mm

### Material specifications

Seal material	Silicon
Housing surface material	Nickel

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Contact surface material	Au
Housing material	Nickel-plated brass
Inner conductor material	CuZn
Inner conductor surface material	Gold
Insulation body material	PTFE
Spring contact material	CuSn

## Cable / line

400 MHz	< 3.5 dB (400 MHz)
868 MHz	< 1.2 dB (868 MHz)
900 MHz	< 0.9 dB (900 MHz)
2.4 GHz	< 0.2 dB (2.4 GHz)
5.8 GHz	< 1.8 dB (5.8 GHz)

## Environmental and real-life conditions

### Ambient conditions

Degree of protection	IP65 (when installed)
Ambient temperature (operation)	-40 °C ... 75 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C

## Approval data

### CE

Certificate	CE-compliant
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### ATEX

Identification	<input type="checkbox"/> I (M1) [Ex ia Ma] I
	<input type="checkbox"/> II (1) G [Ex ia Ga] IIC
	<input type="checkbox"/> II (1) D [Ex ia Da] IIIC
	<input type="checkbox"/> II 3 (1) G Ex nA [ia Ga] IIC T6 Gc
	<input type="checkbox"/> II 3 (1) D Ex tc [ia Da] IIIC T80 °C Dc
Certificate	IBExU 15 ATEX 1064 X
Note	Please follow the special installation instructions in the documentation!

### IECEX

Identification	[Ex ia Ma] I
	[Ex ia Ga] IIC
	[Ex ia Da] IIIC
	Ex nA [ia Ga] IIC T6 Gc
	Ex tc [ia Da] IIIC T80 °C Dc
Certificate	IECEX IBE 15.0006X

### EAC Ex

Certificate	TC RU C-DE.AB72.B.02252
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## Mounting

Assembly instructions

Outdoors and indoors

Connection-specific attachment plug

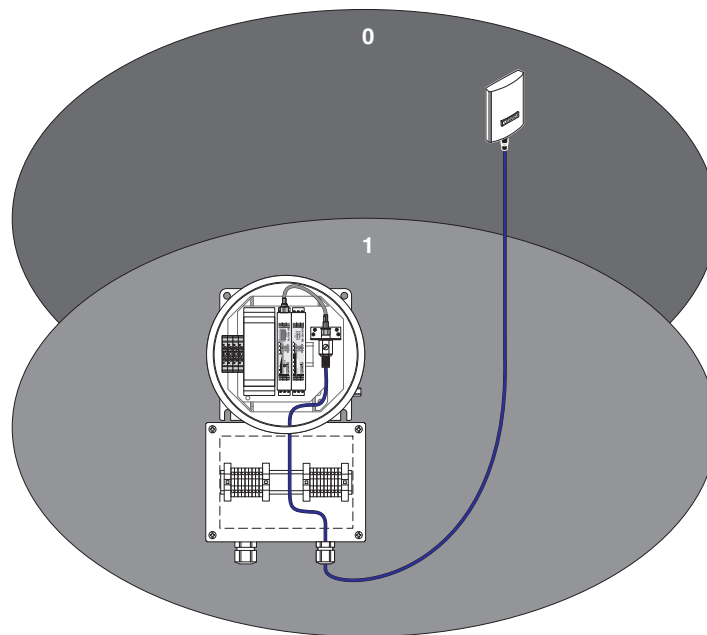
# Antenna barrier - BAR-ANT-N-N-EX

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<https://www.phoenixcontact.com/pc/products/2702198>

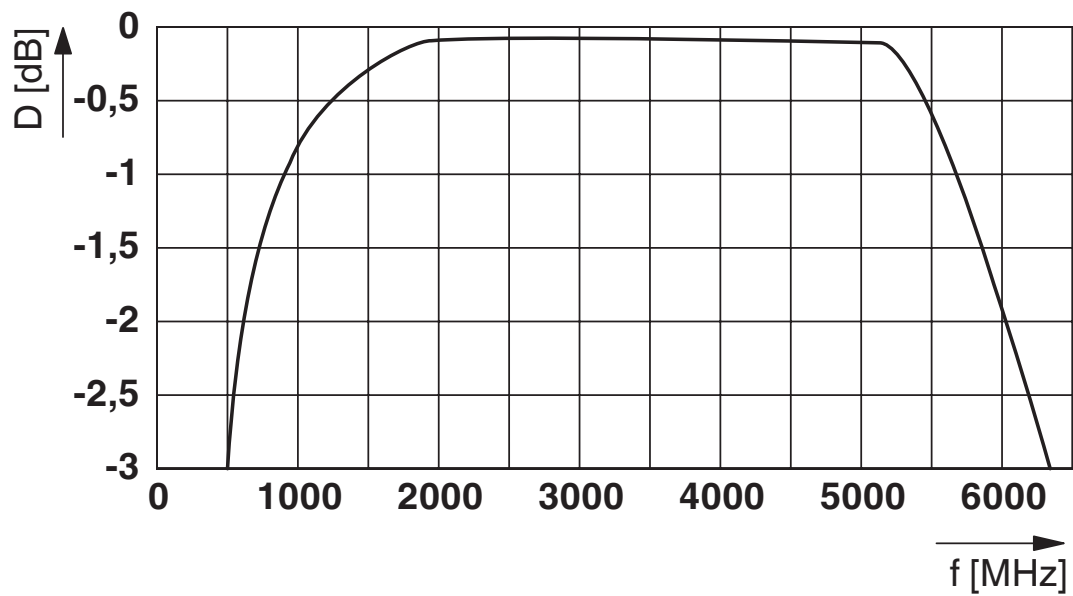
## Drawings

Application drawing



Installing the devices in zone 1 and the antennas in zone 0

Diagram



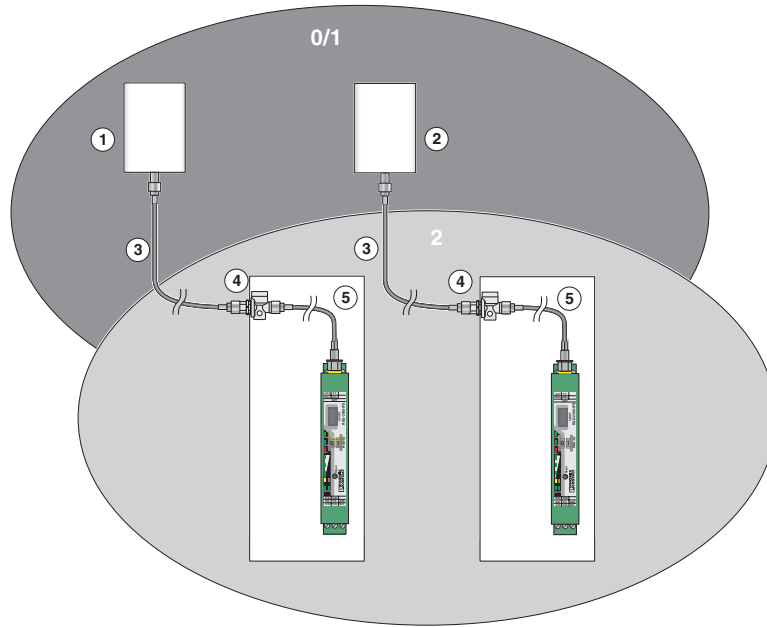
Attenuation

# Antenna barrier - BAR-ANT-N-N-EX

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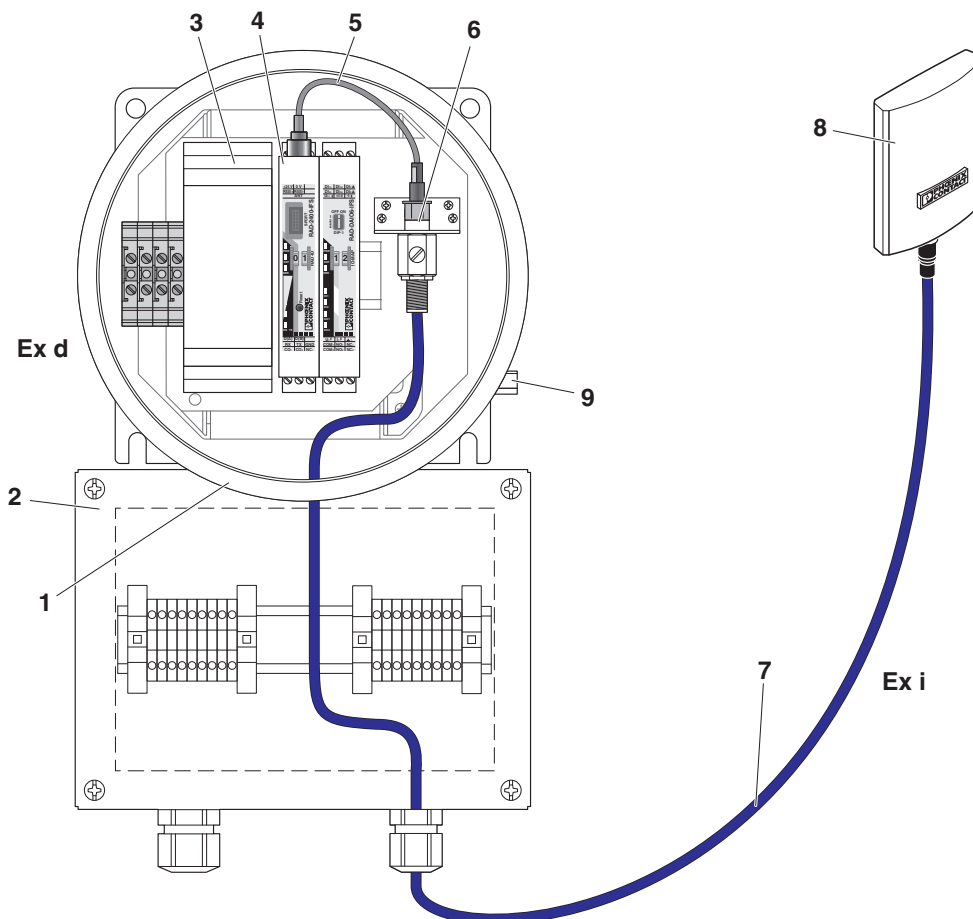
<https://www.phoenixcontact.com/pc/products/2702198>

Application drawing



Installing the devices in zone 2 and the antennas in zone 1 or zone 0

Application drawing



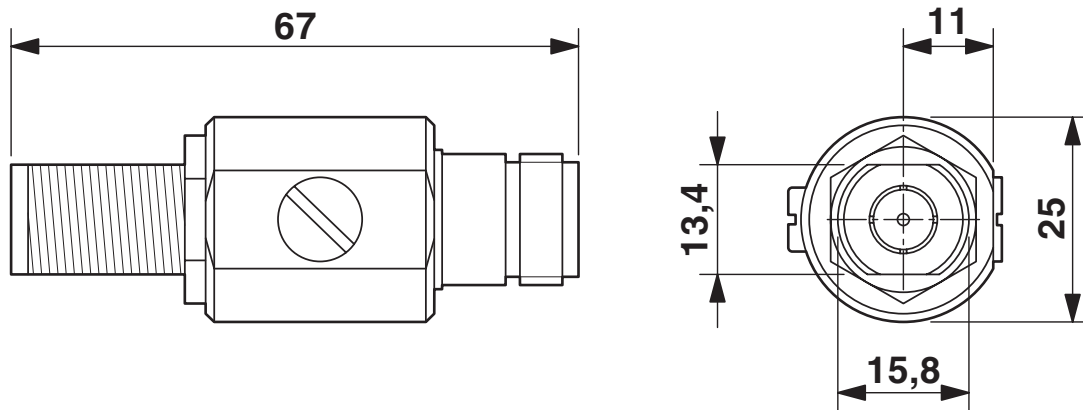
Installation in a housing with "flameproof enclosure" type of protection (EN 60079-1)

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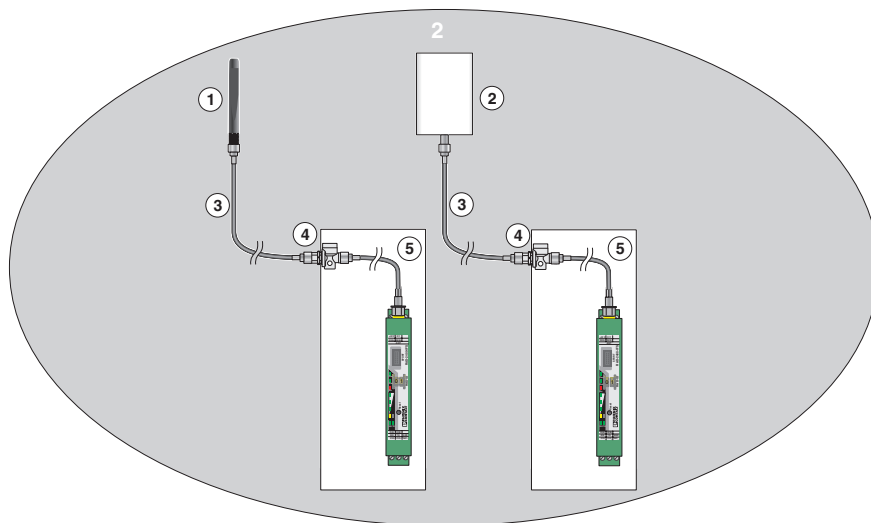
<https://www.phoenixcontact.com/pc/products/2702198>

Dimensional drawing



Dimensional drawing

Application drawing



Installing the devices and antennas in zone 2

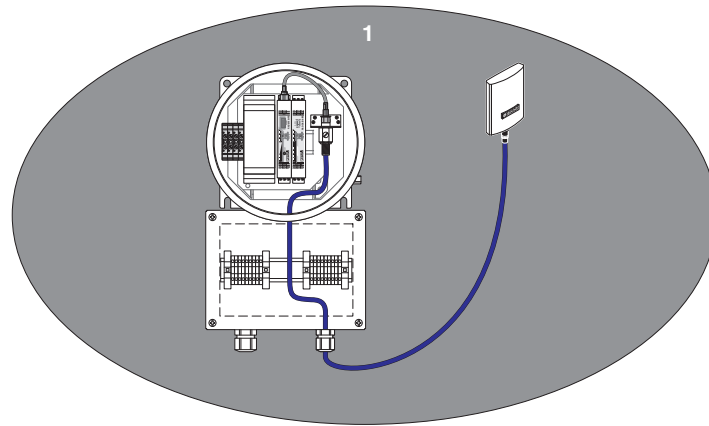
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Application drawing



Installing the devices and antennas in zone 1

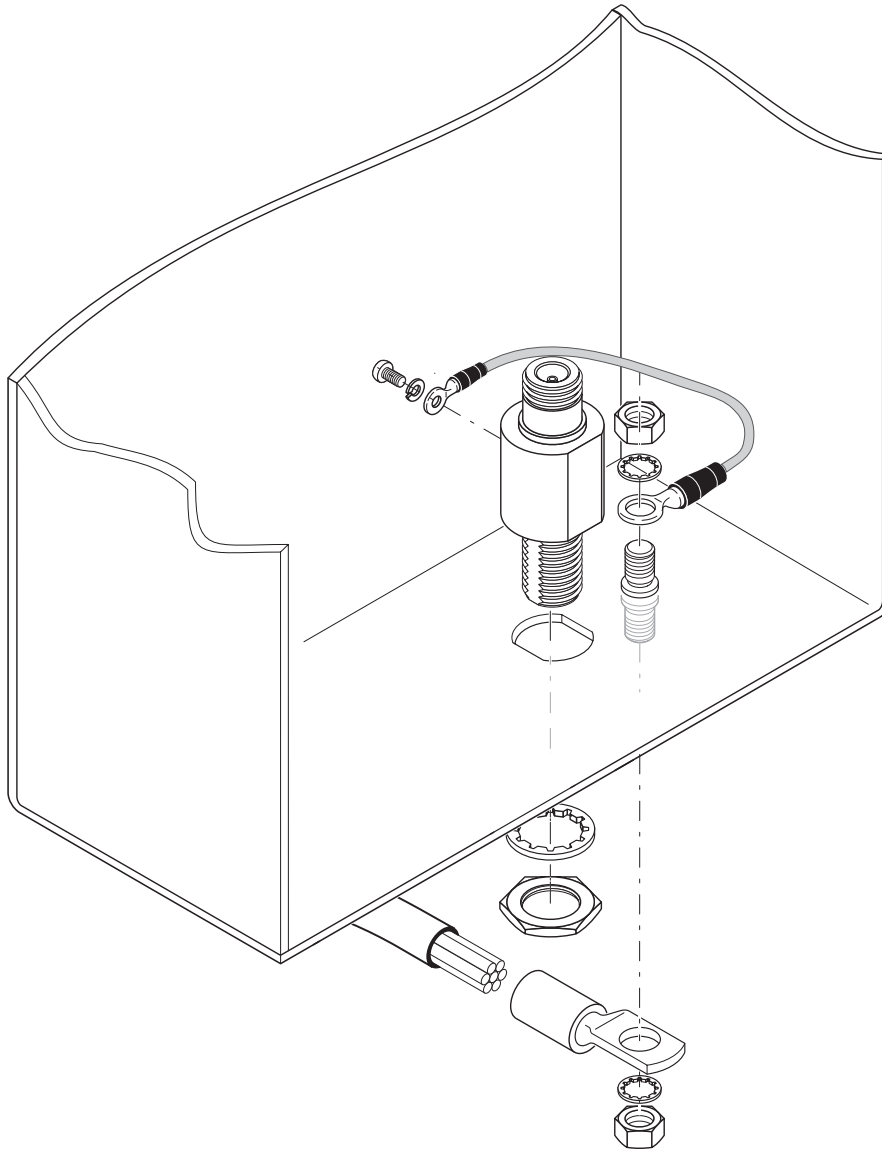


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Schematic diagram



Control cabinet feed-through

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## Approvals



**EAC Ex**

Approval ID: RU C-DE.AB72.B.02252



**IEC Ex**

Approval ID: IECEx IBE 15.0006 X



**ATEX**

Approval ID: IBExU 15 ATEX 1064 X

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## Classifications

### ECLASS

ECLASS-9.0	19070417
ECLASS-10.0.1	19070417
ECLASS-11.0	19070417

### ETIM

ETIM 8.0	EC001135
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### UNSPSC

UNSPSC 21.0	39121400
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## Environmental Product Compliance

REACH SVHC	Lead 7439-92-1
China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

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## Accessories

### Mounting plate

Mounting plate - CN-UB/MP-90DEG-50 - 2803137

<https://www.phoenixcontact.com/pc/products/2803137>



Angled bracket for individually fixing CN-UB... to housing panels, for example.

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### Mounting plate

Mounting plate - CN-UB/MP - 2818135

<https://www.phoenixcontact.com/pc/products/2818135>



Tongue for attaching the CN-UB..., to housing panels, for example.

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## Antenna

Antenna - ANT-OMNI-868-01 - 2702136

<https://www.phoenixcontact.com/pc/products/2702136>



Omnidirectional antenna for wall or mast mounting, 868 MHz, gain: 4 dBi, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clamps, ATEX and IECEx approval

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## Antenna

Antenna - RAD-ISM-2400-ANT-OMNI-6-0 - 2885919

<https://www.phoenixcontact.com/pc/products/2885919>



Omnidirectional antenna, 2.4 GHz, gain: 6 dBi, polarization: linear, opening angle: h/v 360°/30°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clamps, ATEX and IECEx approval

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## Antenna

Antenna - ANT-DIR-868-01 - 2702137

<https://www.phoenixcontact.com/pc/products/2702137>



Directional antenna for mast or wall mounting, frequency band: 868 MHz, gain: 3.5 dBi, circular polarized, degree of protection: IP67, shockproof: IK06, seawater-resistant, connection: N (female), incl. mounting bracket and mast clamps, ATEX and IECEx approval

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## Antenna

Antenna - ANT-DIR-2459-01 - 2701186

<https://www.phoenixcontact.com/pc/products/2701186>



Directional antenna, 2.4 GHz/5 GHz, gain: 9 dBi, polarization: linear, opening angle: h/v 75°/55°, degree of protection: IP67, seawater-resistant, connection: N (female), incl. mounting bracket and mast clips, ATEX and IECEx approval

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## Antenna cable

Antenna cable - RAD-PIG-RSMA/N-0.5 - 2903263

<https://www.phoenixcontact.com/pc/products/2903263>



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.4 / 0.5 / 0.6 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 0.5 m (1.6 ft.)

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## Antenna cable

Antenna cable - RAD-PIG-RSMA/N-1 - 2903264

<https://www.phoenixcontact.com/pc/products/2903264>



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.5 / 0.8 / 1.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 1 m (3.3 ft.)



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## Antenna cable

Antenna cable - RAD-PIG-RSMA/N-2 - 2903265

<https://www.phoenixcontact.com/pc/products/2903265>



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 0.9 / 1.3 / 2.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 2 m (6.5 ft.)

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## Antenna cable

Antenna cable - RAD-PIG-RSMA/N-3 - 2903266

<https://www.phoenixcontact.com/pc/products/2903266>



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 1.2 / 2.0 / 3.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 3 m (10 ft.)

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## Antenna cable

Antenna cable - RAD-PIG-RSMA/N-5 - 2702140

<https://www.phoenixcontact.com/pc/products/2702140>



Antenna cable, outside diameter: 5 mm (0.2 in.), inner conductor: solid, attenuation: 2.0 / 3.3 / 4.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: N (male) -> RSMA (male), cable length: 5 m (16 ft.)

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## Antenna cable

Antenna cable - RAD-CAB-EF393- 3M - 2867649

<https://www.phoenixcontact.com/pc/products/2867649>



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.0 / 1.8 / 3.1 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 3 m (10 ft.)

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## Antenna cable

Antenna cable - RAD-CAB-EF393- 5M - 2867652

<https://www.phoenixcontact.com/pc/products/2867652>



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 1.6 / 2.9 / 5.0 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 5 m (16 ft.)

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## Antenna cable

Antenna cable - RAD-CAB-EF393-10M - 2867665

<https://www.phoenixcontact.com/pc/products/2867665>



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 2.9 / 5.6 / 9.9 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 10 m (32 ft.)

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## Antenna cable

Antenna cable - RAD-CAB-EF393-15M - 2885634

<https://www.phoenixcontact.com/pc/products/2885634>



Antenna cable, outside diameter: 10 mm (0.4 in.), inner conductor: stranded, attenuation: 4.3 / 8.3 / 14.8 dB at 0.9 / 2.4 / 5.8 GHz, connection: 2 x N (male), cable length: 15 m (50 ft.)

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## Wireless module

Wireless module - RAD-2400-IFS - 2901541

<https://www.phoenixcontact.com/pc/products/2901541>



Radioline - 2.4 GHz wireless transceiver with RS-232/RS-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 5 km (with a clear line of sight), for worldwide use

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<https://www.phoenixcontact.com/pc/products/2702198>

## Wireless module

Wireless module - RAD-868-IFS - 2904909

<https://www.phoenixcontact.com/pc/products/2904909>



Radioline - 868 MHz wireless transceiver with RS-232/RS-485 interface, can be extended with I/O modules, RSMA (female) antenna connection, point-to-point, star, and mesh networks up to 99 stations, range of up to 20 km (with a clear line of sight), for use in Europe

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## Wireless module

Wireless module - RAD-900-IFS - 2901540

<https://www.phoenixcontact.com/pc/products/2901540>



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

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## Weather protection tape

Weather protection tape - RAD-TAPE-SV-19-3 - 2903182

<https://www.phoenixcontact.com/pc/products/2903182>

Vulcanizing sealing tape for external protection of adapters, cable connections, etc. against the effects of weather, roll length: 3 m



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