

## I/O extension module - RAD-DI8-IFS - 2901539

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>)




Radioline - I/O extension module, 8 digital inputs (0 ... 30.5 V DC) or 2 pulse inputs up to 100 Hz

### Your advantages

- Easy startup via thumbwheel
- Channel-to-channel electrical isolation
- Extended temperature range, -40 °C ... +70 °C
- Easy module replacement even during operation (hot swap)
- 8 digital inputs (0 ... 30.5 V DC)
- 2 pulse inputs (0 ... 100 Hz)
- Approved for use in zone 2



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 046356 609159
GTIN	4046356609159
Weight per Piece (excluding packing)	200.000 g
Custom tariff number	85177000
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
	Use in potentially explosive areas is not permitted in China.

# I/O extension module - RAD-DI8-IFS - 2901539

## Technical data

### Dimensions

Width	17.5 mm
Height	113 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

Set consists of	2709561 ME 17,5 TBUS 1,5/ 5-ST-3,81 GN
Overvoltage category	II
Mounting position	any
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
MTTF	1624 Years (SN 29500 standard, temperature 25°C, operating cycle 21%)
	612 Years (SN 29500 standard, temperature 40°C, operating cycle 34.25%)
	233 Years (SN 29500 standard, temperature 40°C, operating cycle 100%)
Weight	168.7 g

### Supply

Supply voltage range	19.2 V DC ... 30.5 V DC (DIN rail connector)
Max. current consumption	≤ 18 mA (At 24 V DC, at 25°C)
Transient surge protection	Yes

### Digital inputs

Description of the input	Digital input
Number of inputs	8
Switching level "1" signal	10 V DC ... 30.5 V DC
Switching level "0" signal	0 V DC ... 4 V DC

## I/O extension module - RAD-DI8-IFS - 2901539

### Technical data

#### Digital inputs

Input frequency	≤ 10 Hz (Static mode)
Max. current consumption	< 1 mA

#### Counter inputs

Number of channels	2
Switching level "1" signal	10 V DC ... 30.5 V DC
Switching level "0" signal	0 V DC ... 4 V DC
Input frequency	< 100 Hz (Pulse counter mode)
Pulse length	≥ 5 ms (Pulse/pause ratio 1:1)
Process data channel	32 Bit (per channel)

#### Electrical isolation

Digital I/O	50 V (Rated insulation voltage (between the channel groups 1...4 and 5...8/ TBUS supply, reinforced insulation according to EN 61010))
-------------	--

#### Test voltage

Digital I/O	1.5 kV AC (50 Hz, 1 min.)
-------------	---------------------------

#### 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
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)
	Green LED (counter mode, CNT)
	Yellow LED (digital input, DI1)
	Yellow LED (digital input, DI2)
	Yellow LED (digital input, DI3)
	Yellow LED (digital input, DI4)
	Yellow LED (digital input, DI5)

## I/O extension module - RAD-DI8-IFS - 2901539

### Technical data

#### Status indicator

	Yellow LED (digital input, DI6)
	Yellow LED (digital input, DI7)
	Yellow LED (digital input, DI8)

#### Conformance/approvals

Designation	CE
Certificate	CE-compliant
Designation	EAC
Identification	EAC
Designation	ATEX
Identification	# II 3 G Ex nA IIC T4 Gc
Certificate	IBExU 15 ATEX B008 X
Additional text	Please follow the special installation instructions in the documentation!
Designation	IECEX
Identification	Ex nA IIC T4 Gc
Certificate	IECEX IBE 13.0019X
Designation	EAC Ex
Identification	2Ex nA nC IIC T4 Gc X
Certificate	RU C-DE.HB49.B.00033/20
Designation	UL, USA/Canada
Identification	508 Listed
	Class I, Div. 2, Groups A, B, C, D T4A
	Class I, Zone 2, IIC T4
Designation	Corrosive gas test
Identification	ISA-S71.04-1985 G3 Harsh Group A

#### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standards/specifications	EMC Directive 2014/30/EU EN 61000-6-2
	EMC Directive 2014/30/EU EN 61000-6-4
	Ex Directive (ATEX) EN 60079-0
	Ex Directive (ATEX) EN-60079-15
Noise emission	EN 61000-6-4
Noise immunity	EN 61000-6-2
Flammability rating according to UL 94	V0
Shock	16g, 11 ms
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz

#### Environmental Product Compliance

# I/O extension module - RAD-DI8-IFS - 2901539

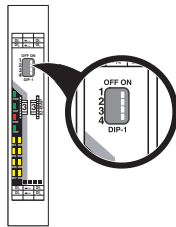
## Technical data

### Environmental Product Compliance

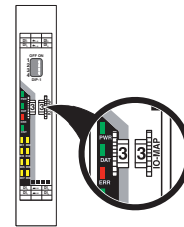
RECh SVHC	Lead 7439-92-1
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

## Drawings

Schematic diagram



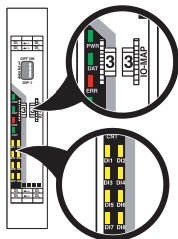
Schematic diagram



DIP switches

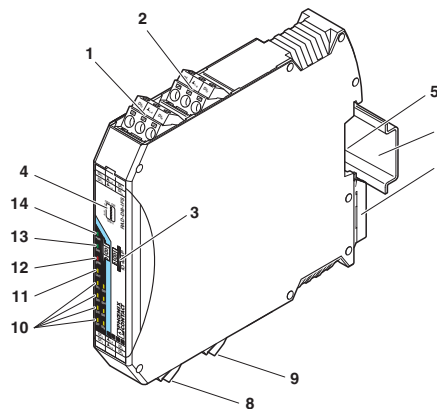
Thumb wheel

Schematic diagram



LED indicators

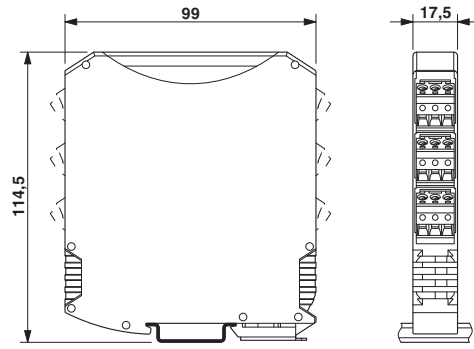
Schematic diagram



Function elements

# I/O extension module - RAD-DI8-IFS - 2901539

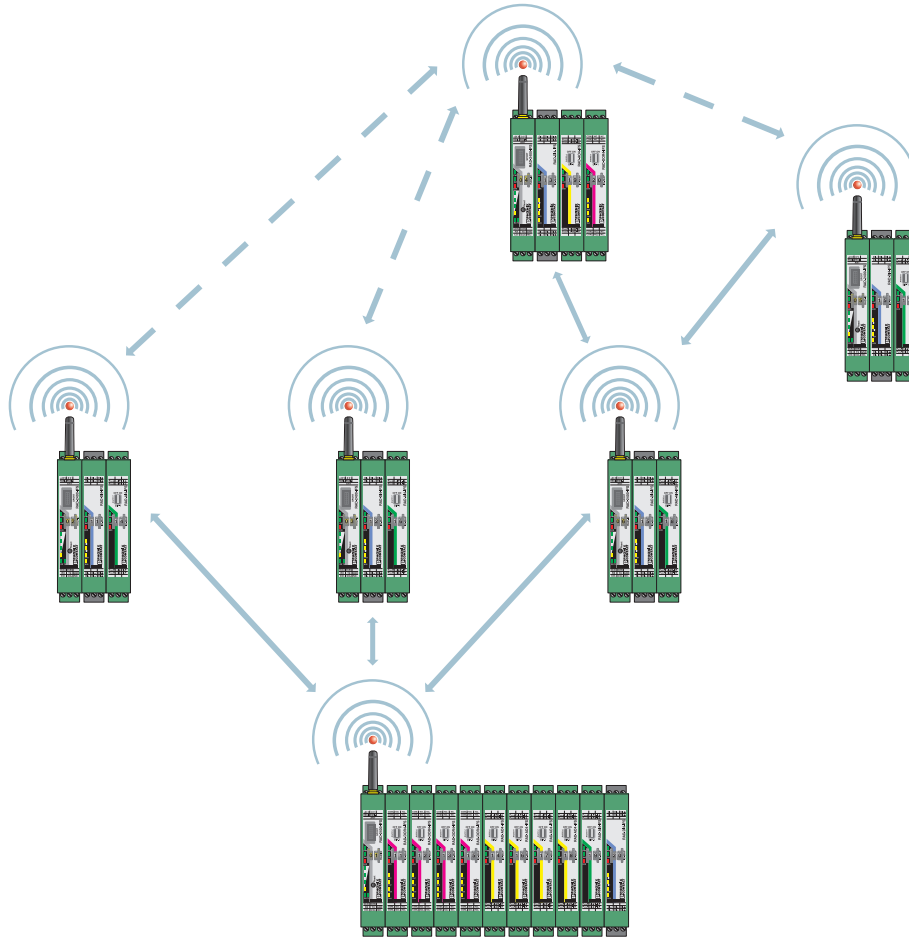
Dimensional drawing



Slim design

# I/O extension module - RAD-DI8-IFS - 2901539

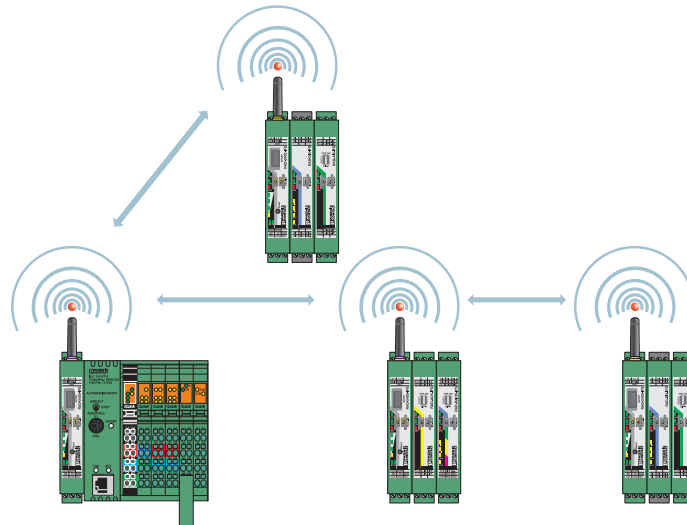
Application drawing



Wireless module in I/O data mode

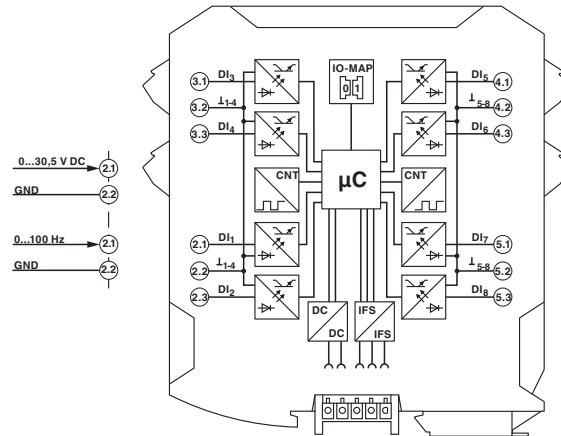
# I/O extension module - RAD-DI8-IFS - 2901539

Application drawing



Wireless module in PLC/Modbus RTU mode

Circuit diagram



## I/O extension module - RAD-DI8-IFS - 2901539

### Articles in set

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

### Classifications

#### eCl@ss

eCl@ss 10.0.1	27242604
eCl@ss 11.0	27242604
eCl@ss 4.0	27230200
eCl@ss 4.1	27230200
eCl@ss 5.0	27242200
eCl@ss 5.1	27242200
eCl@ss 6.0	27242600
eCl@ss 7.0	27242604
eCl@ss 9.0	27242604

#### ETIM

ETIM 3.0	EC001423
ETIM 4.0	EC000310
ETIM 6.0	EC001599
ETIM 7.0	EC001599

#### UNSPSC

UNSPSC 6.01	30211506
UNSPSC 7.0901	43223108
UNSPSC 11	39121008
UNSPSC 12.01	43223108
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

# I/O extension module - RAD-DI8-IFS - 2901539

## Approvals

### Approvals

---

#### Approvals

UL Listed / cUL Listed / cULus Listed

---

#### Ex Approvals

IECEEx / UL Listed / cUL Listed / ATEX / EAC Ex / cULus Listed

---

### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
-----------	--	---	---------------

cUL Listed		<a href="http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYVV/template/LISEXT/1FRAME/index.htm</a>	FILE E 238705
------------	--	---	---------------

cULus Listed			
--------------	--	--	--

## Accessories

### Accessories

#### DIN rail connector

DIN rail bus connectors - ME 17,5 TBUS 1,5/ 5-ST-3,81 GN - 2709561



DIN rail connector for DIN rail mounting. Universal for TBUS housing. Gold-plated contacts, 5-pos.

---

### Extension module

## I/O extension module - RAD-DI8-IFS - 2901539

### Accessories

I/O extension module - RAD-DO8-IFS - 2902811



Radioline - I/O extension module, 8 digital transistor outputs (30.5 V DC/200 mA)

---

### Necessary add-on products

Wireless module - RAD-2400-IFS - 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

---

Wireless module - RAD-900-IFS - 2901540



Radioline - 900 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 250 stations, range of up to 32 km (line of sight), use in North America

---

Wireless module - RAD-868-IFS - 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

---

Communication module - RAD-RS485-IFS - 2702184



Radioline - RS-485 multipoint multiplexer, can be extended with I/O modules, can be used as Modbus/RTU bus coupler or can be combined with Radioline wireless system, up to 99 stations, range of up to 1.2 km on in-house copper cables

---

## I/O extension module - RAD-DI8-IFS - 2901539

### Accessories

#### Wireless module - RAD-2400-IFS-JP - 2702863



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 use in Japan

---

#### Wireless module - RAD-900-IFS-AU - 2702878



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), for use in Australia.

---

### Additional products

#### I/O extension module - RAD-DO8-IFS - 2902811



Radioline - I/O extension module, 8 digital transistor outputs (30.5 V DC/200 mA)