

## I/O extension module - RAD-DAIO6-IFS - 2901533

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, 2 digital inputs and outputs (0 ... 250 V AC/DC) and 1 analog input (0/4 ... 20 mA) and output (0/4 ... 20 mA, 0 ... 10 V)

### Why buy this product

- Channel-to-channel electrical isolation
- Extended temperature range, -40 °C ... +70 °C
- Easy module replacement even during operation (hot swap)
- Digital wide-range inputs/outputs (0 ... 250 V AC/DC)
- Suitable for ATEX zone 2
- Easy startup via thumbwheel



### Key Commercial Data

Packing unit	1 STK
GTIN	 4 046356 610216
GTIN	4046356610216
Weight per Piece (excluding packing)	240.000 g
Custom tariff number	85389091
Country of origin	Germany

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
-------------------------	---

#### Dimensions

# I/O extension module - RAD-DAIO6-IFS - 2901533

## Technical data

### Dimensions

Width	17.5 mm
Height	99 mm
Depth	114.5 mm

### Ambient conditions

Degree of protection	IP20
Ambient temperature (operation)	-40 °C ... 70 °C (>55°C derating)
	-40 °F ... 158 °F (>131°F derating)
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

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	889 Years (Telcordia standard, 25°C temperature, 21% operating cycle (5 days a week, 8 hours a day))
	391 Years (Telcordia standard, 40°C temperature, 34.25% operating cycle (5 days a week, 12 hours a day))
	151 Years (Telcordia standard, temperature 40 °C, operating cycle 100 % (7 days a week, 24 hours a day))

### Supply

Supply voltage range	19.2 V DC ... 30.5 V DC (DIN rail connector)
Max. current consumption	≤ 95 mA (At 24 V DC, at 25°C)
Transient surge protection	Yes

### Analog inputs

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

## I/O extension module - RAD-DAIO6-IFS - 2901533

### Technical data

#### Analog inputs

Input resistance current input	< 70 $\Omega$
Precision	$\leq 0.02\%$ (at 25 °C)
Temperature coefficient, typical	typ. 0.0025 %/K (at -40 °C ... +70 °C)
Supply voltage	$\geq 12$ V DC (For passive sensors (via terminal PWR1, +I1))
Resolution	16 bit
Protective circuit	Short-circuit and overload protection

#### Digital inputs

Description of the input	Digital input
Number of inputs	2
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)
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)
Input frequency	$\leq 2$ Hz

#### Analog outputs

Number of outputs	1
Voltage output signal	0 V ... 10 V
Max. voltage output signal	approx. 10.83 V
Load	$\geq 10$ k $\Omega$
Precision	typ. 0.5 % (Voltage output)
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
Max. current output signal	approx. 21.67 mA
Load	$\leq 500$ $\Omega$
Precision	$\leq 0.02\%$ (at 25 °C)
Resolution	16 bit
Temperature coefficient, typical	typ. 0.0025 %/K (at -40 °C ... +70 °C)
Behavior of the outputs (adjustable via DIP switch)	Hold / Reset
Protective circuit	Transient protection of outputs

#### Digital outputs

Number of outputs	2
Contact type	PDT
Contact material	AgSnO <sub>2</sub>
Maximum switching voltage	250 V AC
	24 V DC
Min. switching current	$\geq 10$ mA

## I/O extension module - RAD-DAIO6-IFS - 2901533

### Technical data

#### Digital outputs

Max. switching current	2 A
Mechanical service life	1 x 10 <sup>7</sup> cycles
Electrical service life	2 x 10 <sup>5</sup> cycles (At 2 A, 250 V AC, cosφ 0.4)
	2 x 10 <sup>5</sup> 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)
	40 W (220 V DC)
	42 W (250 V DC)
Behavior of the outputs (adjustable via DIP switch)	Hold / Reset

#### Electrical isolation

Digital I/O	300 V (Rated insulation voltage (in each case between the digital inputs // digital outputs // TBUS supply, reinforced insulation according to EN 61010))
Analog I/O	50 V (Rated insulation voltage (in each case between the TBUS analog inputs / analog outputs / supply, reinforced insulation according to EN 61010))
Digital/analog I/O	300 V (Rated insulation voltage (in each case between the digital inputs and outputs // analog inputs and outputs, reinforced insulation according to EN 61010))

#### Test voltage

Digital I/O	2.5 kV AC (50 Hz, 1 min.)
Analog 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

## I/O extension module - RAD-DAIO6-IFS - 2901533

### Technical data

#### Status indicator

Status display	Green LED (supply voltage, PWR)
	Green LED (bus communication, DAT)
	Red LED (periphery error, ERR)
	Yellow LED (digital input, DI1)
	Yellow LED (digital input, DI2)
	Yellow LED (digital output, DO1)
	Yellow LED (digital output, DO2)

#### Standards and Regulations

Electromagnetic compatibility	Conformance with EMC Directive 2014/30/EU
Standard designation	EMC Directive 2014/30/EU
Standards/regulations	EN 61000-6-2
Standard designation	EMC Directive 2014/30/EU
Standards/regulations	EN 61000-6-4
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN 60079-0
Standard designation	Ex Directive (ATEX)
Standards/regulations	EN-60079-15
Shock	16g, 11 ms
Flammability rating according to UL 94	V0
Vibration (operation)	in accordance with IEC 60068-2-6: 5g, 10 Hz ... 150 Hz
Conformance	CE-compliant
ATEX	# II 3 G Ex nA nC IIC T4 Gc
IECEX	Ex nA nC IIC T4 Gc
UL, USA/Canada	UL 508 Listed
	Class I, Div. 2, Groups A, B, C, D T4A
	Class I, Zone 2, IIC T4

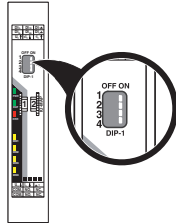
#### Environmental Product Compliance

China RoHS	Environmentally Friendly Use Period = 50
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

### Drawings

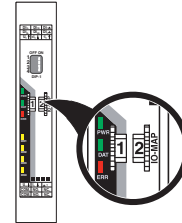
# I/O extension module - RAD-DAIO6-IFS - 2901533

Schematic diagram



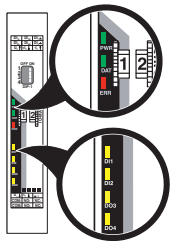
DIP switches

Schematic diagram



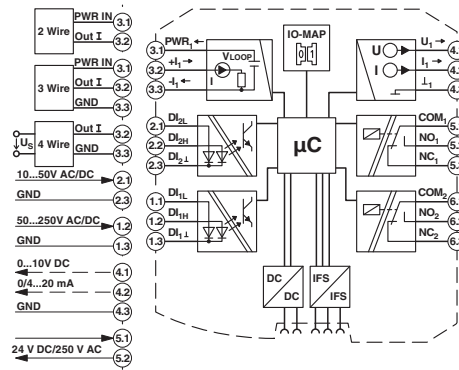
Thumb wheel

Schematic diagram



LED indicators

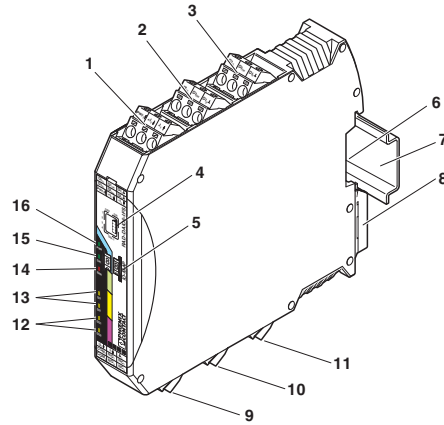
Block diagram





# I/O extension module - RAD-DAIO6-IFS - 2901533

Schematic diagram

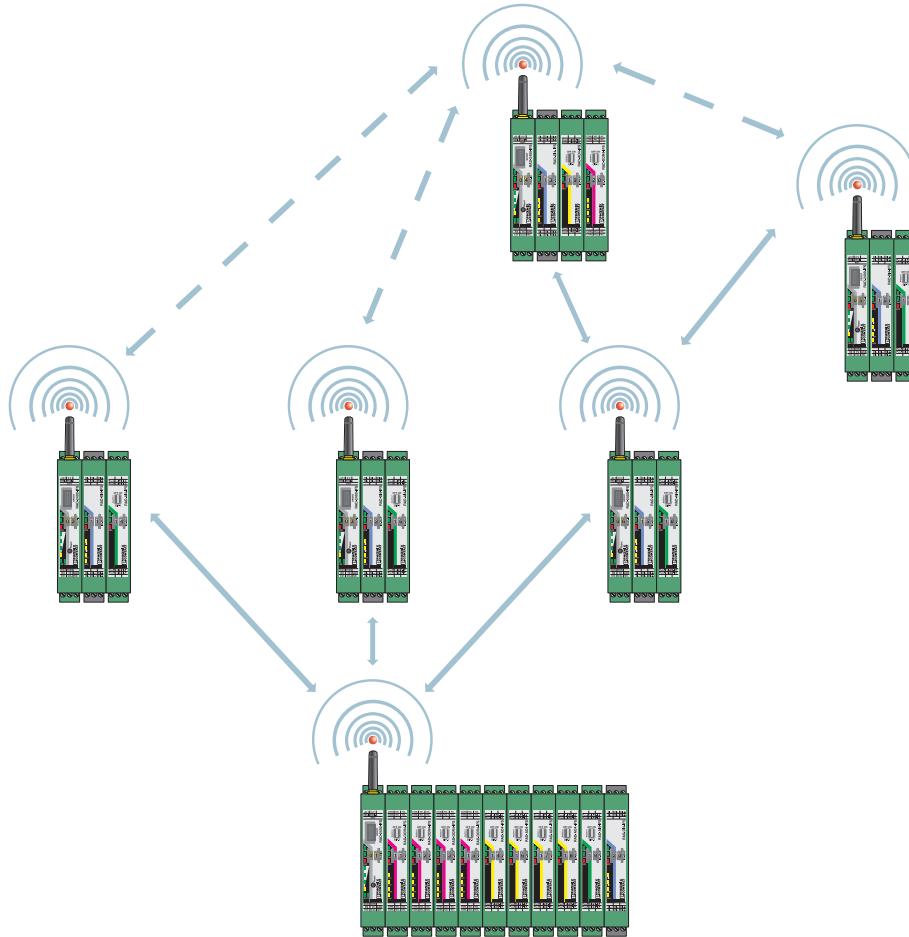


Function elements



# I/O extension module - RAD-DAIO6-IFS - 2901533

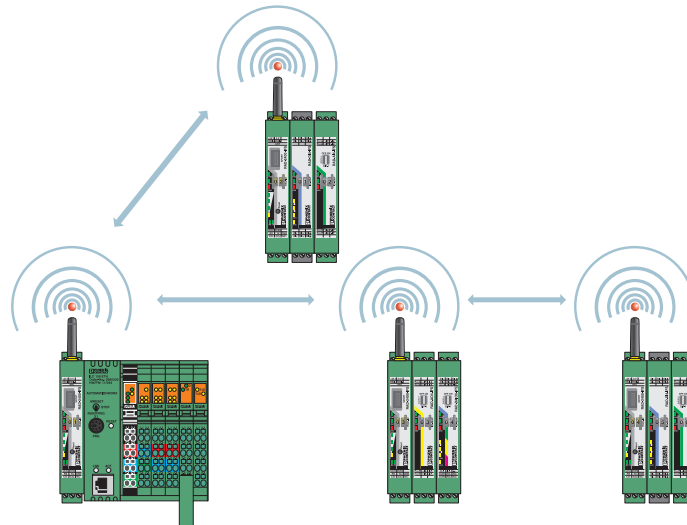
Application drawing



Wireless module in I/O data mode

## I/O extension module - RAD-DAIO6-IFS - 2901533

Application drawing



Wireless module in PLC/Modbus RTU mode

### Articles in set

Electronic housing - 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.