

# RAD-DAIO6-IFS


Order No.: 2901533



Analog/digital I/O extension module with 2 digital inputs/outputs (0... 250 V AC/DC) and 1 analog input (0/4...20 mA) and output (0/4 ... 20 mA, 0...10 V), with screw connection, incl. DIN rail connector



## Commercial data

EAN	 4 046356 610216
Pack	1
Customs tariff	85389091
Gross weight in pieces	200.00 g
Country of Origin	DE

## Product notes

WEEE/RoHS-compliant since:  
30/05/2011



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## Technical data

### General data

Width	17.5 mm
Height	99 mm
Depth	114.5 mm
Surge voltage category	II

Mounting position	Any
Assembly instructions	on standard DIN rail NS 35 in accordance with EN 60715
Degree of protection	IP20
Pollution degree	2
Housing material	PA 6.6-FR
Inflammability class according to UL 94	V0

### Supply

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

### Analog input

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
Input resistance current input	< 70 Ω
Input frequency	Approx. 30 Hz
Precision	≤ 0.02 % (@25°C)
Temperature coefficient, typical	Typ. 0.0025 %/K (At -40°C...+70°C)
Supply voltage	≥ 12 V DC (For passive sensors (via terminal PWR1, +11))
Resolution	16 (Bit)
Protective circuit	Overload protection, short-circuit protection

### 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	≤ 2 Hz

### Analog output

Number of outputs	1
Voltage output signal	0 V ... 10 V
Max. voltage output signal	Approx. 10.83 V

Load	$\geq 10 \text{ k}\Omega$
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	$\leq 0.02 \%$ (@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

### Relay output

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	$\geq 10 \text{ mA}$
Max. switching current	2 A
Mechanical service life	$1 \times 10^7$ cycles
Electrical service life	$2 \times 10^5$ cycles (At 2 A, 250 V AC, $\cos\phi$ 0.4)
	$2 \times 10^5$ 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 TBUS digital inputs // digital outputs // supply, safe isolation according to EN 61010, EN 50178))
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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, EN 50178))
Digital/analog I/O	300 V (Rated insulation voltage (in each case between the digital inputs and outputs // analog inputs and outputs, safe isolation according to EN 61010, EN 50178))
<b>Test voltage</b>	
Digital I/O	2.5 kV AC (50 Hz, 1 min.)
Analog I/O	1.5 kV AC (50 Hz, 1 min.)
<b>Connection data</b>	
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 stranded min.	0.2 mm <sup>2</sup>
Conductor cross section stranded max.	2.5 mm <sup>2</sup>
Conductor cross section AWG/kcmil min.	24
Conductor cross section AWG/kcmil max	14
Stripping length	7 mm
Tightening torque	0.6 Nm
Screw thread	M3
<b>Status indicator</b>	
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)
<b>Ambient conditions</b>	
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: 5 g, 10 Hz - 150 Hz
Shock	16 g, 11 ms

### Approvals and conformance

Conformance	CE-compliant
ATEX	Ex II 3 G Ex nA nC IIC T4 Gc X
IECEX	Applied for
UL, USA / Canada	UL applied for
Standard designation	EMC Directive 2004/108/EC
Standards/regulations	EN 61000-6-2
Standard designation	EMC Directive 2004/108/EC
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

### Certificates

Certification

Certifications applied for:

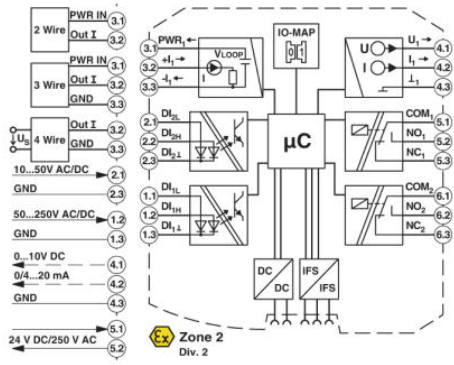
Certification Ex:

### Accessories

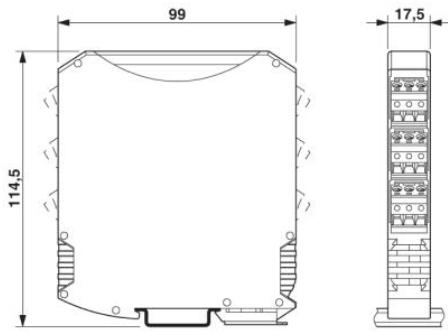
Item	Designation	Description
<b>General</b>		
2709561	ME 17,5 TBUS 1,5/ 5-ST-3,81 GN	DIN rail connector for DIN rail power supply unit, gold-plated contacts, for DIN rail mounting, 5-pos.
2901541	RAD-2400-IFS	2400 MHz wireless transceiver with RS-232, RS-485 2-wire interface, expandable with I/O extension modules, with screw connection, antenna connection: RSMA (female), including DIN rail connector
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## Drawings

### Block diagram



### Dimensioned drawing



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