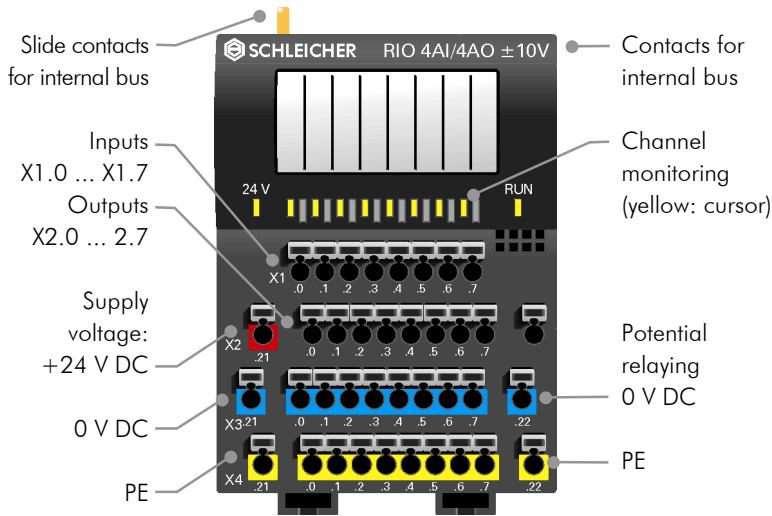


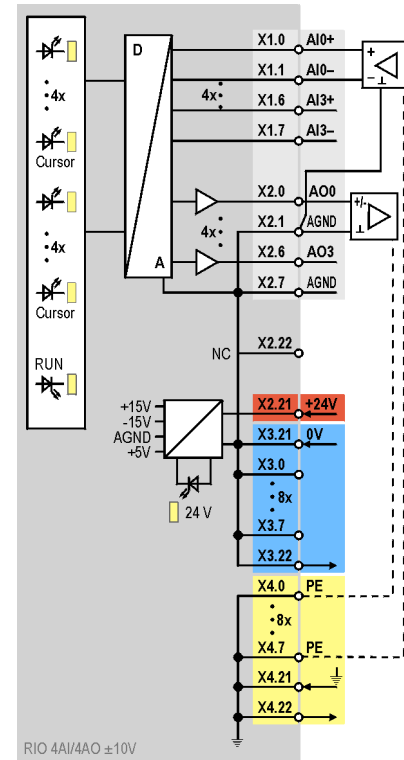
Analog 4 Inputs 4 Outputs ±10V

RIO 4AI/4AO ±10V



The RIO 4AI/4AO ±10V analog module provides 4 differential input channels and 4 output channels for DC signals in the range -10 V to +10 V. The inputs are four-wire, the outputs three-wire. The analog input and output signals are digitalized with 12 bits within 2 s.

Block diagram



Technical Data	RIO 4AI/4AO ±10V
Article number	364 141 01
Number of inputs/outputs	4 inputs (differential), 4 outputs
Data width	2 bytes per channel I/O
External supply voltage	DC 24 V (±20%, max. 5% residual ripple)
Power consumption	4.3 W (analog outputs max. loaded) from external 24 V supply 0.325 W from internal 5 V supply
Connection system	Four-wire
Inputs	
Input range	-10 ... +10 V
Resolution	12-bit / 4.88 mV
Conversion time	2 ms
Input current	-15 ... +15 µA
Input resistance	1 MΩ
Isolation	From internal bus
Outputs	
Output range	-10 ... +10 V
Resolution	12-bit / 4.88 mV
Refresh rate	2 ms
Output current	-10 ... +10 mA
Short-circuit current / duration	20 mA / ∞
Isolation	From internal bus

For general technical data see next page

Technical Data RIO IP20

Electrical data

Supply voltage	24 V DC \pm 20% max. 5% residual ripple
----------------	---

Connection system

Sensors / actuators	Spring terminal
Field bus	Profibus-DP: Subminiature, 9-pin
Supply voltage	Interbus: Screw terminals
	CAN DeviceNet / CANopen: Open style connector
	Spring terminal
Cable cross-section	Finely stranded 0.14 – 1.5 mm ² , single-core 0.5 – 2.5 mm ²

Housing and installation

Type of protection	IP 20 to EN 60529
Dimensions (W x H x D)	RIO microLine PLC: 74.5 x 93 x 51 mm
	RIO BC Bus Couplers: 74.5 x 93 x 51 mm
	RIO EC Bus Couplers: 63 x 93 x 51 mm
	RIO Expansion Modules: 69 x 93 x 51 mm
	RIO Compact I/Os: 69 x 93 x 51 mm
	RIO Terminal Extensions: 69 x 36 x 45 mm
Rail	DIN rail EN 50022-35
Installation position	Vertical, free air circulation

Climatic Conditions

Ambient operating temperature	0 ... +55°C (category KV to DIN 40040)
Storage temperature	-25 ... +70°C (category HS to DIN 40040)
Relative humidity	30 ... 95% (category F to DIN 40040), no condensation
Air pressure in operation	860 ... 1060 hPa

Mechanical strength

Vibration	10 ... 57 Hz constant amplitude 0.075 mm
	57 ... 150 Hz constant acceleration 1 g (to DIN IEC 68-2-6)

Electromagnetic compatibility

Electrostatic discharge	EN 61000-4-2: 4 kV contact discharge
Electromagnetic fields	EN 61000-4-3: field intensity 10 V/m, 80 ... 1000 MHz
Burst	EN 61000-4-4: 2 kV on DC supply lines, 1 kV on I/O signal and serial interface lines
Interference emissions	EN 55011: Limit Category A, Group 1