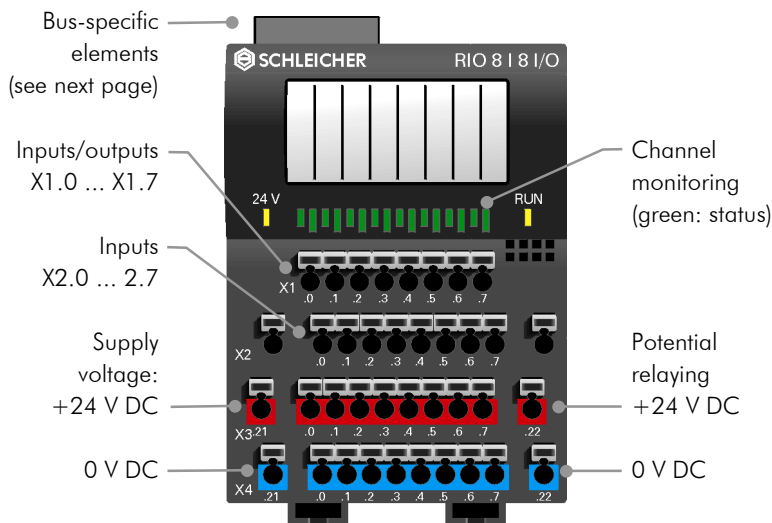


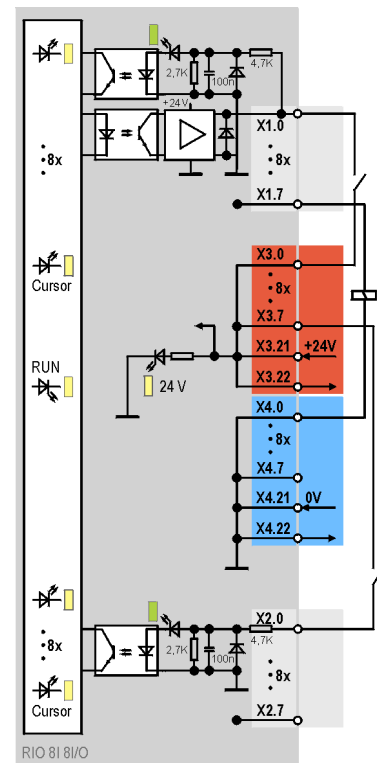
## Digital 8 Inputs 8 Inputs/Outputs DC 24 V

RIO 8I 8I/O xx

Profibus-DP • Interbus • CAN DeviceNet • CANopen



Block diagram

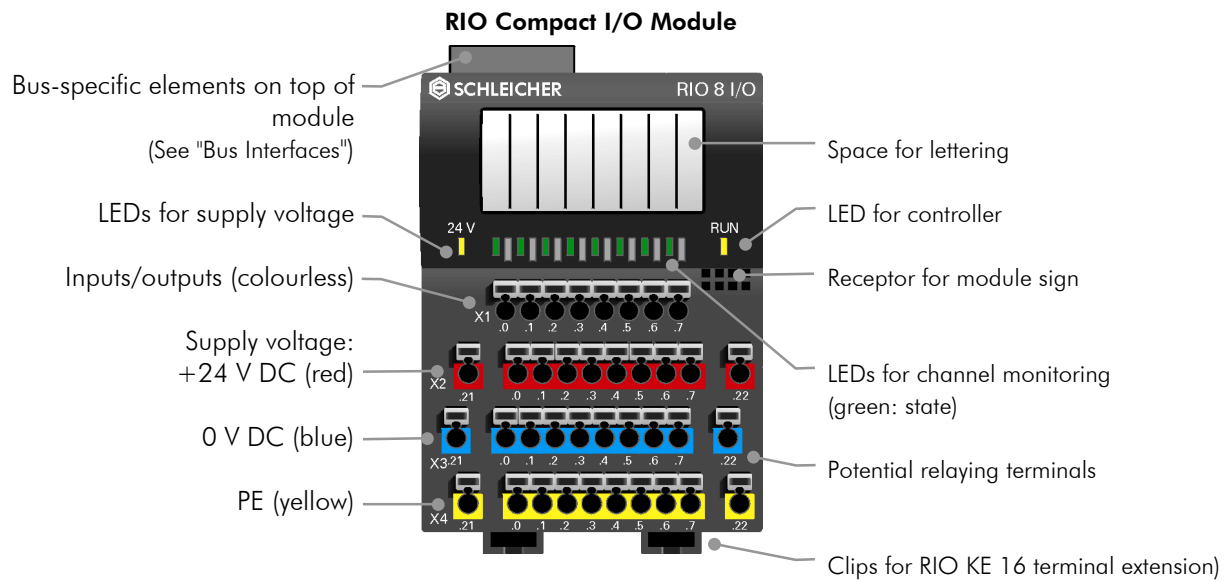


The RIO 8I 8I/O xx digital compact module provides 8 inputs and 8 combination channels. Each combination channel can be used as input or output as required. The respective assignment is detected automatically by the module. The integrated bus coupler connects the module to Profibus-DP, InterBus, CAN DeviceNet or CANopen field buses. The field bus, module and channel statuses are signalled by LEDs. Additional jumper levels can be created with the pluggable terminal extension.

Technical Data	RIO 8I 8I/O DP	IBS	CAN DN	CANopen
Article number	362 150 77	362 150 78	362 155 04	362 155 03
Field bus	Profibus-DP	Interbus	CAN DeviceNet	CANopen
Number of inputs/outputs	8 inputs and 8 binary combination channels, which can each be used as input or output			
Data width	1 bit per channel I/O			
External supply voltage	DC 24 V (±20%, max. 5% residual ripple)			
Connection system	Two-wire (with RIO KE 16 terminal extension: four-wire)			
<b>Inputs</b>				
Switching level	H level +15 ... +30 V L level -30 ... +5 V			
Input current	Min. H level (+15V): I ≥ 2.5 mA / 3.6 mA * Max. L level (+5V): I ≤ 0.7 mA / 1.2 mA * Typ. (+24 V): I = 4.5 mA / 6.1 mA * * for combination channels			
Isolation	Each channel individually isolated from internal bus by optocouplers			
Signal delay	< 100 μs (hardware)			
<b>Outputs</b>				
Switching level	H level: supply voltage -0.5 V L level: ≤ 1 V			
Output current per output	Max. 1 A, short-circuit-proof and overcurrent-protected, can be connected in parallel in groups: 0-3, 4-7			
Total current for whole module	Max. 4 A			
Simultaneity	100% at max 0.5 A per channel			
Free-wheeling diode	Integrated			
Isolation	Each channel individually isolated from internal bus by optocouplers			
Signal delay	< 100 μs (hardware)			

For general technical data see last page

## General Module Structure

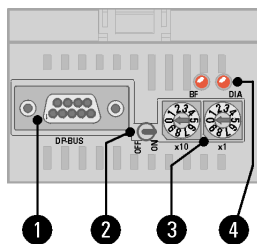


## Bus Interfaces

All the field bus-specific connections and controls are on the top of the compact module housing

- ▶ Terminals/connectors for field bus connection
- ▶ Setting switches for module address, baud rate and module diagnosis
- ▶ LEDs for simple field bus diagnosis

### Profibus-DP



#### Bus connection

- 1 Subminiature, 9-pin, socket connector

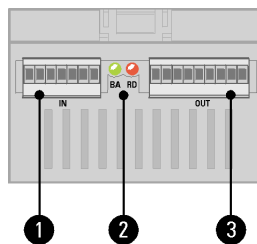
#### Settings

- 3 Rotary switch for slave address, address range 0 ... 99
- 2 Toggle switch for logical shut-off of station  
Set baud rate up to 12 MBaud automatic

#### Displays

- 4 Field bus diagnosis

### Interbus

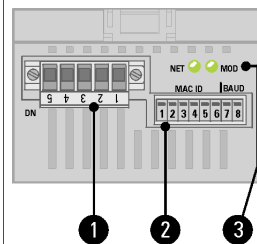


- 1 Screw terminal, 6-pole, input
- 3 Screw terminal, 8-pole, output

Baud rate fixed 500 Kbaud

- 2 Field bus diagnosis

### CAN DeviceNet

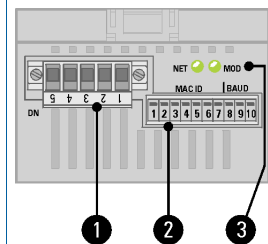


- 1 Open style connector 5-pin

- 2 DIP switches for - MAC-ID (address range 0 ... 63)  
- Baud rate (up to 500 Kbaud)

- 3 Field bus diagnosis

### CANopen



- 1 Open style connector 5-pin

- 2 DIP switches for - MAC-ID (address range 0 ... 127)  
- Baud rate (up to 1000 Kbaud)

- 3 Field bus diagnosis

## Technical Data RIO IP20

### Electrical data

Supply voltage	24 V DC $\pm$ 20% max. 5% residual ripple
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### 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 <sup>2</sup> , single-core 0.5 – 2.5 mm <sup>2</sup>

### 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