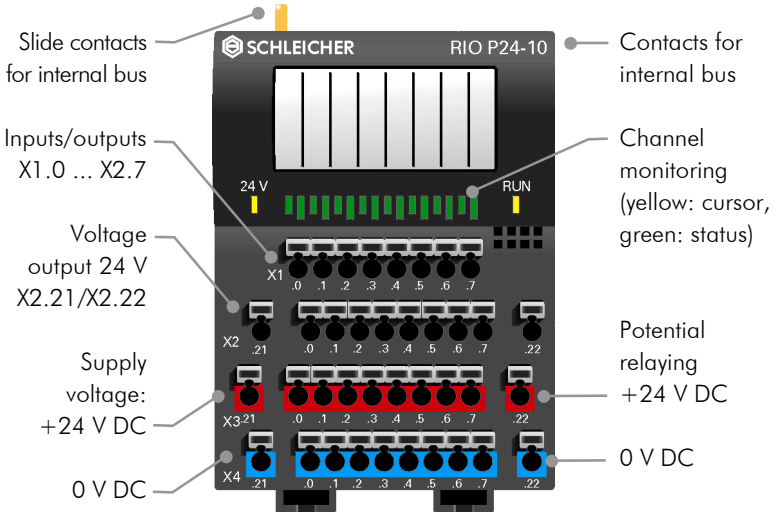
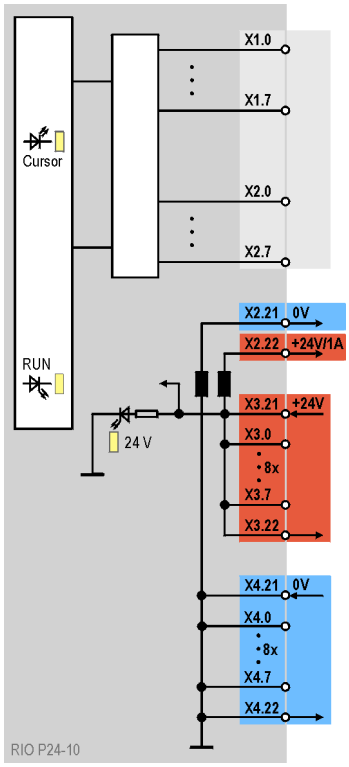
Positioning Module — RIO P24-10



Block diagram



The RIO P24-10 expert module provides two mutually independent up/down counters, each of which can control one axis. They count pulses from incremental encoders and the value is compared with two thresholds. Counting can be controlled via other inputs.

- Two 32-bit actual value counters for position detection
- Counting frequency up to 200 kHz
- Evaluation of incremental encoder inputs A, B and N (zero signal)
- High positioning accuracy direction sensing through 4-fold edge evaluation of tracking signals
- Comparison with two thresholds
- Evaluation of two limit switches
- 24 V DC inputs / outputs

These features make the RIO P24-10 positioning module suitable for:

- Homing
  The home position is marked by a limit switch. The zero signal of the axis can also be evaluated.
- Positioning
  Evaluation of incremental encoder inputs A and B allows the axis to move quickly to the pre-shutdown point and then slowly to the shutdown point.

Each of the two counters on the module has five inputs:

- Three tracking signals *A*, *B* and *N* (zero signal)
- Limit switch *End+* (reached by incrementing)
- Limit switch *End-* (reached by decrementing)

The axis is controlled by three counter outputs, each of which can be configured in two ways depending on the axis drive.

The positioning module is configured by a PLC via the bus coupler, or directly by the microLine PLC. This means it can easily be adapted for its application.

Technical Data RIO IP20

Electrical data	
Supply voltage	24 V DC ± 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