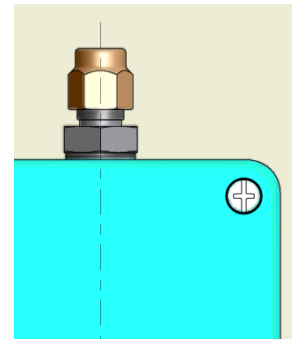
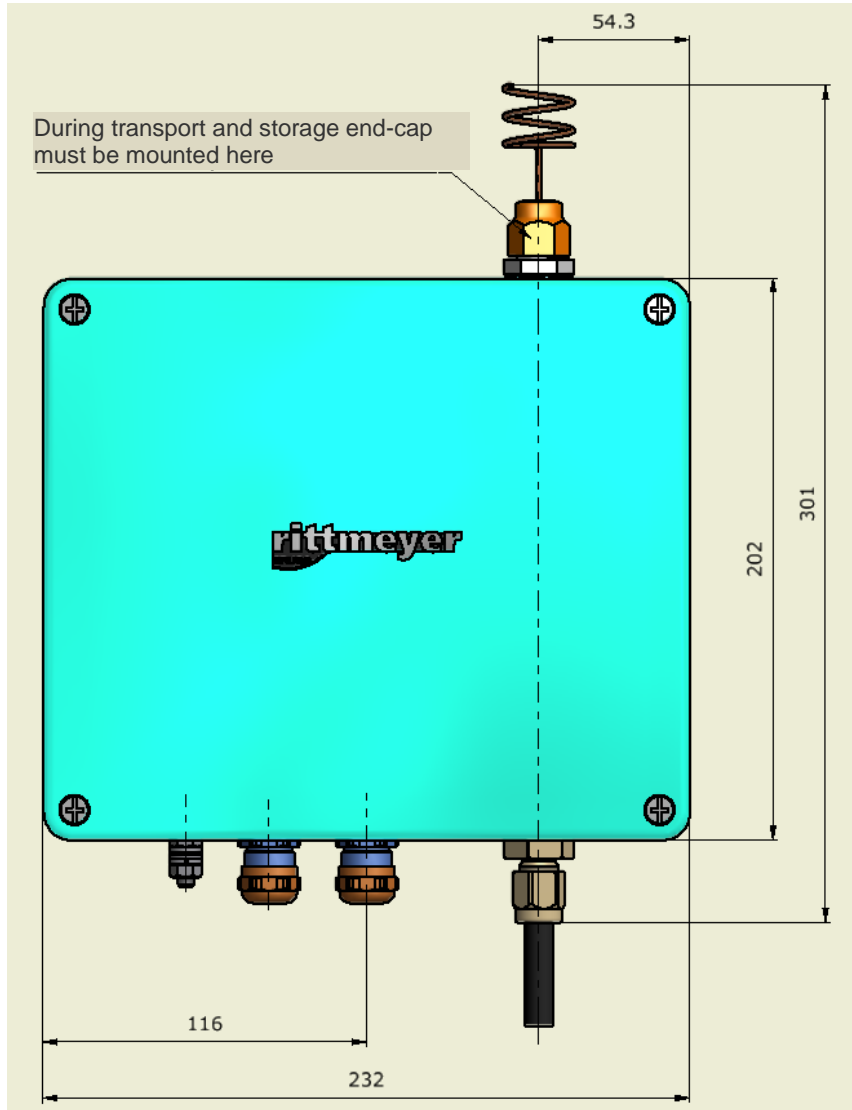


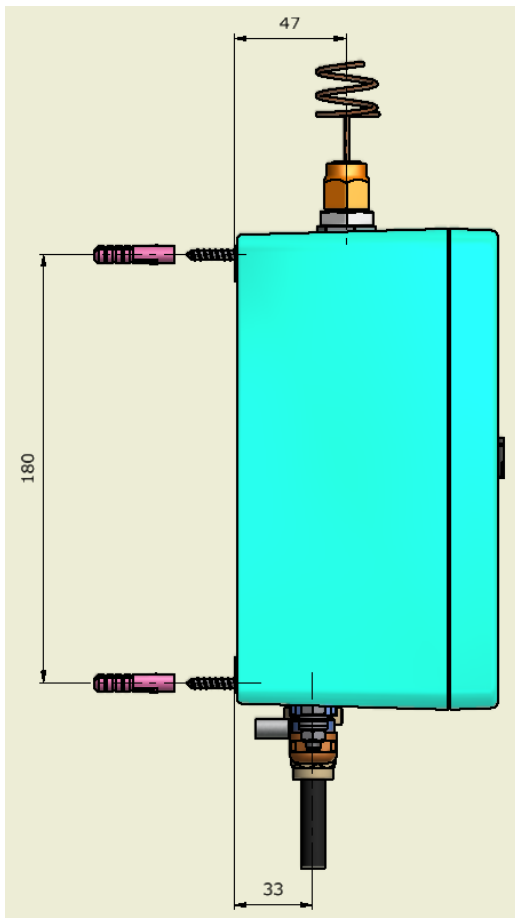
Dimensional drawing (dimensions in mm)

Front hydrostatic:

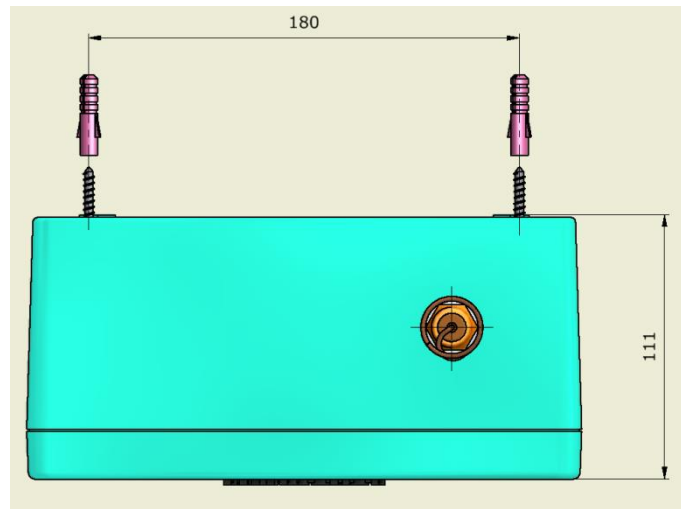
Front pneumatic:



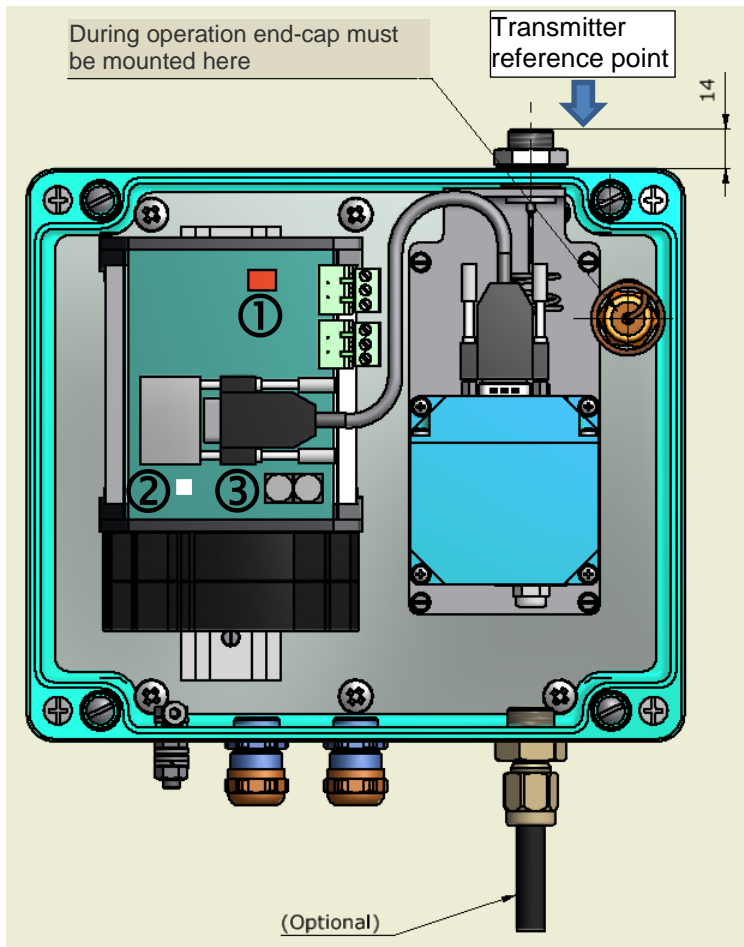
Lateral view



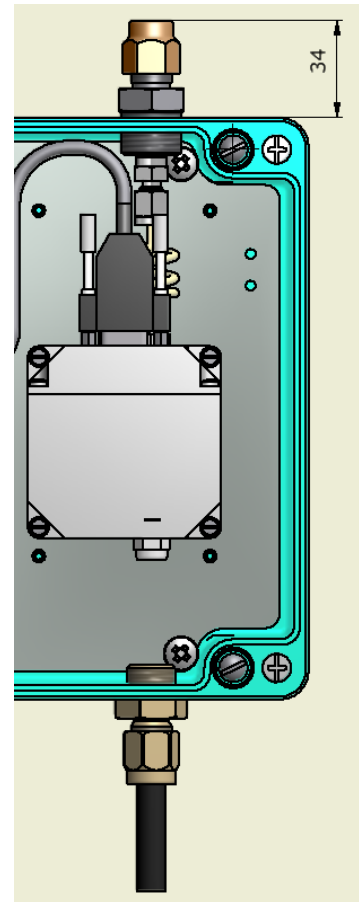
Top view:



Interior view hydrostatic:



pneumatic:



Legend:

- 1: DIP switches for termination
- 2: Status LED
- 3: Rotary switches for ID und MODE

Application

The RIPRESS premium Pressure Transmitter Digital (RIPDI), together with a Rittmeyer Instrumentation Controller, builds the high precision pressure measurement system RIPRESS premium. Accordingly, pressure and level measurement with the highest precision can be made.

Brief description

The RIPRESS premium Pressure Transmitter Digital (RIPDI) contains the highly accurate and very long-term stable (quartz crystal oscillator based) pressure transducer and the according protocol converter to Modbus RTU. A Rittmeyer Instrumentation Controller can be operated with up to 8 RIPDI. Power supply and communication interfaces are directly connected to the Rittmeyer Instrumentation Controller RICTRL (24 VDC OUT and COM3 Modbus RTU, RS485). The RICTRL is parameterized via a user-friendly Web interface; only operating mode and address settings must be carried out on the RIPDI.

Design versions

Preferred types

Measuring range	Measuring principle	Type	Article-No.
65 mWC	Hydrostatic, relative	RIPDIH.065	0067669.002
135 mWC	Hydrostatic, relative	RIPDIH.135	0067669.004
20 mWC	Pneumatic, relative	RIPDIP.020	0067670.002
65 mWC	Pneumatic, relative	RIPDIP.065	0067670.003

Table 1: Design versions – preferred types

Additional types

Measuring range	Measuring principle	Type	Article-No.
20 mWC	Hydrostatic, relative	RIPDIH.020	0067669.001
100 mWC	Hydrostatic, relative	RIPDIH.100	0067669.003
200 mWC	Hydrostatic, absolute Note: needs add. 1.0 bar air pressure sensor!	RIPDIH.200	0067669.005
275 mWC	Hydrostatic, absolute Note: needs add. 1.0 bar air pressure sensor!	RIPDIH.275	0067669.006
1.0 bar (air pressure)	Pneumatic, absolute	RIPDIP.010	0067670.001
100 mWC	Pneumatic, relative	RIPDIP.100	0067670.004
135 mWC	Pneumatic, relative	RIPDIP.135	0067670.005

Table 2: Design versions – additional types

Application notes

- With the two hydrostatic measuring ranges of 200 mWC and 275 mWC, an absolute 1.0 bar air pressure sensor (RIPDIP.010, 0067670.001) must be used in addition for the measurement and compensations of the ambient air pressure.
- In order to avoid measuring errors, this air pressure sensor must be installed on the same altitude as the hydrostatic absolute pressure sensor.

Specifications

Setup

- Aluminium housing, varnished IP66
- Height: 200 mm / 7.87 ", Width: 230 mm / 9.06 ", Depth: 110 mm / 4.33 "
- Weight: Approx. 4.1 kg / 9.04 lb. (without packaging)

Process connection

- Hydrostatic: M16 x 1
- Pneumatic: Serto screw connection for 10 mm pipe/tube
- Pressure compensation: Serto screw connection for 10 mm pipe/tube

Power supply

- Supply voltage range: The device shall be supplied with a power supply with double or reinforced insulation and 24 VDC - 20% / +25%, SELV protected against inverse polarity
- Polarity:
- Torque of connector screws: 0.56 – 0.79 Nm / 5 – 7 lbf in
- Power consumption: < 3 W, typically 1.5 W (measuring mode)
- Galvanic isolation: 500 V

Overvoltage protection

- Power supply: With built-in Phoenix Contact module type PT 2-PE/S- 24AC-SET
- RS485: With built-in Phoenix Contact module type PT 3-HF-12DC-SET

Ground terminal

- The boxes are to be connected with minimum 4 mm² strand cable to earth, thereby pay attention to a low impedance wiring as short as possible

Performance

- Accuracy: Typically better than 0.01% FS (full scale)
- Resolution: Typically 1 ppm
- Max. overpressure: 120% FS
- Repeatability ≤ ±0.005% FS
- Hysteresis ≤ ±0.005% FS
- Acceleration sensitivity ≤ ±0.0038% FS/g

- Acceleration sensitivity, FS¹ $\leq \pm 0.008\%$ FS/g worst axis
- Supply voltage sensitivity $< 0.001\%$ FS/V

Protocol converter displays

LEDs

- STATUS Red: System / measurement failure
Green: System / measurement ok
Alternatively red/green blinking:
Simulation mode

Protocol converter controls

Rotary switches for MODE and ID:

With the rotary switch MODE the Modbus communication parameters can be set. In normal operation the MODE switch must be set to position 0. The rotary switch ID then determines the Modbus slave address.

Default factory setup:

- Rotary switch MODE = 0
- Rotary switch ID= 0

The parameters set with the rotary switches are applied when the power is switched on.



Note: If the parameter has been accepted, the status LED blinks green. If the parameter is invalid, the status LED will blink red.

Rotary switch MODE	Rotary switch ID
Position 0 (normal operation, Modbus-address)	Position 0: Modbus-address 230 (Default) Position 1 ... F: Modbus-address 1 ... 15
Position 1 (simulation mode)	Like position 0, but the measuring value linearly changes from 0.001 bar/s to the maximum measuring range of the selected transducer, then linearly back to 0 bar. No sensor needs to be connected. Status-LED blinks alternatively red/green.
Position 2 (parameter for simulation mode)	Position 0: Transducer relative 2.1 bar (30 psi) Position 1: Transducer relative 6.9 bar (100 psi) Position 2: Transducer relative 10.3 bar (150 psi) Position 3: Transducer relative 13.8 bar (200 psi) Position 4: Transducer absolute 1.0 bar (15 psi) *) Position 5: Transducer absolute 2.1 bar (30 psi) *) Position 6: Transducer absolute 20.7 bar (300 psi) Position 7: Transducer absolute 27.6 bar (400 psi) *) for ambient air pressure (constant value of 0.96612 bar)

¹ Under full scale pneumatic pressure load

Rotary switch MODE	Rotary switch ID
Position A (parameter default factory setup)	Position 1: Reset to default factory setup
Position B (parameter Baud rate)	Position 0: 1200 Position 1: 2400 Position 2: 4800 Position 3: 9600 (default) Position 4: 19200 Position 5: 38400 Position 6: 57600
Position C (parameter parity)	Position 0: No (default) Position 1: Even Position 2: Odd

DIP switches for termination:

- Activation / deactivation of the bus termination for COM1 (RS485)



Note: Always set both switches together.

Protocol converter data interfaces

- RS485 RS485 interface (Modbus RTU)

Environmental conditions

- Operating temperature range: -20 ... +60 °C / -4 ... 140 °F ²
- Storage temperature range: -40 ... +85 °C / -40 ... 185 °F
- Relative humidity: 0...100% @ 25 °C
- Installation site: Protected from direct sunlight, vibrations and mechanical shock, max. altitude 5000 m

Operation

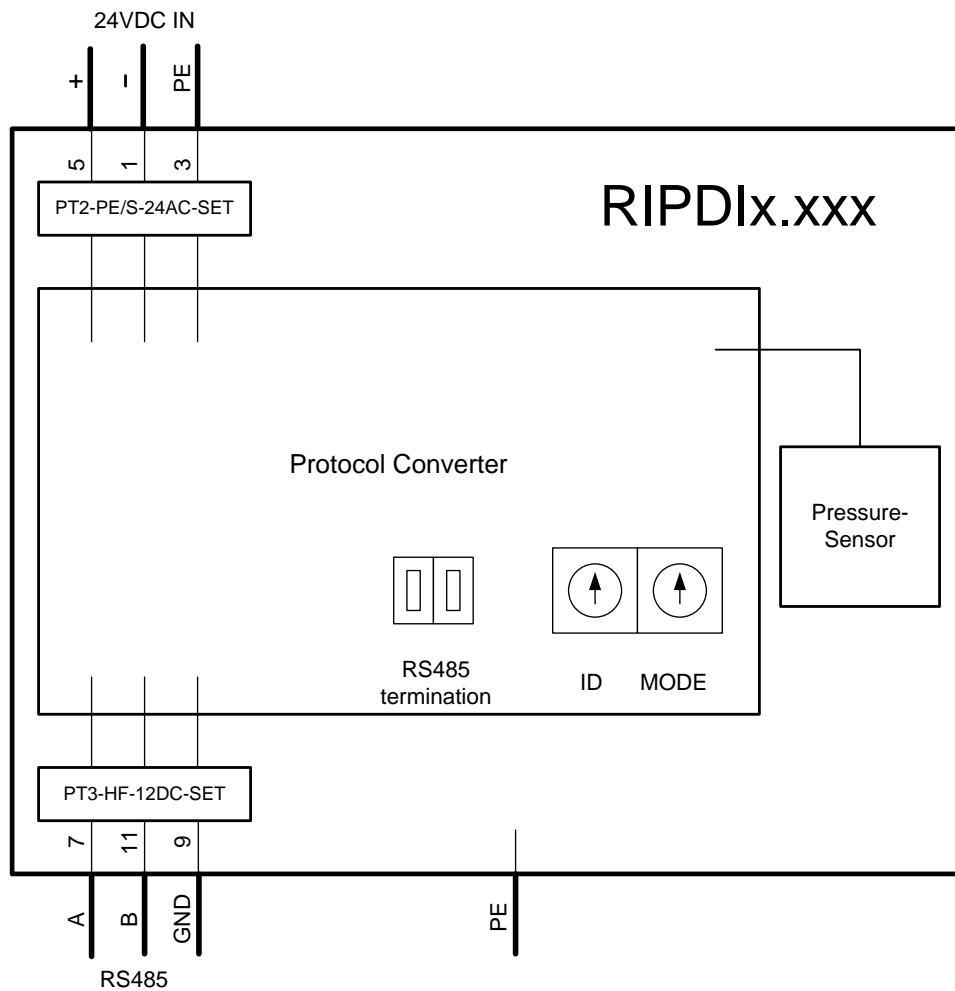
The basic configuration can be set by means of the rotary switches Mode and ID, more controls are not required.

Parameter configuration

The user-friendly standard parameterization takes place in a few steps via remote access/Web interface on the connected RICTRL.

² On hydrostatic measurements make sure the water does not freeze in the sensor lines.

Electrical connections



Supplied accessories

- 4 screws with wall plugs for wall mounting
- Heat shrink tube for ring terminal
- Documentation

Optional accessories

Item text

Unitr.BUS cable 3x2x0.22+3x1.0 (RS485 plus supply)
Ball valve complete for RIPDIH.xxx

Type

RVFK.002
MPZKH

Item no.

0464987
0066190.001