

## RPS 0 - 10 bar and RPD 0 - 10 bar Grundfos Direct Sensors<sup>™</sup>

Direct sensors for temperature and relative pressure measurement



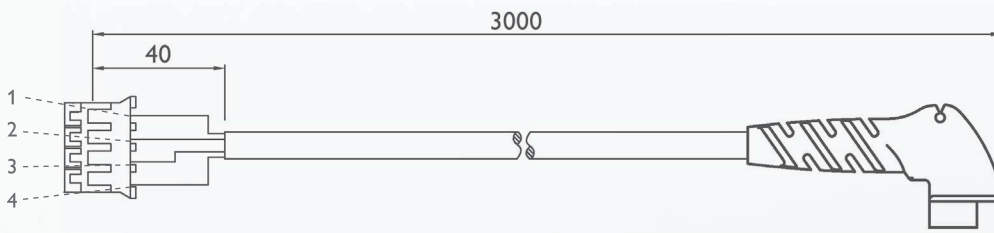
The analogue RPS and digital RPD Grundfos Direct Sensors<sup>™</sup> measure the temperature and the relative pressure with one single measuring element. They are ideally suited for leakage and overpressure monitoring.

The RPD 0-10 bar Grundfos Direct Sensor<sup>™</sup> transmits the measured values directly via the RESOLVBus<sup>®</sup> protocol.

Grundfos Direct Sensors<sup>™</sup> can be used in aggressive fluids as well as in domestic water and thus are ideal for solar thermal and heating systems.

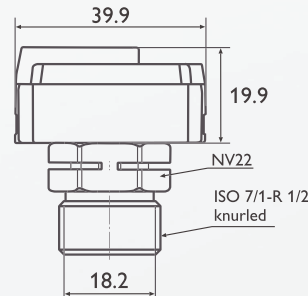
- ✓ Available in digital (RPD) and analogue (RPS) versions
- ✓ One sensor, two measured quantities
- ✓ Incl. fitting and connection cable
- ✓ Ultra-fast and precise measurement through direct fluid contact
- ✓ No moving parts - no mechanical wear
- ✓ Direct communication via the RESOLVBus<sup>®</sup> (RPD only)

## Technical data



### Pin configuration

	RPS 0-10 bar	RPD 0-10 bar	
1	Temperature signal (0.5 ... 3.5 V relative to Pin 3)	RESOLVBus® A (Master)	Yellow
2	Pressure signal (0.5 ... 3.5 V relative to Pin 3)	RESOLVBus® B (GND)	White
3	GND (0V)	GND (0V)	Green
4	Power supply (+ 5V $\overline{\text{---}}$ ), PELV	Power supply (+ 5.5V $\overline{\text{---}}$ ), PELV	Brown



### Protection type

IP20

### Sensor fitting

Material: stainless steel 1.4408

### Cable

Insulation: PVC (-30 ... +80 °C)

Cable leads: 4 x 0.13 mm<sup>2</sup> (AWG26), PVC insulated

Cable lead colours: Yellow, white, green, brown (DIN 47100)

Conductor: Flexible Cu wire (DIN-VDE 0295)

### Sensor element

Type: Silicon-based MEMS sensor

Electromagnetic compatibility: EN 61326-1

Temperature cycling: IEC 68-2-14

### Pressure

Accuracy: +/- 3 °C

Accuracy at 25 ... 80 °C: +/- 1 °C

Response time (start of flow rate): < 1.0 s

Response time (end of flow rate): 1.5 s

Resolution: 20 mbar

### Temperature

Measuring range: 0 ... 100 °C

Accuracy: +/- 3 °C

Accuracy at 25 ... 80 °C: +/- 1 °C

Response time (63.2 %): < 1.5 s

Resolution: 0.5 °C

### Note:

If the sensor has been correctly connected to RESOL controller, the required grounding of the sensor is ensured. The grounding resistance between pipe and sensor GND must be lower than 10 Ω.

#### Grundfos Direct Sensor™ RPS 0-10 bar

Analogue sensor incl. fitting and connection cable

Price bracket B | Article no.: **130 000 40** (Solar/DHW)

Price bracket B | Article no.: **130 002 20** (Heating)

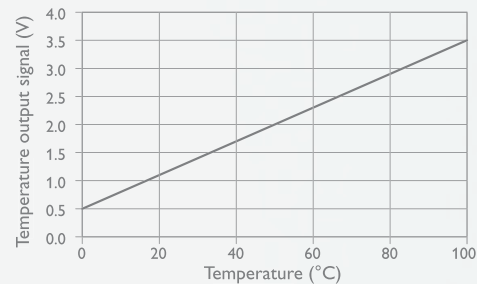
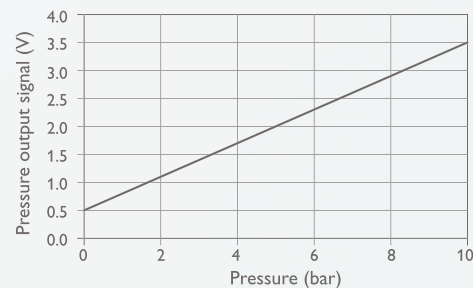
#### Grundfos Direct Sensor™ RPD 0-10 bar

Analogue sensor incl. fitting and connection cable

Price bracket B | Article no.: **130 000 90** (Solar/DHW)

Price bracket B | Article no.: **130 002 50** (Heating)

### Output signals RPS 0-10 bar



### Output signals RPD 0-10 bar

Pressure output signal: 10<sup>-2</sup> bar

Temperature output signal: 10<sup>-2</sup> °C

### Electrical data

	RPS 0-10 bar	RPD 0-10 bar
Power supply	+5V $\overline{\text{---}}$	+5.5V $\overline{\text{---}}$
Power consumption	< 50mW	< 50mW
Output signals	Ratiometric	RESOLVBus® protocol V3
Pressure signal	0.5 ... 3.5V	RESOLVBus® protocol V3
Temperature signal	0.5 ... 3.5V	RESOLVBus® protocol V3
RESOLVBus® refresh rate	---	250 ms
Baud rate	---	9600 Bd
Load impedance	> 10 kΩ	> 10 kΩ

For mounting information see the manual of the corresponding sensor.

Do you have any further questions? We have the answers:

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