



Driesen + Kern GmbH

DKP102X Series

Transducer for barometric pressure, humidity, temperature

accurate · long-term stable · flexible



DKP102X Series

Transducer for barometric pressure, humidity, temperature



Features and benefits	
Robust transmitter	
Up to three parameters in one instrument	
IP65 enclosure	
High accuracy and long-term stability	
Optional LCD, blue, backlit	
Alarm output, optional	
3x Analogue outputs (1V/5V/10V/4 ..20mA)	
Analogue output updated at up to 10Hz	
Digital outputs (RS485/RS232/USB)	
Calibration certificate included in delivery	

Up to three parameters in one instrument

The DKP102X-serie consists of a set of accurate pressure transmitters, which can optionally be upgraded with a humidity-/temperature probe.

The transducers are based on a piezo-resistive pressure sensor with high accuracy, reliability and long-term stability. It achieves an accuracy of +/-0,5hPa when measuring barometric pressure. The sensor can be installed in any orientation, outdoors or indoors.

Optional probe for temperature and humidity

The optional humidity-/temperature probe is either attached directly to the transmitter (DKP1021) or with a sensor cable (DKP1023). With an accuracy of +/-1,8%RH and +/-0,1°C the sensor provides stable measurements. It is highly resistant to dust and most chemicals, hence it can be used in weather stations, process control applications in the pharmaceutical-, food- and automotive industry as well as research labs and calibration laboratories.

The humidity sensor is available as a pre-calibrated component, helping you to avoid down-time during recalibration periods.

Options

The transmitter offers a variety of analogue and digital outputs as well as several options including alarm and LCD-display.

Typical applications

- Weather stations
- Calibration laboratories
- Test benches



DKP1020



DKP1021



DKP1023



DKP1026

DKP102x Series

The DKP1020 ist the base for all transmitters and has an integrated barometric pressure sensor.

While the DKP1021 has fixed humidity/temperature probe the DKP1023 and DKP1026 have flexible probe with a standard sensorcable of 2m, 5m or 10m.

The DKP1026 incorporates a heated sensor and is therefore best suited for environments with a high humidity. It has an additional flexible temperature sensor in order to properly measure the the ambient temperature and humidity.

Analog and digital output

The DKP102x has up to three analogue outputs (0-1V/5V/10V) as well as 4..20mA.

The USB port provides access for configuration of the device. Furthermore, you get online-values through ASCII commands.

Further options as RS232 or RS485- outputs are also available.

LCD, power supply, alarm output

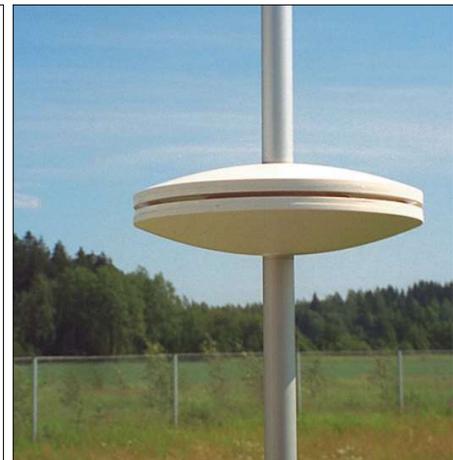
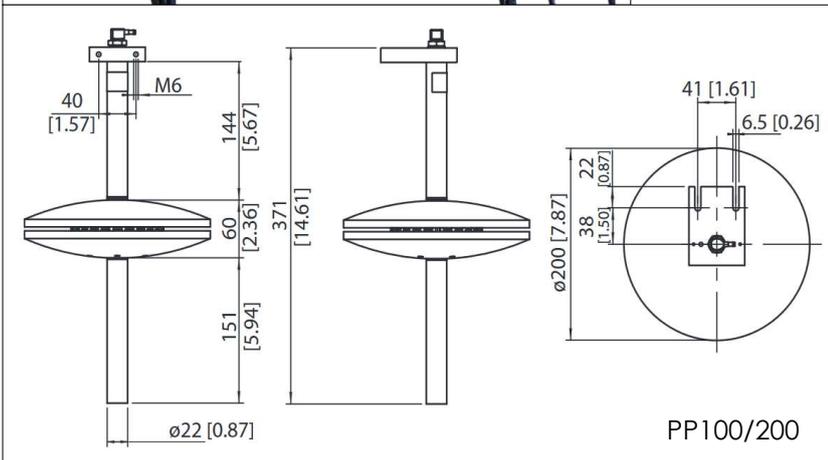
The transmitters DKP102X are IP65 protected and can optionally be equipped with an LCD and alarm output.

The default operating voltage is 10-30VDC, a mains adaptor is available.

Static pressure heads PP100/PP200

Pressure fluctuations caused by squalls can be comensated/minimised with a static pressure head, which helps to obtain accurate readings for barometric pressure. The PP100 and PP200 (heated model) can be attached to the DKP102x via a 4mm-hose .

Two bolts M6x20mm (min) will be used to fix the PPs.



Specifications

Barometric pressure

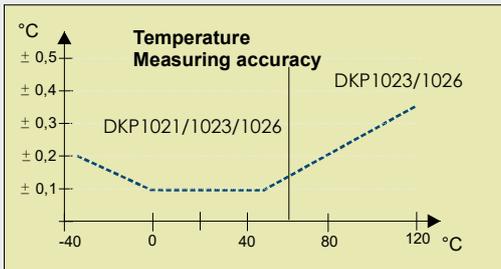
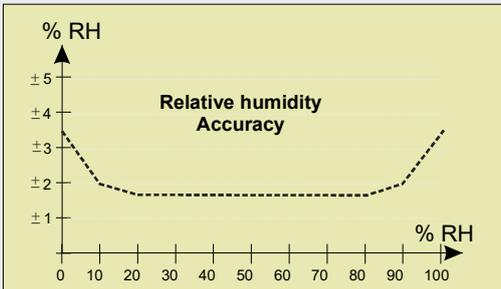
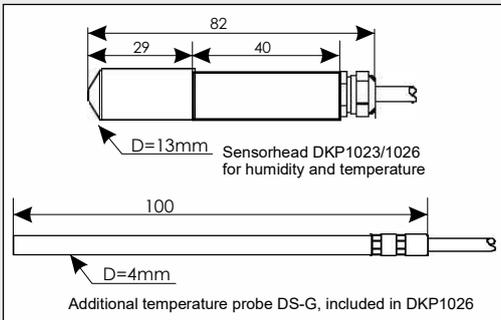
Measurement range 900...1100hPa (standard)
 Options 500...1100hPa
 800...1060hPa
 0...1200hPa
 (Other ranges on request)

Accuracy: +/-0,5hPa at 20°C
 +/-0,1 % of range value
 (-20...+60°C)

Temperature limits: -40...60°C

Customisation: Please specify altitude (a.s.l in meter) of the intended site of operation.

Option sensor for temperature and humidity



Digital Display: Optional LCD 4 x 20 characters

Interface:

USB: Micro-USB Type B
 RS485,RS232 optional

Humidity-/temperature probe:

DKP1021 attached to housing
 Probe dimensions : D=13mm, L=80mm
 With stainless steel sinter filter
 Measurement range: -20...+60°C (optional -40...+80°C)

DKP1023 connected by cable
 Dimensions (sensor): D=13mm, L=80mm
 Cable: 2m,5m, other lengths on request
 with stainless steel sinter filter
 Measurement range: -40...+120°C

Electrical data

Analogue outputs: 0..1V, 0...5V, 0...10V,
 0(4)...20mA (three-wire)
 4...20mA (two-wire, DKP1020 only)

Supply Voltage: 10 (12)...30VDC or
 with mains adaptor

Output impedance: max 500 Ohm
 Load resistance: 0..1V at > 2kOhm
 0..5V/0..10V at >10kOhm

Analogue output update rate

Standard: 1 x for second
 Optional: 10 x for second

Mechanical properties

Housing material: AISI12 DIN 1725
 Protection class: IP65 (NEMA 4)
 Dimensions: 160 x 90 x 60 mm
 Cable gland: PG9
 Connectors: 0,25...1,5mm² wires
 Junction for rubber sleeve: d=6mm

Order code

DKP102X-MB-A-VS-LCD-T-AL-RS

- X = Model 0 = barometric pressure only
 1 = add fixed humidity/temp-probe
 3 = flexible humidity/temp-probe
 6 = heated, flex. humidity/temp-probe
- MB = Metering range STD = 900...1100 hPa
 511 = 500...1100 hPa
 810 = 800...1060 hPa
 012 = 0...1200 hPa
- A = Output 1 = 0- 20 mA
 2 = 4- 20 mA (three-wire)
 3 = 0- 1 V
 4 = 0- 5 V
 5 = 0- 10 V
 6 = 4- 20 mA (two-wire)¹
- VS = Power Supply 24 = 24 VDC (12...30V)
 230 = 100...240VAC(mains adapter)
- LCD = Display 0 = without LCD
 1 = with LCD
- FT = humidity/temp. probe 0 = without RH/T-probe
 1 = -20...+60°C (DKP1021)
 3 = -40...+120°C (1023/26, 2m cable)
 5 = -40...+120°C (1023/26, 5m cable)
- AL = Alarm output 0 = without alarm output
 1 = alarm output
 (relay 60V, 0,5A)
- RS = additional Interface² STD= without additional interface
 0 = RS232-interface
 1 = RS485-interface

If you require a range with limits other than the given values, it can be programmed in our workshop or re-configured by the user via USB access. Please specify the desired range when ordering.

¹ If two-wire-current loop is selected, options LCD and FT are not available- one analogue output, only.

² The DKP102X transmitters are equipped with a USB port. This is not available for 4-20 loop-version.

Specifications are subject to changes without further notice. DKP102x-series V.18.2. 9/2022