

EN - english

Instructions for installation and operation

Pressure dew point transmitter METPOINT<sup>®</sup> DPM **SD21** 



#### Dear customer,

Thank you for deciding in favour of the METPOINT<sup>®</sup> DPM SD21 pressure dew point transmitter. Please read these installation and operating instructions carefully before mounting and starting up the pressure dew point transmitter and follow our directions.

Perfect functioning of the pressure dew point transmitter can only be guaranteed when the provisions and notes stipulated here are strictly adhered to.

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## **Pictograms and symbols**

## 1 Pictograms and symbols



Observe the installation and operating instructions



General advice



Observe the installation and operating instructions (on the type plate)



General danger symbol (danger, warning, caution)



Use protective gloves

## 2 Signal words in accordance with ISO 3864 and ANSI Z 535

| Danger!    | Imminent hazard<br>Consequences of non-observance: serious injury or death                                                       |
|------------|----------------------------------------------------------------------------------------------------------------------------------|
| Warning!   | Potential hazard<br>Consequences of non-observance: possible serious injury or death                                             |
| Caution!   | Imminent hazard<br>Consequences of non-observance: possible injury or property damage                                            |
| Notice!    | Potential hazard<br>Consequences of non-observance: possible injury or property damage                                           |
| Important! | Additional advice, info, hints<br>Consequences of non-observance: disadvantages during operation and maintenance, no dan-<br>ger |

## **3** General information



## Warning!

## Risk of injury when used incorrectly!

Prior to the mounting, start-up, and operation of the pressure dew point transmitter, it must be ensured that the device was correctly chosen with regard to the measuring range, design and specific measurement conditions. In the event of non-observance, severe personal injury and/or damage to materials may occur.



## Warning!

## Risk of injury in the event of insufficient qualifications!

Improper use can lead to significant personal injury and material damage. All of the activities described in these operating instructions must only be carried out by qualified personnel with the qualifications described hereinafter.

## **Qualified personnel**

Due to the specific training and knowledge concerning the measuring and control technology, and due to their experience and knowledge of the country-specific provisions, standards in force and directives, qualified personnel are capable of carrying out the described work and of independently identifying the possible risks.

Special employment conditions require further corresponding knowledge, e.g. regarding aggressive media.



Please check, prior to reading the operating instructions, whether or not these instructions correspond to the device. Read these installation and operating instructions carefully prior to any intervention regarding the METPOINT<sup>®</sup> DPM. The operating instructions must be accessible at all times at the place of application of the device.

If you have any queries regarding these instructions, please contact BEKO TECHNOLOGIES GMBH.

Installation works must exclusively be carried out by authorised and qualified personnel. Prior to undertaking any measures, the qualified personnel shall read up on the device by carefully studying the operating instructions. The operator of the products is responsible for the adherence to these provisions. The respective directives in force apply to the qualification and expertise of the qualified personnel.

For safe operation, the device must only be installed and operated in accordance with the indications in the operating instructions. In addition, the national and operational statutory provisions and safety regulations, as well as the accident prevention regulations required for the respective case of application, need to be observed during employment. This applies accordingly when accessories are used.



## Important:

Keep all the packaging materials of the pressure dew point transmitter, since these will be required for the further installation and return.

## Safety instructions

## 4 Safety instructions



#### Danger! Compressed air!

Risk of serious injury or death through contact with quickly or suddenly escaping compressed air or through bursting plant components.

#### Measures

- Do not exceed the max. operating pressure (see type plate)!
- Only use pressure-resistant installation material!
- Make sure that no persons or objects can be hit by emerging compressed air!



## Danger!

## Inadmissible operating parameters!

Under-running or exceeding the limit values involves risks for persons and the material, and malfunction and service failures may occur.

#### Measures

- Make sure that the pressure dew point transmitter is operated only within the permissible limit values that are indicated on the type plate and in the technical data.
- Exact compliance with the performance data of the pressure dew point transmitter in connection with the case of application.
- Carry out service and calibration measures at regular intervals.

#### Further safety advice

- During installation and operation, the national regulations and safety instructions in force also need to be observed.
- The pressure dew point transmitter must not be employed in hazardous areas.

#### **Additional instructions**

- Do not overheat the device!
- The pressure dew point transmitter must not be disassembled!



## Caution!

## Damage possible!

Using the pressure dew point transmitter with corrosive media involves the risk of premature mechanical failure.

#### Measures

• Only use the device with the media that are listed in the data sheet and in the technical data.



#### Note:

The resistance at the 1.5 times permissible max. operating pressure is confirmed. For further information, please refer to the enclosed technical data sheet.

## 5 Proper use

The **METPOINT**<sup>®</sup> **DPM** pressure dew point transmitter is intended for the measurement of the pressure dew point in **gaseous** media. The pressure dew point transmitter transforms the measured value into a linear, analogue 4...20 mA output signal. The application is restricted to compressed air and inert gases of fluid group 2 in accordance with the 2014/68/EC Pressure Equipment Directive.

The max. permissible operating pressure is 50 bar (g) and the temperature of the process medium must not exceed the range between -30 and +70  $^{\circ}$ C.

The **METPOINT<sup>®</sup> DPM** pressure dew point transmitter is exclusively designed and constructed for the proper application purpose that is described herein and must be used correspondingly.

A check in order to ascertain whether or not the device is suitable for the chosen employment must be carried out by the user. It must be ensured that the medium is compatible with the components which come into contact with it. **The technical data listed in the data sheet are binding.** 

Improper handling or operation outside the technical specifications is impermissible. Claims of any kind on the basis of improper use are excluded.

## 5.1 Exclusion from the field of application

- The device is **not** suitable for use in hazardous areas.
- The device is **not** suitable for application with corrosive gases.
- Improper handling or operation outside the technical specifications.

## 6 Type plate

The type plate is on the housing. It includes all the important data regarding the METPOINT<sup>®</sup> DPM pressure dew point transmitter which must be communicated to the manufacturer or supplier upon request.

| Made in Germany          | <b>METPOINT</b><br>S/N: 1257<br>P/N: 4024<br>-60 +30 °<br>-76 +86 °<br>4 20 mA<br>14 30 V E | 79143<br>1282<br>Ctd<br>Ftd     | PIN 1:+U∨<br>PIN 2:<br>PIN 3: Iou⊤<br>PIN 4:<br><b>Pmax: 50 bar</b><br>v.beko-technologie | ▲<br>〔i<br>€€<br>œs.com |
|--------------------------|---------------------------------------------------------------------------------------------|---------------------------------|-------------------------------------------------------------------------------------------|-------------------------|
| METPOINT <sup>®</sup> D  | PM SD21                                                                                     | Product                         | designation                                                                               |                         |
| S/N:                     |                                                                                             | Serial number                   |                                                                                           |                         |
| P/N:                     |                                                                                             | Item number                     |                                                                                           |                         |
| -60 +30 °C <sub>td</sub> |                                                                                             | Measuring range                 |                                                                                           |                         |
| -76 +86 °F <sub>td</sub> |                                                                                             |                                 |                                                                                           |                         |
| 4 20 mA                  |                                                                                             | Power supply                    |                                                                                           |                         |
| PIN 1:                   |                                                                                             | Power supply (+U <sub>v</sub> ) |                                                                                           |                         |
| PIN 2:                   |                                                                                             | Not used                        |                                                                                           |                         |
| PIN 3:                   |                                                                                             | Current output (-Iout)          |                                                                                           |                         |
| PIN 4:                   |                                                                                             | Not used                        |                                                                                           |                         |
| Pmax:                    |                                                                                             | 50 bar                          |                                                                                           |                         |
|                          |                                                                                             |                                 |                                                                                           |                         |



## Note:

Never remove, damage, or obliterate the type plate!

## 7 Technical data

# CE

| General indications                                       |                                                              |
|-----------------------------------------------------------|--------------------------------------------------------------|
| Model designation                                         | DPM SD21                                                     |
| Measuring principle                                       | Capacitive polymer sensor                                    |
| Measured parameter                                        | °Ct <sub>d</sub> / °F <sub>td</sub> dew point/freezing point |
| Measuring range                                           | -60 +30 °C <sub>td</sub> (-76 +86 °F <sub>td</sub> )         |
| Output signal                                             | 4 20 mA, analogue, 2-wire                                    |
| Max. permissible operating overpressure                   | 50 bar(g)                                                    |
| Process medium <sup>1</sup>                               | Compressed air                                               |
| Temperature-compensated range                             | -25 +60 °C                                                   |
| Reference conditions <sup>2,3</sup>                       | EN 61298-1                                                   |
| Process connection                                        | G ½ external thread (ISO 228-1)                              |
| Sensor protection                                         | Stainless steel sintered filter 40 µm                        |
| Measuring gas flow when the measuring chamber is employed | 1 3 standard litres/min.                                     |
| Weight                                                    | 175 g                                                        |
| Degree of protection according to EN 60529 <sup>4</sup>   | IP 65                                                        |

## <sup>1</sup> Process medium

## <sup>2</sup> The tests are carried out under ambient conditions in accordance with EN 61298-1.

| Temperature: | 15 25 °C |
|--------------|----------|
|              |          |

- Air pressure: 860 ... 1060 mbar
- Air humidity: 45 ... 75% relative

## **METPOINT® DPM SD21**

Compressed air, nitrogen, and other gases of group 2 according to Article 13, Clause 1b of the PED 2014/68/EC. Group 2 comprises fluids which are **not** toxic, corrosive, flammable, potentially explosive, and fire-promoting.

The process medium must be compatible with the material 1.4404 and the other materials which come into contact with the medium (see Table: materials).

The max. permissible deviation of the ambient temperature must not exceed 1°C in 10 min. for each test, and maximally 3°C/hour.

<sup>&</sup>lt;sup>3</sup> The max. error of measurement refers to the calibration of the pressure dew point transmitters with the medium compressed air under the following reference conditions: Compressed-air temperature: +20°C

Operating pressure: 5.0 bar(abs.)

<sup>&</sup>lt;sup>4</sup> The indicated protection classes according to EN 60529 only apply when connected, with a mating connector with a corresponding degree of protection.

## **Technical data**

| Materials                                        |                                                      |
|--------------------------------------------------|------------------------------------------------------|
| Sensor element (in contact with the medi-<br>um) | Polymer, aluminium oxide, Ni, Cr, Au, Ag, Cu, Pt, Sn |
| Glass feedthrough (in contact with the medium)   | 1.4301, 2.4478 (NiFe), Au, FKM/EPDM                  |
| Process connection (in contact with the medium)  | 1.4404, EN 10272, EN 10088-3                         |
| Housing                                          | 1.4404, EN 10272, EN 10088-3                         |
| Mounting connector (Phoenix, item no. 1557581)   | CuZn, Au, PA 66, FKM / EPDM                          |

| Permissible temperature ranges       |                       |  |
|--------------------------------------|-----------------------|--|
| Process-medium temperature           | -30°C +70 °C          |  |
| Ambient temperature during operation | -25°C +60 °C          |  |
| Storage and transport temperature    | -40°C +85 °C          |  |
| Ambient humidity                     | 095 %, non-condensing |  |

| Accuracy                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Max. error of measurement <sup>1</sup> | $\begin{array}{l} \pm 4 \text{ K for } -60 \ \dots \ -50 \ ^\circ \text{Ct}_\text{d} \ (-76 \ \dots \ -58 \ ^\circ \text{F}_\text{td}) \\ \pm 3 \text{ K for } -50 \ \dots \ -30 \ ^\circ \text{Ct}_\text{d} \ (-58 \ \dots \ -22 \ ^\circ \text{F}_\text{td}) \\ \pm 2 \text{ K for } -30 \ \dots \ -10 \ ^\circ \text{Ct}_\text{d} \ (-22 \ \dots \ +14 \ ^\circ \text{F}_\text{td}) \\ \pm 1 \text{ K for } -10 \ \dots \ +30 \ ^\circ \text{Ct}_\text{d} \ (+14 \ \dots \ 86 \ ^\circ \text{F}_\text{td}) \end{array}$ |  |
| Response time                          | < 10 sec. from dry to wet<br>< 40 sec. from wet to dry                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
| Measuring rate                         | 1 measurement every 2 seconds                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |

| CE conformity                                          |                           |
|--------------------------------------------------------|---------------------------|
| Pressure Equipment Directive <sup>2</sup>              | 2014/68/EC                |
| EMC Directive                                          | 2014/30/EU                |
| EMC immunity to interference, industrial field         | EN 61326-1 & EN 61326-2-3 |
| EMC emitted interference (emission), group 1, class B  | EN 61326-1                |
| CE labelling according to the EMC Directive 2014/30/EU |                           |

<sup>&</sup>lt;sup>1</sup> Max. error of measurement at reference conditions.

<sup>&</sup>lt;sup>2</sup> For gases and fluids of fluid group 2, the requirements according to Article 4, Clause 3 (good engineering practice) are met.

| Electrical connections                            |                                    |
|---------------------------------------------------|------------------------------------|
| Connector (cable box) according to EN 61076-2-101 | M12 x1 (4-pole)                    |
| Type of connection                                | Screw terminals                    |
| Wire cross-section                                | Max. 0.75 mm <sup>2</sup> (AWG 18) |
| Grommet                                           | 4 6 mm                             |
| Degree of protection                              | IP 67 according to EN60529         |

| Electrical specifications DPM SD21                        |                                      |  |
|-----------------------------------------------------------|--------------------------------------|--|
| Supply voltage <sup>1</sup> $U_V$                         | 14 30 V DC                           |  |
| Max. power consumption during nominal operation           | 720 mW                               |  |
| Current consumption <sup>2</sup> during nominal operation | Max. 24 mA                           |  |
| Load (load resistance) <b>R</b> <sub>L</sub>              | $R_L$ = max. 416 $\Omega$ at 24 V DC |  |
| Resistance to short-circuiting                            | Permanent                            |  |
| Reverse voltage protection                                | Available                            |  |
| Insulation resistance, EN 61298-2, Clause 6.3.2           | > 100 MΩ at 500V DC                  |  |
| Voltage proof, EN 61298-2, Clause 6.3.3                   | 500 V AC                             |  |
| Overvoltage arrester <sup>3</sup>                         | 33 V DC                              |  |

<sup>&</sup>lt;sup>1</sup> The nominal value of the supply voltage is 24 V DC.

Supply to the pressure transducer should be implemented with a stabilised, short-circuit-protected power supply that is protected against overvoltage.

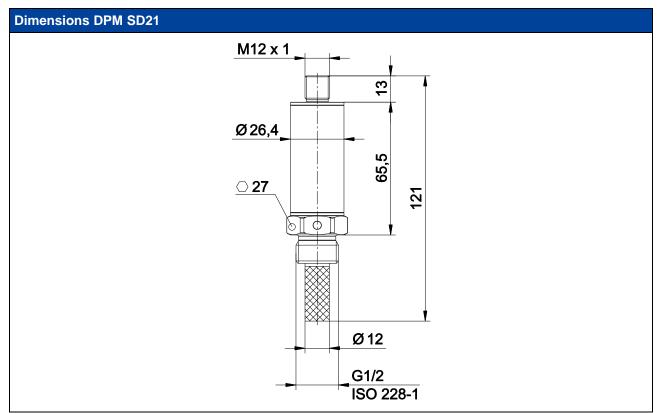
The energy supply to the pressure transducer must come from a source with an *energy-limited electrical circuit* (10A max./ 30V max.) and a protective separation from the network. **See EN 61010-1, Clause 9.4**. <sup>2</sup> Reverse voltage protection.

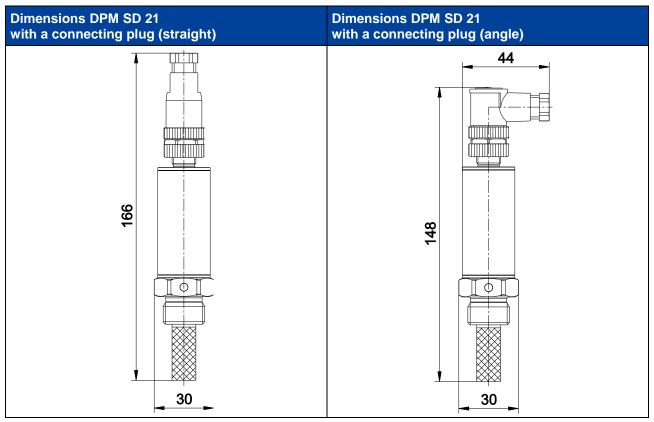
In the event that the connections are interchanged, the transmitter may be damaged under certain circumstances. It is imperative to observe the connection diagrams.

<sup>&</sup>lt;sup>3</sup> Overvoltage arrester. The overvoltage is limited at 33 V DC by the suppressor diode.

## **Dimension drawings**

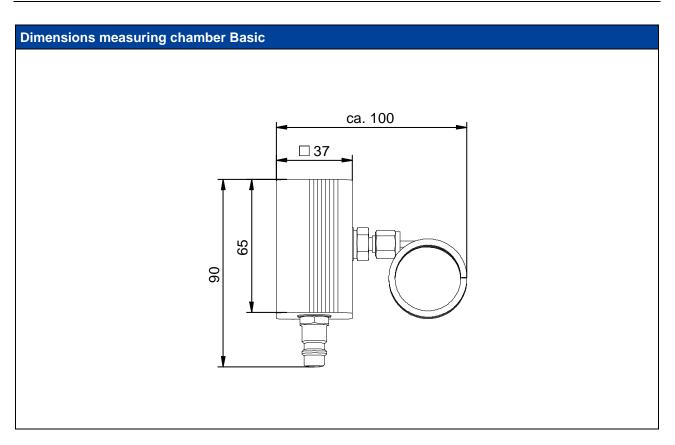
## 8 Dimension drawings

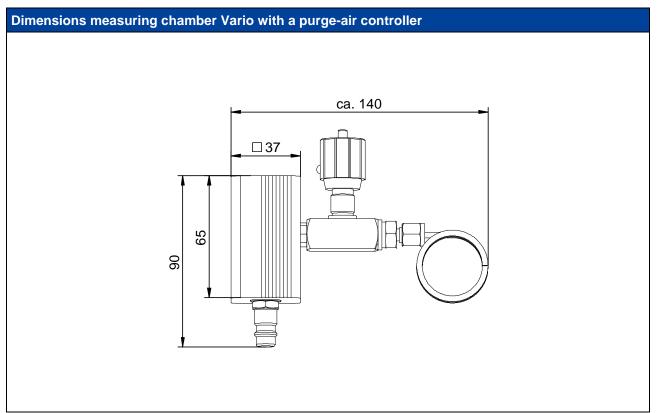




## Standards for threads

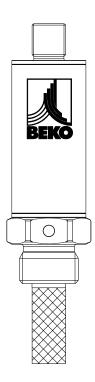
Straight pipe thread (internal and external screw thread) for a non-sealing connection in the thread Short symbol **G**, according to **ISO 228-1** 





## Function

## 9 Function



The transmitter is equipped with a  $G\frac{1}{2}$  fixing thread according to ISO 228 and can directly be screwed into the measuring chamber. Alternatively, direct installation in the measuring line is also possible.

During the production of the **METPOINT**<sup>®</sup> **DPM SD21**, calibration is implemented at 20 measuring points. The employed reference devices are traceable to the national norms of the Physikalisch-Technische Bundesanstalt (national metrology institute).

## 10 Installation

## 10.1 Installation instructions



## Warning!

## Risk of injury in the event of insufficient qualifications!

Improper use can lead to significant personal injury and material damage. All of the activities described in these operating instructions must only be carried out by qualified personnel with the qualifications described hereinafter.

## **Qualified personnel**

Due to the specific training and knowledge concerning the measuring and control technology, and due to their experience and knowledge of the country-specific provisions, standards in force and directives, qualified personnel are capable of carrying out the described work and of independently identifying the possible risks. Special employment conditions require further corresponding knowledge, e.g. regarding aggressive media.



## Danger!

## Compressed air!

Risk of serious injury or death through contact with quickly or suddenly escaping compressed air or through bursting and/or unsecured plant components.

## Measures:

- · Only carry out installation works when the system is pressureless.
- Only use pressure-resistant installation material.
- Do not exceed the max. operating pressure (see type plate).
- Check the installation point for tightness subsequent to installation.



## Warning!

## Risk of injury through temperature!

Risk of injury through the contact with very high or low temperatures.

#### Measures:

Prior to installation or removal of the pressure dew point transmitter, carry out a temperature compensation or wear protective gloves.



## Caution!

## Malfunction at the pressure dew point transmitter!

Through incorrect installation, malfunctions may occur at the METPOINT<sup>®</sup> DPM SD21 pressure dew point transmitter. These can lead to incorrect measuring results and to misinterpretations.



## Note:

It is imperative to observe all of the listed hazard and warning notes.

Please also observe all the provisions and instructions regarding the occupational safety and fire at the respective point of installation.

As a matter of principle, only use suitable tools and material in a proper condition.

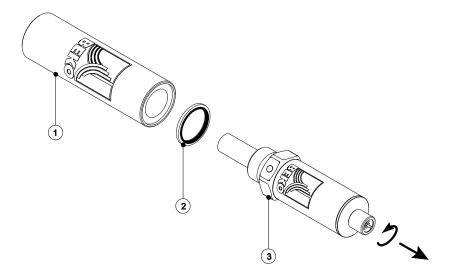
Bear in mind that condensates can contain aggressive and harmful components. Therefore, avoid contact with the skin.

## Installation

## **10.2** Preparing the pressure dew point transmitter

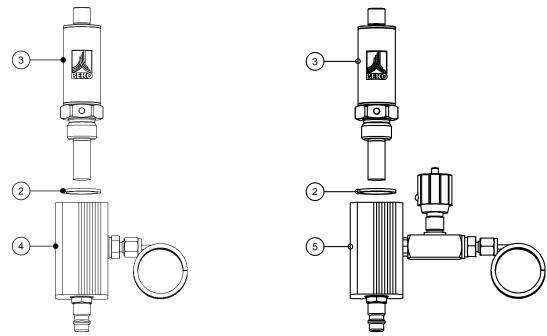
The **METPOINT<sup>®</sup> DPM SD21** pressure dew point transmitter is delivered by the factory in a protection chamber. The latter protects the transmitter against damage and high humidity.

- 1. Unscrew the pressure dew point transmitter (3) in the anti-clockwise direction from the protection chamber.
- 2. Protect the sealing ring (2) against loss when unscrewing the transmitter and keep it ready for the installation in the measuring chamber.
- 3. The protection chamber (1) and the contained desiccant must be kept for the return transport of the transmitter.



#### 10.3 Installation in the measuring chamber

Firmly screw the pressure dew point transmitter (3) with the sealing ring (2) into the measuring chamber (4) or (5), and then check for tightness.





#### Note:

The max. permissible operating pressure and the operating temperature of the measuring chamber can be taken from the type plate of the respective measuring chamber.

## **11** Electrical installation

Prior to the installation and start-up, the maximum load resistance must be observed. With a nominal value of the supply voltage of **24 V DC**, the max. load resistance is 416  $\Omega$ . With a supply voltage that deviates from 24 V DC, the max. load resistance can be calculated according to the following formula:

## $R_L \le (U_v - 14 V) / 0.024 A [Ω]$



## Warning!

## Risk of injury in the event of insufficient qualifications!

Improper use can lead to significant personal injury and material damage. All of the activities described in these operating instructions must only be carried out by qualified personnel with the qualifications described hereinafter.

## **Qualified personnel**

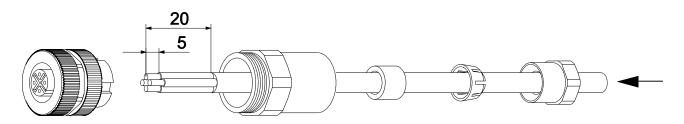
Due to the specific training and knowledge concerning the measuring and control technology, and due to their experience and knowledge of the country-specific provisions, standards in force, and directives, qualified personnel are capable of carrying out the described work and of independently identifying the possible risks.

Special employment conditions require further corresponding knowledge, e.g. regarding aggressive media.

| Connector, M12 x 1, 4-pole, a-coded |                                                  |                                                  |  |  |
|-------------------------------------|--------------------------------------------------|--------------------------------------------------|--|--|
| Arrangement of the poles -<br>plug  | Arrangement of the poles - fe-<br>male connector | Arrangement of the poles - fe-<br>male connector |  |  |
| View transmitter side               | View female connector side                       | View screwing side                               |  |  |
|                                     | 30 04<br>20 01                                   |                                                  |  |  |

The cable must be assembled as follows:

- 1. Push the components of the connector over the cable
- 2. Cut the cable jacket by 20 mm in length
- 3. Cut the conductor sheath by 5 mm in length
- 4. Introduce the cable into the connector according to the pin assignment
- 5. Assemble/screw together the components of the connector



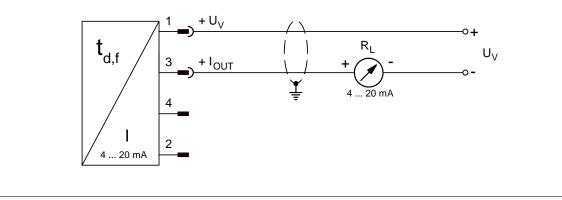
It is recommended to use a shielded cable for the installation. Shielding is implemented via the shield ring of the connector. The preconditions are that the respective connector is made of metal and that the shield has the shape of a braid. The shielding should be earthed at one end.

## **Electrical installation**

| Pin   | Function          | Description                                   | Conductor colouring |
|-------|-------------------|-----------------------------------------------|---------------------|
| PIN-1 | +Uv               | Positive (+) connection of the supply voltage | Brown               |
| PIN-3 | +I <sub>оит</sub> | Current output                                | White               |
| PIN-4 |                   | Not used                                      |                     |
| PIN-2 |                   | Not used                                      |                     |

## 11.1 Connection DPM SD21, 2-wire system, current output 4 ... 20 mA

## Connection diagram DPM SD 21, 4-wire system, current output 4 ... 20 mA



#### Notes:

The analogue output current 4 ... 20 mA has no potential isolation to the power supply.

The **METPOINT<sup>®</sup> DPM SD21** pressure dew point transmitters are delivered ex factory with the current output 4 ... 20 mA. The following scaling was preconfigured in the factory:

 $4 \text{ mA} = -60 \text{ °C}_{td} (-76 \text{ °F}_{td})$  $20 \text{ mA} = +30 \text{ °C}_{td} (+86 \text{ °F}_{td})$ 

The output of the current signal takes place at PIN-3 of the 4-pole M12 connector.

For the connection to superordinate control systems, an isolation amplifier may be required in order to avoid earth-coupling. In this respect, please contact the manufacturer of the superordinate control system regarding the possible specifications.

## 12 Maintenance and calibration

The perfect and safe functioning of the components requires calibration or adjustment at regular intervals.

The METPOINT<sup>®</sup> DPM SD21 should be calibrated annually by the manufacturer, and re-adjusted, if required.



## Danger!

## Compressed air!

Risk of serious injury or death through contact with quickly or suddenly escaping compressed air or through bursting and/or unsecured plant components.

## Measures:

- Only carry out installation works when the system is pressureless and deactivated.
- Only use pressure-resistant installation material.
- Make sure that no persons or objects can be hit by condensate or emerging compressed air.
- Check the tightness subsequent to maintenance measures.



## Warning!

## Risk of injury in the event of insufficient qualifications!

Improper use can lead to significant personal injury and material damage. All of the activities described in these operating instructions must only be carried out by qualified personnel with the qualifications described hereinafter.

## **Qualified personnel**

Due to the specific training and knowledge concerning the measuring and control technology, and due to their experience and knowledge of the country-specific provisions, standards in force and directives, qualified personnel are capable of carrying out the described work and of independently identifying the possible risks.

Special employment conditions require further corresponding knowledge, e.g. regarding aggressive media.



## Warning!

## Risk of injury through temperature!

Risk of serious injury through the contact with very high or low temperatures.

#### Measures:

 Prior to undertaking maintenance measures, carry out a temperature compensation or protective gloves.



## Caution!

#### Damage possible!

Damage and malfunctions at the METPOINT<sup>®</sup> DPM SD21 pressure dew point transmitter may occur through incorrect maintenance and calibration or when maintenance and calibration measures are not undertaken at regular intervals.

These can lead to incorrect measuring results and to misinterpretations.

#### **Measures:**

• Carry out regular inspections and checks in accordance with the Pressure Equipment Directive (PED).

## Maintenance and calibration

## 12.1 Cleaning/decontamination

Cleaning of the METPOINT<sup>®</sup> DPM SD21 must be undertaken using a slightly damp (not wet) cotton cloth or one-way wipe, and mild, commercially available cleaner/soap.

For decontamination, spray the cleaner on an unused cotton cloth or one-way wipe and wipe the component comprehensively. Effectuate subsequent drying using a clean cloth or via air drying.

In addition, the local hygiene provisions need to be observed.



## Danger!

#### Compressed air/reaction products!

Risk of serious injury or death through contact with quickly or suddenly escaping compressed air and through toxic, flammable, or potentially explosive reaction products.

## Measures:

- Only carry out cleaning measures when the system is pressureless.
- Purge the respective plant component or pressure dew point transmitter prior to starting the maintenance works.
- Immediately clean the removed components from measuring media residues.



## Damage possible!

Warning!

A too high degree of humidity and hard and pointed objects cause damage to the pressure transducer and to the integrated electronic components.

#### Measures

- Never clean with a soaked cloth.
- Do not use pointed or hard objects for cleaning.

## 13 Scope of delivery

| Illustration         | Description                                                       |
|----------------------|-------------------------------------------------------------------|
|                      | 1 x METPOINT <sup>®</sup> DPM SD21 pressure dew point transmitter |
|                      | 1x M12 plug, straight                                             |
|                      | 1 x stainless-steel seal                                          |
| Without illustration | 1 x factory calibration record                                    |

## Accessories

## 14 Accessories

| Description                                                | Order no.                            |
|------------------------------------------------------------|--------------------------------------|
| M12 connector, angle<br>(incl. 5 m cable, pre-assembled)   | 4025252                              |
| 1 x stainless-steel seal                                   | 4025004                              |
| Connecting cable 4 x 0.75 mm <sup>2</sup> (AWG 18)         | Upon request                         |
| Measuring chamber "Basic"                                  | 16 bar : 4026170<br>50 bar : 4027290 |
| Measuring chamber with a purge-air con-<br>troller "VARIO" | 16 bar : 4026171<br>50 bar : 4027291 |

## 15 Dismantling and disposal

When dismantling the DPM SD21 pressure dew point transmitter, all related parts and operating media must be disposed of separately.

Waste code:

#### 20 01 36

Used electrical and electronic devices with the exception of those which come under 20 01 21, 20 01 23, and 20 01 35.



## Warning!

## Danger for persons and the environment!

The device must be disposed of in accordance with the European RoHS-2 2011/65/EU Directive. Old appliances must not be disposed of with normal household waste!

Depending on the used medium, residues on the device may represent a danger to the operator or the environment. Therefore, undertake suitable protective measures and dispose of the device properly.

#### Measures:

 Immediately clean the removed components from measured media residues when suitable protective measures cannot be undertaken.



## Warning!

## **Risk of injury!**

Risk of serious injury through the contact with very high or low temperatures.

## Measures:

• Prior to the removal of the DPM SD21 pressure dew point transmitter, wait for temperature compensation or wear protective gloves.

## 16 Troubleshooting and fault removal

| Symptoms                                     | Possible reasons                  |
|----------------------------------------------|-----------------------------------|
| Signal current ≥ 21.0 mA                     | Sensor error / system error       |
| Signal current ≤ 3.6 mA                      | Sensor error / system error       |
| Signal current < 4.0 to 3.8 mA               | Falling below the measuring range |
| Signal current > 20.0 to 20.5 mA             | Exceeding the measuring range     |
| There is no signal.<br>Signal current = 0 mA | Break of the signal line          |

## 17 Declaration of conformity

BEKO TECHNOLOGIES GMBH Im Taubental 7 41468 Neuss, GERMANY Tel: +49 2131 988-0 www.beko-technologies.com



## **EU-Konformitätserklärung**

Wir erklären hiermit, dass die nachfolgend bezeichneten Produkte den Anforderungen der einschlägigen Richtlinien und technischen Normen entsprechen. Diese Erklärung bezieht sich nur auf die Produkte in dem Zustand, in dem sie von uns in Verkehr gebracht wurden. Nicht vom Hersteller angebrachte Teile und/oder nachträglich vorgenommene Eingriffe bleiben unberücksichtigt.

Produktbezeichnung: Typ: Messbereich: Versorgungsspannung: IP-Schutzart Max. zulässiger Betriebsdruck: Min. / Max. Betriebstemperatur: Datenblatt: Produktbeschreibung und Funktion:

#### **METPOINT® DPM SD21**

4024282 -60 ... +30°Ctd (Frostpunkt / Taupunkt) 14 ... 30 VDC IP65 50 bar -30°C / +70°C DB\_DPM-850-0314-FP-A Drucktaupunkt-Transmitter

Druckgeräte-Richtlinie 2014/68/EG

Die Produkte fallen in keine Druckgerätekategorie und sind gemäß Artikel 4 Absatz 3 in Übereinstimmung mit der in den Mitgliedstaaten geltenden guten Ingenieurspraxis ausgelegt und werden dieser entsprechend hergestellt.

#### EMV-Richtlinie 2014/30/EU

Angewandte harmonisierte Normen:

EN 61326-1:2013, EN 61326-2-3:2013

#### ROHS II-Richtlinie 2011/65/EU

Die Vorschriften der Richtlinie 2011/65/EU zur Beschränkung der Verwendung bestimmter gefährlicher Stoffe in Elektro- und Elektronikgeräten werden erfüllt.

Die Produkte sind mit dem abgebildeten Zeichen gekennzeichnet:

## CE

Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller.

Neuss, 17.06.2016

Unterzeichnet für und im Namen von: **BEKO** TECHNOLOGIES GMBH

1.0.1

i.V. Christian Riedel Leiter Qualitätsmanagement International

CE\_DPMSD21-821-0416-FP-B

**BEKO** TECHNOLOGIES GMBH 41468 Neuss, GERMANY Tel.: +49 (0)2131 988 0 www.beko-technologies.com



## **EU Declaration of Conformity**

We hereby declare that the products indicated hereafter comply with the stipulations of the relevant directives and technical standards. This declaration only refers to products in the condition in which they have been placed into circulation. Parts which have not been installed by the manufacturer and/or modifications which have been implemented subsequently remain unconsidered.

| Product name:                        | METPOINT <sup>®</sup> DPM SD21           |
|--------------------------------------|------------------------------------------|
| Туре:                                | 4024282                                  |
| Measuring range:                     | -60+30°C Td (freezing point / dew point) |
| Supply voltage:                      | 14 - 30 VAC                              |
| Degree of protection                 | IP65                                     |
| Max. permissible operating pressure: | 50 bar                                   |
| Min./max. operating temperature:     | -30°C / +70°C                            |
| Data sheet:                          | DB_DPM-850-0314-FP-A                     |
| Product description and function:    | Pressure dew point transmitter           |

## Pressure Equipment Directive2014/68/EC

The products do not come under any pressure equipment category and are designed in accordance with the good engineering practices applicable in the member states as per Article 3 Paragraph 3, and are manufactured accordingly.

## EMC Directive 2014/30/EU

Applied harmonized standards:

EN 61326-1:2013, EN 61326-2-3:2013

## RoHS II Directive 2011/65/EU

The products meet the requirements laid down in European Directive 2011/65/EU concerning the restriction of the use of certain hazardous substances in electrical and electronic devices.

The products bear the CE Mark:

## CE

This Declaration of Conformity has been issued by the manufacturer.

Neuss, 17/06/2016

Signed: BEKO TECHNOLOGIES GMBH

ppa Christian Riedel Head of International Quality Management

Archiving: CE\_DPMSD21-821-0416-FP-B

**METPOINT<sup>®</sup> DPM SD21** 

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