

**Pressure switch with display**



Warning: Before installation, commissioning, and operation, ensure that the pressure transmitter is suitable for the application in terms of measuring range, design and environmental conditions. Non-observance can result in serious injury and/or damage to equipment.

Intended use: This instrument converts pressure into an electrical signal.

The instrument has been designed and built solely for the intended use described here and may only be used accordingly. If the equipment is used in a different manner, the protection provided by the equipment may be impaired and Trafag shall not be liable for any claims at all.

**Datasheets**

**DPC 8380**



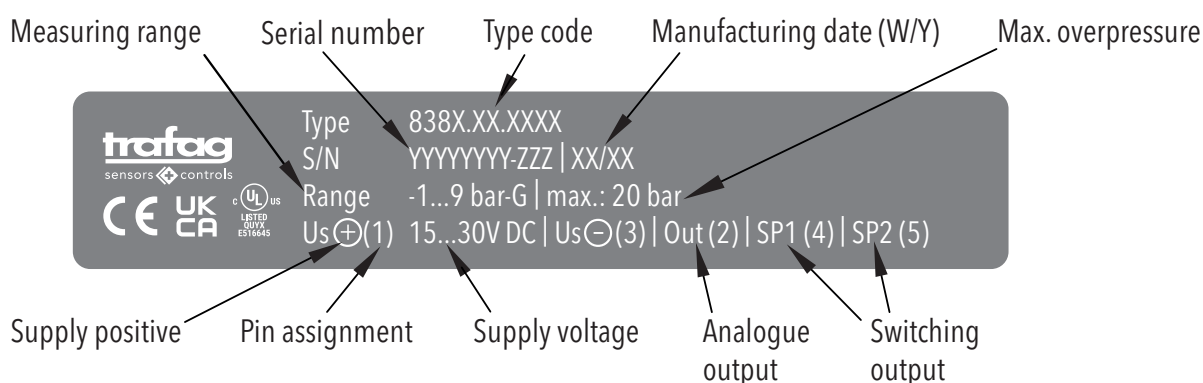
[www.trafag.com/H72320](http://www.trafag.com/H72320)

**DPS 8381**

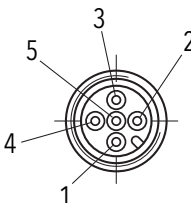
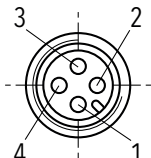


[www.trafag.com/H72321](http://www.trafag.com/H72321)

**Type label description (example)**



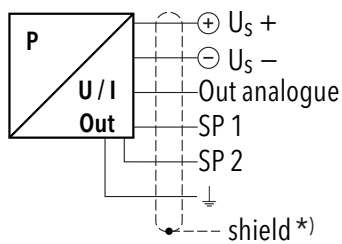
**Electrical connections**

| Designation                        | M12x1<br>5-pol.                                                                     | M12x1<br>4-pol.                                                                     |
|------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Ambient temperature range          | -25°C ... +85°C                                                                     | -25°C ... +85°C                                                                     |
| UL-rated ambient temperature range | -20°C ... +80°C                                                                     | -20°C ... +80°C                                                                     |
| Type code                          | <b>838X.XX.XXXX.35</b>                                                              | <b>838X.XX.XXXX.32</b>                                                              |
| Pin configuration                  |  |  |

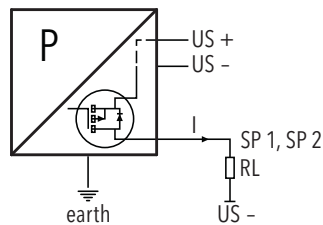
The device is designed to be used in an industrial, electromagnetic environment in accordance with IEC 61326-2-3, IEC 61326-1, IEC 61000-6-2, IEC 61000-6-3.

| Output       | I <sub>SUPPLY</sub> | U <sub>SUPPLY</sub> |
|--------------|---------------------|---------------------|
| 4 ... 20 mA  | ≤ 30 mA             | 15 ... 30 VDC       |
| 0 ... 10 VDC | ≤ 30 mA             | 15 ... 30 VDC       |
| 0 ... 5 VDC  | ≤ 30 mA             | 15 ... 30 VDC       |
| 1 ... 6 VDC  | ≤ 30 mA             | 15 ... 30 VDC       |

## Connection of the measuring equipment

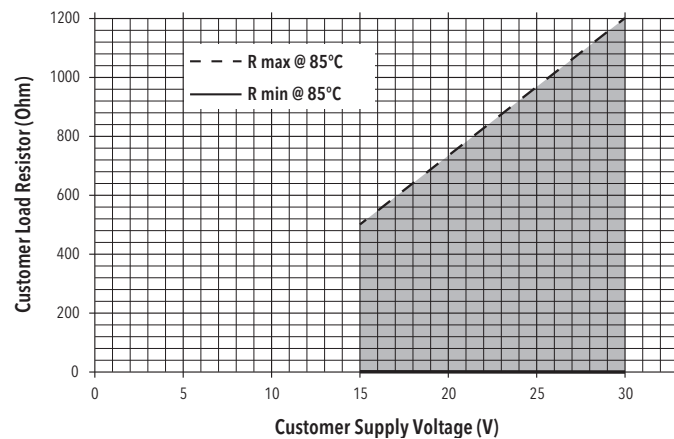


\*) The use of a shielded cable is recommended

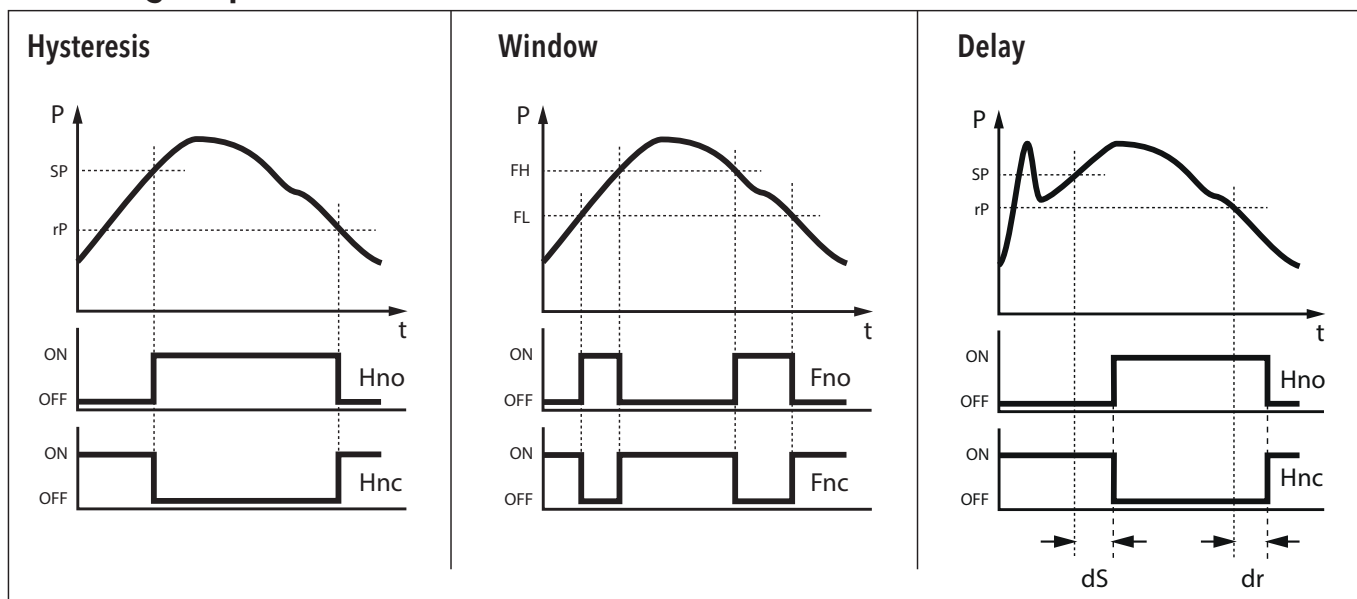


Connection of loads to switching output

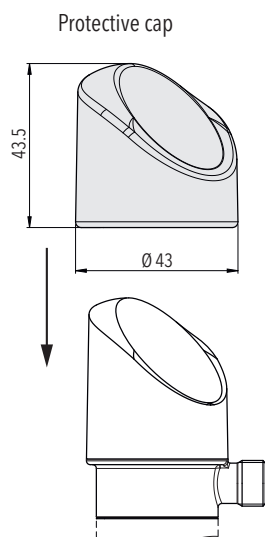
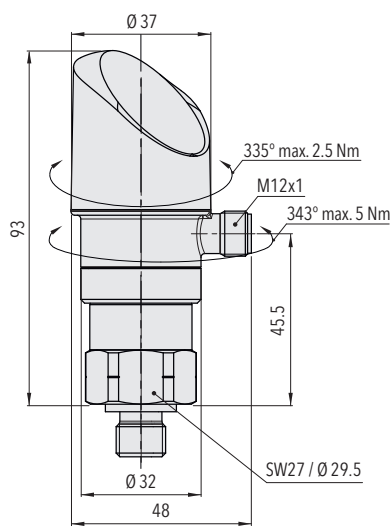
4...20mA: min./max resistor vs. supply voltage @ Pmax = 100%



## Switching output functions

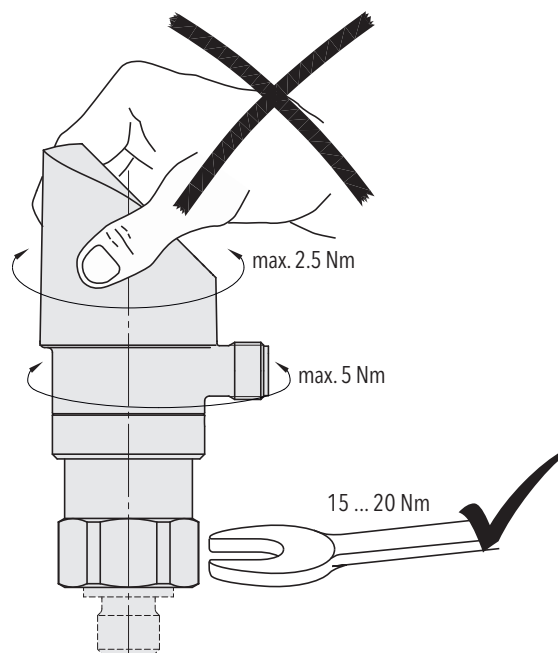


## Dimensions



## Mounting

Tighten the device



## Display indication

|       | Description                                                                                                                                                                                                                                                                                                                       |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| E.crc | Internal memory damage occurred.<br>→ Execute a factory reset. If the recovery is not successful, replace the device.                                                                                                                                                                                                             |
| E.FPA | Internal error: Invalid factory page data.<br>→ Execute a factory reset. If recovery is unsuccessful, replace the device.                                                                                                                                                                                                         |
| E.Mat | Internal error: Invalid serial number.<br>→ Execute a factory reset. If recovery is unsuccessful, replace the device.                                                                                                                                                                                                             |
| EnFc  | NFC communication was not successful.<br>→ Try again to communicate again. If the error persists, replace the device.                                                                                                                                                                                                             |
| E.OFC | Zero-point offset out of range.<br>The measured value is outside of the valid range for the zero-set function.<br>→ Press [Enter] → on the measuring device to reset the error indication.<br>This error indication does not appear when performing the zero-set function by means of the Sensor Master App (Android smartphone). |
| E.Par | Internal error: Invalid parameters data.<br>→ Execute a factory reset. If recovery is unsuccessful, replace the device.                                                                                                                                                                                                           |
| E.SPt | Internal error: Invalid setpoint data.<br>→ Double-check setpoint settings vs. device specifications and re-enter setpoint settings if necessary. Alternately, execute a factory reset. If recovery is unsuccessful, replace the device.                                                                                          |
| E.Tar | Internal error: Invalid calibration data<br>→ Execute a factory reset. If recovery is unsuccessful, replace the device.                                                                                                                                                                                                           |
| FALS  | Incorrect access code.<br>→ Enter the correct access code.                                                                                                                                                                                                                                                                        |
| F.E2P | Internal memory damage occurred.<br>→ Execute a factory reset. If the recovery is not successful, replace the device.                                                                                                                                                                                                             |
| F.i2c | Internal device communication is interrupted.<br>→ Replace the device.                                                                                                                                                                                                                                                            |
| OL    | The measured pressure is >3% above the measuring range end-point.<br>→ The indication disappears as soon as the pressure is reduced again.                                                                                                                                                                                        |
| P.err | Signal processing is faulty.<br>→ Replace the device.                                                                                                                                                                                                                                                                             |
| S.brk | Sensor break; the sensor element is defective.<br>→ Replace the device.                                                                                                                                                                                                                                                           |
| UL    | The measured pressure is >3% below the measuring range zero-point.<br>→ The indication disappears as soon as the pressure is lifted again.                                                                                                                                                                                        |

## Parametrisation

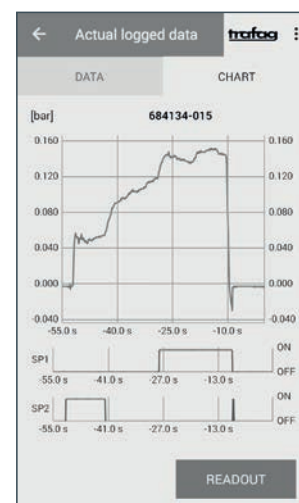
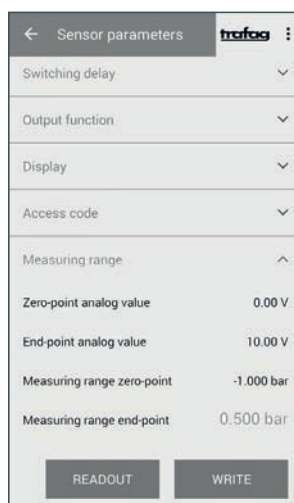
The display pressure switches DPC 8380 and DPS 8381 can be parametrised either with the 3 buttons on the display and the menu navigation on page 4 of this instruction, or via Sensor Master App installed on a NFC capable Android smartphone.

## Android App Trafag Sensor Master

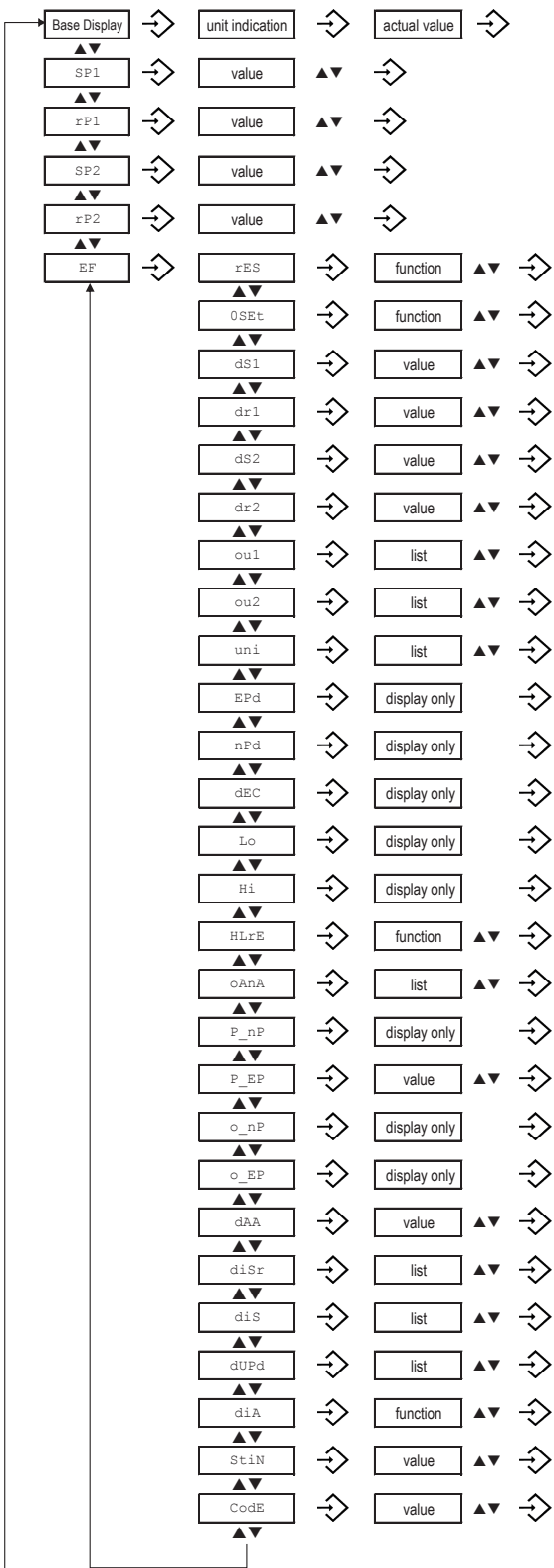


With the free Android app „Trafag Sensor Master“, available in the Google Play Store, the parameters of the Trafag display pressure transmitter DPS 8381 and DPC 8380 can be set very simply through a smartphone. In addition to a variety of parameters for the switch points, the measurement range can be scaled. Communication is conducted via the NFC interface on the display. Through this interface, the measurement values of the internal data logger can also be read out and then processed further via smartphone.

Download the Android app  
in the Google Play Store



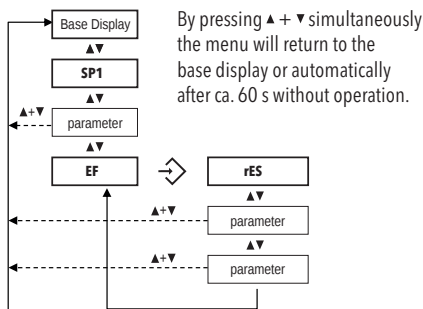
## Operating menu



| Description                                                       | Value range                                                                        |
|-------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Switch point SP1 (Hysteresis) or Window high FH1                  | SP1 > rP1, FH1 > FL1<br>Hysteresis $\geq 1\%$ FS                                   |
| Reset point rP1 (Hysteresis) or Window low FL1                    | rP1 < SP1, FL1 < FH1<br>Hysteresis $\geq 1\%$ FS                                   |
| Switch point SP2 (Hysteresis) or Window high FH2                  | SP2 > rP2, FH2 > FL2<br>Hysteresis $\geq 1\%$ FS                                   |
| Reset point rP2 (Hysteresis) or Window low FL2                    | rP2 < SP2, FL2 < FH2<br>Hysteresis $\geq 1\%$ FS                                   |
| Reset to factory settings                                         |                                                                                    |
| Zero set, offset correction <sup>1)</sup>                         | $\pm 2\%$ FS                                                                       |
| Switching delay time for SP1/FH1                                  | 0.01 ... 99.99s                                                                    |
| Switching delay time for rP1/FL1                                  | 0.01 ... 99.99s                                                                    |
| Switching delay time for SP2/FH2                                  | 0.01 ... 99.99s                                                                    |
| Switching delay time for rP2/FL2                                  | 0.01 ... 99.99s                                                                    |
| Function switching output 1                                       | Hysteresis NO (Hno), Hysteresis NC (Hnc)<br>Window NO (Fno), Window NC (Fnc)       |
| Function switching output 2                                       | Hysteresis NO (Hno), Hysteresis NC (Hnc)<br>Window NO (Fno), Window NC (Fnc)       |
| Pressure unit                                                     | bar / MPa / kPa / psi / mWC / mmWC /<br>inchWC / % / user scale <sup>1)</sup>      |
| End-point display value (option user scale unit)                  | -998 ... 9999 <sup>1)</sup>                                                        |
| Zero-point display value (option user scale unit)                 | -999 ... 9998 <sup>1)</sup>                                                        |
| Decimal point (option user scale unit)                            | 0, 1, 2, 3 (value depending)                                                       |
| Lowest measured pressure                                          |                                                                                    |
| Highest measured pressure                                         |                                                                                    |
| Reset highest and lowest pressure value                           |                                                                                    |
| Analogue output type                                              | I, U, off                                                                          |
| Pressure zero-point                                               | 0 % ... 50 % FS <sup>1) 2)</sup>                                                   |
| Pressure end-point                                                | 50 % ... 100 % FS <sup>2)</sup>                                                    |
| Analogue output zero-point                                        | Voltage: 0 ... 2 VDC<br>Current loop: 3.9 ... 0 _EP - 8 mA <sup>1)</sup>           |
| Analogue output end-point                                         | Voltage: 0_nP + 4 ... 10.5 VDC<br>Current loop: 0_nP + 8 ... 20.1 mA <sup>1)</sup> |
| Damping analogue output<br>rise time 10 ... 90 % nominal pressure | 0.01 ... 3.00 s                                                                    |
| Display rotate                                                    | no, yes (180°)                                                                     |
| Display mode                                                      | actual, highest, lowest, off,<br>act. - 1 decimal, act. - 2 dec., act. - 3 dec.    |
| Display update rate                                               | 1, 2, 5, 20 Hz                                                                     |
| Diagnostic mode                                                   |                                                                                    |
| Sampling time for logger                                          | 0.1 ... 999.9 s, off (0)                                                           |
| Access code                                                       | 4-digit code                                                                       |

<sup>1)</sup> optional function package

2)  $P_{EP} - P_{nP} \geq 50 \% FS$



pw\* When performing a parameter change by pressing ▲○▼ and if an access code has been defined, it has to be entered digit by digit.  
After confirming the new parameter value, the menu item of the changed parameter will be displayed.