

The DPC 8380 is the ideal combination of pressure switch and transmitter with pressure display. The parameters are set on the device or in a timesaving way via an NFC - smartphone App. The settings in combination with a comprehensive set of options make the DPC 8380 suitable for a wide range of industrial applications.



Applications

- Machine tools
- HVAC
- Refrigeration
- Water treatment
- Process technology

Features

- Parameterization also via NFC-smartphone App (Android)
- Display and electrical connection are independently rotatable 335°/343°
- Analogue output switchable mA or V
- Integrated datalogger
- Measuring range adjustable

| Technical Data | | | |
|-----------------------|--|---------------------------|--|
| Measuring principle | Thick-film-on-ceramic | Accuracy @ 25°C typ. | ± 0.5 % FS typ. ± 0.3 % FS typ. |
| Measuring range | 0 ... 0.2 to 0 ... 100 bar 0 ... 2.5 to 0 ... 1500 psi adjustable | Media temperature | -25°C ... +85°C |
| Output signal | 4 ... 20 mA, 0 ... 5 VDC, 1 ... 6 VDC, 0 ... 10 VDC, switchable mA or V | Ambient temperature | -25°C ... +85°C |
| NLH @ 25°C (BSL) typ. | ± 0.2 % FS typ. | Pressure unit for display | bar, psi, MPa, kPa, mWC, mmWC, inchWC, %, user scale |
| Switching output | 2 PNP | Logger | Ring buffer: 3518 data points Sampling time: 0.1 ... 999.9 s, Off (0) |

Ordering information/type code

| | | | | 8380 . XX | | | | XX | XX | XX | XX | XX | XX |
|---|--|---------------------|----------------------|----------------------------------|---|----------------------|------|----|----|----|----|----|----|
| Measuring range ¹⁾ | Pressure measurement range [bar] | Over pressure [bar] | Burst pressure [bar] | Pressure measurement range [psi] | Over pressure [psi] | Burst pressure [psi] | | | | | | | |
| | | 0 ... 0.2 | 1.2 | 2 | 68 | 0 ... 2.5 | 15 | 30 | F8 | | | | |
| | 0 ... 0.4 | 1.2 | 2 | 69 | 0 ... 5 | 15 | 30 | F9 | | | | | |
| | 0 ... 0.6 | 1.2 | 2 | 70 | 0 ... 10 | 20 | 30 | G0 | | | | | |
| | 0 ... 1 | 2 | 4.8 | 71 | 0 ... 15 | 45 | 70 | G1 | | | | | |
| | 0 ... 1.6 | 3.2 | 4.8 | 73 | 0 ... 20 | 45 | 70 | G3 | | | | | |
| | 0 ... 2.5 | 5 | 7.5 | 75 | 0 ... 30 | 60 | 90 | G5 | | | | | |
| | 0 ... 4 | 8 | 12 | 76 | 0 ... 50 | 100 | 150 | G6 | | | | | |
| | 0 ... 6 | 12 | 15 | 77 | 0 ... 100 | 200 | 250 | G7 | | | | | |
| | 0 ... 10 | 20 | 25 | 78 | 0 ... 150 | 300 | 375 | G8 | | | | | |
| | 0 ... 16 | 32 | 40 | 79 | 0 ... 250 | 500 | 625 | G9 | | | | | |
| | 0 ... 25 | 50 | 75 | 80 | 0 ... 400 | 800 | 1200 | H0 | | | | | |
| | 0 ... 40 | 80 | 100 | 81 | 0 ... 500 | 1000 | 1250 | H1 | | | | | |
| | 0 ... 60 | 120 | 180 | 82 | 0 ... 1000 | 2000 | 3000 | H2 | | | | | |
| | 0 ... 100 | 200 | 300 | 83 | 0 ... 1500 | 3000 | 4500 | H3 | | | | | |
| Sensor | Relative pressure, 1.4305, accuracy: 0.5 % | | | 57 | Absolute pressure, 1.4305, accuracy: 0.5 % ³⁾ | | | 87 | | | | | |
| | Relative pressure, 1.4404/1.4435, accuracy: 0.5 % ⁴⁾ | | | 59 | Absolute pressure, 1.4404/1.4435, accuracy: 0.5 % ^{3) 4)} | | | 89 | | | | | |
| | Relative pressure, 1.4462, accuracy: 0.5 % ⁴⁾ | | | 52 | Absolute pressure, 1.4462, accuracy: 0.5 % ^{3) 4)} | | | 82 | | | | | |
| | Relative pressure, titanium grade 5, accuracy: 0.5 % ⁴⁾ | | | 53 | Absolute pressure, Titanium Grade 5, accuracy: 0.5 % ^{3) 4)} | | | 83 | | | | | |
| | Relative pressure, 1.4305, accuracy: 0.3 % ⁸⁾ | | | 54 | Absolute pressure, 1.4305, accuracy: 0.3 % ⁸⁾ | | | 84 | | | | | |
| | Relative pressure, 1.4404/1.4435, accuracy: 0.3 % ^{4) 8)} | | | 56 | Absolute pressure, 1.4404/1.4435, accuracy: 0.3 % ^{4) 8)} | | | 86 | | | | | |
| | Relative pressure, 1.4462, accuracy: 0.3 % ^{4) 8)} | | | 50 | Absolute pressure, 1.4462, accuracy: 0.3 % ^{4) 8)} | | | 80 | | | | | |
| | Relative pressure, titanium grade 5, accuracy: 0.3 % ^{4) 8)} | | | 51 | Absolute pressure, titanium grade 5, accuracy: 0.3 % ^{4) 8)} | | | 81 | | | | | |
| Pressure connection | G1/4" female | | | | | | | | 10 | | | | |
| | G1/4" male | | | | | | | | 17 | | | | |
| | G1/2" male DIN3852-E ⁴⁾ | | | | | | | | 41 | | | | |
| | 1/4" NPT male ⁴⁾ | | | | | | | | 30 | | | | |
| | R1/4" male, DIN3858 ⁴⁾ | | | | | | | | 19 | | | | |
| | 7/16"-20UNF male, DIN3866 ^{3) 4)} | | | | | | | | 18 | | | | |
| | 7/16"-20UNF female, SAE J512 with valve opener ^{3) 4)} | | | | | | | | 24 | | | | |
| | 7/16"-20UNF male, SAE4 (J1926) ⁴⁾ | | | | | | | | 42 | | | | |
| | 9/16"-18UNF male, SAE6 (J1926), seal: accessory 61 ^{2) 4)} | | | | | | | | 61 | | | | |
| G3/4" frontal membrane ^{4) 6)} | | | | | | | | 52 | | | | | |
| Electrical connection | Male electrical connector M12x1, 4-pole, Mat. PA (Accessories P3, P4) | | | | | | | | 32 | | | | |
| | Male electrical connector M12x1, 5-pole, Mat. PA (Accessories P1, P2) | | | | | | | | 35 | | | | |
| Output signal | Switching output PNP, current output 4 ... 20 mA, switchable to 0 ... 10 VDC; output detail see accessories P1, P2, P3 | | | | | | | | PA | | | | |
| | Switching output PNP, voltage output 1 ... 6 VDC; output detail see accessories P1, P2, P3 | | | | | | | | PU | | | | |
| | Switching output PNP, voltage output 0 ... 10 VDC; output detail see accessories P1, P2, P3 | | | | | | | | PV | | | | |
| | Switching output PNP, voltage output 0 ... 5 VDC; output detail see accessories P1, P2, P3 | | | | | | | | PW | | | | |
| | Switching output PNP; output detail see accessory P4 | | | | | | | | PS | | | | |

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| | | |
|--------------------|--|----|
| Accessories | Pin configuration 5-pole.; 1: U+, 2: analogue, 3: U-, 4: SP1, 5: SP2 | P1 |
| | Pin configuration 5-pole.; 1: U+, 2: SP2, 3: U-, 4: SP1, 5: analogue | P2 |
| | Pin configuration 4-pole.; 1: U+, 2: analogue, 3: U-, 4: SP1 | P3 |
| | Pin configuration 4-pole.; 1: U+, 2: SP2, 3: U-, 4: SP1 | P4 |
| | Pressure peak damping element \varnothing 1.0 mm, material 1.4305 ⁷⁾ | 40 |
| | Pressure peak damping element \varnothing 0.4 mm, material 1.4305 (sensors 57, 87) resp. 1.4404 (sensors 52, 53, 59, 82, 83, 89) ⁷⁾ | 44 |
| | Seal FPM, -18°C ... +125°C | 61 |
| | Seal EPDM, -40°C ... +125°C | 63 |
| | Female electrical plug M12x1, 5-pole ⁵⁾ | 33 |
| | Parameterization standard for output signal PS (see table "Parameters") | Z5 |
| | Parameterization according to customer specification (see table "Parameters") | ZC |
| | Function package 1: Zero set / Measuring range zero point adjustment | Z1 |
| | Function package 2: User scale unit / analogue output adjustment | Z2 |
| | Protective cap, 1 pc. F89051, package of 5 pcs. F89052, package of 25 pcs. F89075 | |
| | Adapter with flange connection, 1 pc. F82054 | |

¹⁾ Extended overpressure as well as customized pressure ranges upon request

²⁾ Only for sensors 59 and 89

³⁾ Max. 40 bar or 500 psi

⁴⁾ Upon request

⁵⁾ For electrical connections 32 and 35

⁶⁾ Only with sensors 56, 50, 86, 80 (accuracy 0.3 %) and for pressure ranges \leq 25 bar or 400 psi

⁷⁾ Not for pressure connections 10, 18, 24, 52

⁸⁾ Only for pressure ranges 0 ... 0.4 to 0 ... 40 bar or 0 ... 5 to 0 ... 500 psi

Standard products (extra short lead time)

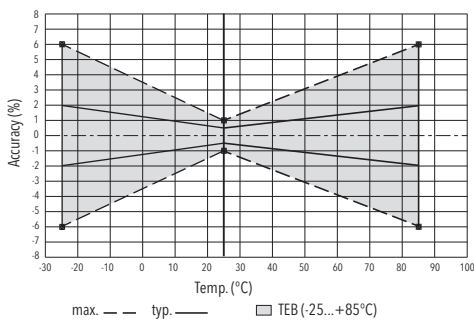
| Product No. | Type Code | Pressure range [bar] | Over pressure max. [bar] | Supply [VDC] | Accuracy @ 25°C typ. [%] |
|--------------|--|----------------------|--------------------------|--------------|--------------------------|
| DPC0.2PAP1 | 8380 68 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 0.2 | 1.2 | 15 ... 30 | \pm 0.5 |
| DPC0.4PAP1 | 8380 69 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 0.4 | 1.2 | 15 ... 30 | \pm 0.5 |
| DPC0.6PAP1 | 8380 70 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 0.6 | 1.2 | 15 ... 30 | \pm 0.5 |
| DPC1.0PAP1 | 8380 71 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 1 | 2 | 15 ... 30 | \pm 0.5 |
| DPC1.6PAP1 | 8380 73 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 1.6 | 3.2 | 15 ... 30 | \pm 0.5 |
| DPC2.5PAP1 | 8380 75 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 2.5 | 5 | 15 ... 30 | \pm 0.5 |
| DPC4.0PAP1 | 8380 76 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 4 | 8 | 15 ... 30 | \pm 0.5 |
| DPC6.0PAP1 | 8380 77 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 6 | 12 | 15 ... 30 | \pm 0.5 |
| DPC10.0PAP1 | 8380 78 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 10 | 20 | 15 ... 30 | \pm 0.5 |
| DPC16.0PAP1 | 8380 79 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 16 | 32 | 15 ... 30 | \pm 0.5 |
| DPC25.0PAP1 | 8380 80 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 25 | 50 | 15 ... 30 | \pm 0.5 |
| DPC40.0PAP1 | 8380 81 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 40 | 80 | 15 ... 30 | \pm 0.5 |
| DPC60.0PAP1 | 8380 82 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 60 | 120 | 15 ... 30 | \pm 0.5 |
| DPC100.0PAP1 | 8380 83 5717 35 0000 0000 PA P1 44 61 ZS Z1 Z2 | 0 ... 100 | 200 | 15 ... 30 | \pm 0.5 |

| Parameters | | | | |
|--|---------------------------------|--|------------|------------------------------------|
| Name | Standard setting (accessory ZS) | Value range | Short name | Customer adjustment (accessory ZC) |
| Switch point SP1 (hysteresis mode) Upper switch point FH1 (window mode) | 75 % Measuring range | SP1 > RP1 FH1 > FL1 Hysteresis \geq 1 % FS | SP1 | |
| Reset point RP1 (hysteresis mode) Lower switch point FL1 (window mode) | 25 % Measuring range | RP1 < SP1 FL1 < FH1 Hysteresis \geq 1 % FS | RP1 | |
| Switch point SP2 (hysteresis mode) Upper switch point FH2 (window mode) | 75 % Measuring range | SP2 > RP2 FH2 > FL2 Hysteresis \geq 1 % FS | SP2 | |
| Reset point RP2 (hysteresis mode) Lower switch point FL2 (window mode) | 25 % Measuring range | RP2 < SP2 FL2 < FH2 Hysteresis \geq 1 % FS | RP2 | |
| Switch point delay time SP1 (hysteresis mode) Switch point delay time FH1 (window mode) | 0 | 0 ... 99.99 s | dS1 | |
| Switch point delay time RP1 (hysteresis mode) Switch point delay time FL1 (window mode) | 0 | 0 ... 99.99 s | dR1 | |
| Switch point delay time SP2 (hysteresis mode) Switch point delay time FH2 (window mode) | 0 | 0 ... 99.99 s | dS2 | |
| Switch point delay time RP2 (hysteresis mode) Switch point delay time FL2 (window mode) | 0 | 0 ... 99.99 s | dR2 | |
| Functions switching output 1 | Hysteresis, closer (Hno) | Hysteresis NO (Hno), Hysteresis NC (Hnc) Window NO (Fno), Window NC (Fnc) | ou1 | |
| Functions switching output 2 | Hysteresis, closer (Hno) | Hysteresis NO (Hno), Hysteresis NC (Hnc) Window NO (Fno), Window NC (Fnc) | ou2 | |
| Pressure units | bar | bar, psi, MPa, kPa, mWC, inchWC | uni | |
| Measuring range adjustment | 100 % Nominal pressure | 50 ... 100 % Nominal | P_EP | |
| Damping (analogue output) | 0.01 s | 0.01 ... 3.00 s (time constant) | dAA | |
| Display rotation | No | no, yes (180°) | disr | |
| Display mode | Current pressure value | Pressure value: current, highest, lowest, display off Current value: decimal places selectable (max. 3) | dis | |
| Display actualisation | 2 | 1, 2, 5, 20 Hz | duPd | |

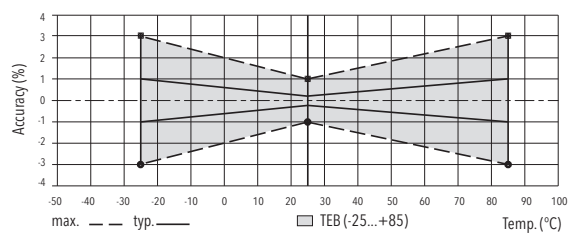
| Specifications | | |
|------------------------|--|---|
| Electrical Data | Output / supply voltage | 4 ... 20 mA: 24 (15 ... 30)VDC 0 ... 5 VDC: 24 (15 ... 30)VDC 1 ... 6 VDC: 24 (15 ... 30)VDC 0 ... 10 VDC: 24 (15 ... 30)VDC |
| | Power-on delay time | Typ. 200 ms |
| | Inverse-polarity protection, short-circuit strength @ 25°C during 5 min. | integrated |
| | Current consumption | ≤ 30 mA |
| | Environmental conditions | Media temperature |
| | Ambient temperature | -25°C ... +85°C |
| | Protection ¹⁾ | IP67 |
| | Humidity | Max. 95 % relative |
| | Vibration | 10 g (10 ... 2000 Hz) |
| | Shock | 50 g / 3 ms |
| EMC Protection | Emission | EN/IEC 61000-6-3 |
| | Immunity | EN/IEC 61000-6-2 |
| Mechanical Data | Sensor (wetted parts) | Ceramic, Al ₂ O ₃ (96 %) |
| | Pressure connection (wetted parts) | 57/87: 1.4305 (AISI303) 59/89: 1.4404/1.4435 (AISI316L) 52/82: 1.4462 (AISI318LN) 53/83: Titanium Grade 5 |
| | Housing | Zinc based die-casting alloy, nickel plated display housing plastic |
| | Sealing | FPM, EPDM |
| | Male electrical connector | See ordering information |
| | Weight | ~ 189 g |
| | Mounting torque | 15 ... 20 Nm |
| | Housing alignment | Display 335° rotatable, max. 2.5 Nm Electrical connection 343° rotatable, max. 5 Nm |

¹⁾ See electrical connection

Measuring accuracy 0.5 %



Measuring accuracy 0.3 %



| Analogue output | | | | |
|--|--|---------------|--------------------------|--------------------------|
| | | | Measuring accuracy 0.5 % | Measuring accuracy 0.3 % |
| Output signal | Switchable 4 ... 20 mA or voltage | | | |
| Accuracy | TEB @ -25 ... +85°C | [% FS typ.] | ± 2.0 | ± 1.0 |
| | Accuracy @ +25°C | [% FS typ.] | ± 0.5 | ± 0.3 |
| | NLH @ +25°C (BSL) | [% FS typ.] | ± 0.2 | ± 0.2 |
| | TC zero point and span | [% FS/K typ.] | ± 0.03 | ± 0.02 |
| | Long term stability 1 year @ +25°C | [% FS typ.] | ± 0.3 | ± 0.2 |
| Current limiting output signal | 4 ... 20 mA: 25 mA (overload) | | | |
| | 0 ... 10 VDC: < 40 mA (short-circuit) | | | |
| Damping (rise time) | 0.01 ... 3.00 s / 10 ... 90 % Nominal pressure | | | |
| Zero set; ¹⁾ Offset correction of analogue output and display indication | ± 0.2 % FS | | | |
| Measuring range zero point adjustment (P_nP) ¹⁾ | 0 ... 50 % FS ²⁾ | | | |
| Measuring range end point adjustment (P_EP) | 50 ... 100 % FS ²⁾ | | | |
| Zero point adjustment analogue output (o_nP) ¹⁾ | Voltage output: 0 ... 2 VDC | | | |
| | Current output: 3.9 ... o_EP - 8 mA | | | |
| End point adjustment analogue output (o_EP) ¹⁾ | Voltage output: o_nP + 4 ... 10.5 VDC | | | |
| | Current output: o_nP + 8 ... 20.1 mA | | | |

¹⁾ Available with optional function package, see "Accessories"

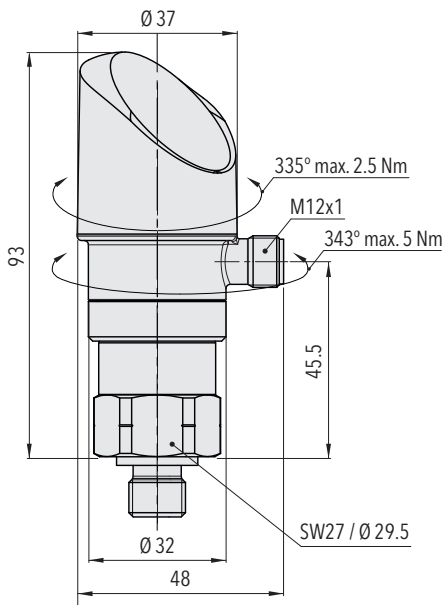
²⁾ P_EP - P_nP ≥ 50 % FS

| Switching output | | | | |
|-------------------------------|--|-------------|--------------------------|--------------------------|
| | | | Measuring accuracy 0.5 % | Measuring accuracy 0.3 % |
| Accuracy | Accuracy @ +25°C | [% FS typ.] | ± 0.5 | ± 0.3 |
| | TEB @ -25 ... +85°C | [% FS typ.] | ± 2.0 | ± 1.0 |
| | Long term stability 1 year @ +25°C | [% FS typ.] | ≤ ± 0.3 | ± 0.2 |
| Setting range of switchpoints | 0 ... 100 % FS | | | |
| Switching hysteresis | ≥ 1 % FS | | | |
| | Switchpoint > reset point | | | |
| Switching resistance | ≤ 3 Ω | | | |
| Output function | Hysteresis, Window; normally closed (NO), normally open (NC) | | | |
| Switching current | ≤ 0.5 A each switching output | | | |
| Current limiting | ≤ 2 A each switching output | | | |
| Life time | > 100 x 10 ⁶ cycles | | | |
| Switching frequency | max. 200 Hz | | | |
| Delay time | 0 ... 99.99 s | | | |

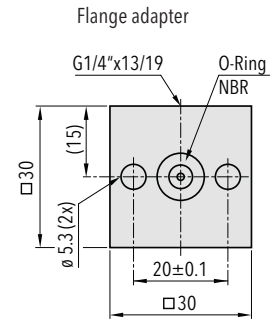
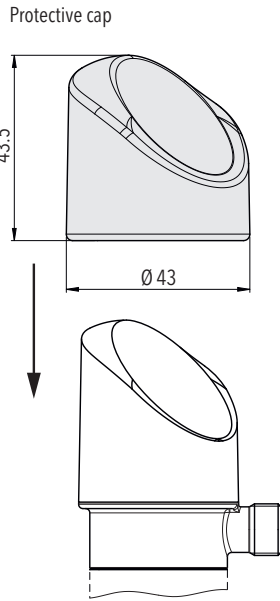
| Display | |
|--|--|
| Display | 4-digit 7-segment display 180° flippable with disable function Standard decimal places: ≤ 9: 3 decimal places 10 ... 99: 2 decimal places 100 ... 999: 1 decimal place |
| Switching status indication | 2 LED, red |
| Operation | With 3 buttons and menu navigation according to VDMA 24574-1 |
| Display resolution | 0.1 % FS |
| Display range | -3 ... 103 % FS |
| Setting parameters | See table Parameters |
| User scale unit; User defined values for display indication zero point and end point ¹⁾ | Display zero point: -999 ... 9998 Display end point: -998 ... 9999 |

¹⁾ Available with optional function package, see "Accessories"

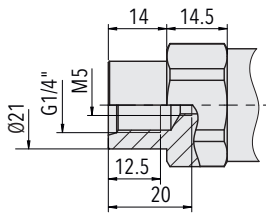
Dimensions



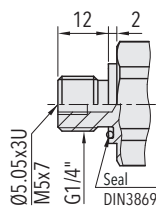
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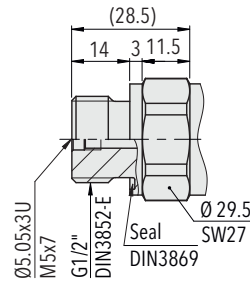
F82054
Mounting accessory
included



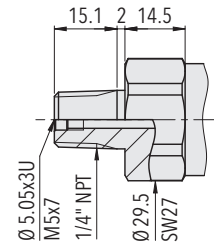
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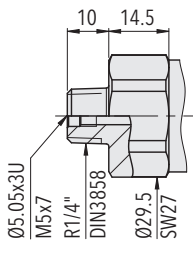
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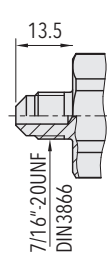
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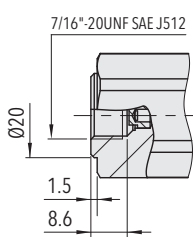
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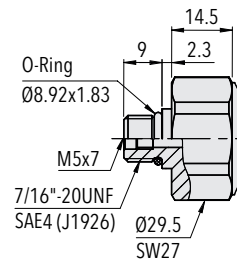
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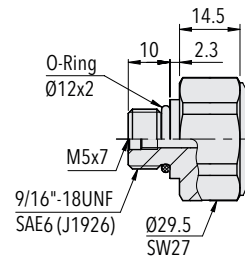
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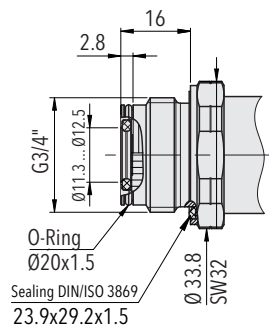
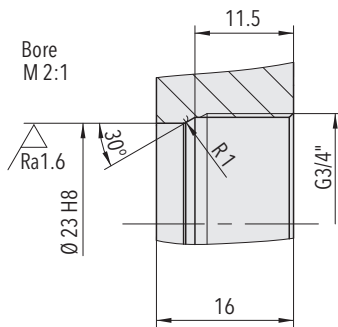
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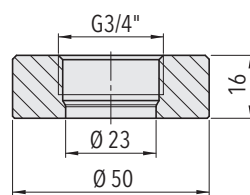
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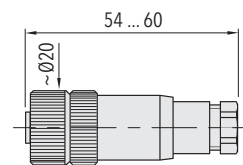
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8380.XX.XX52.XX.XX.XX



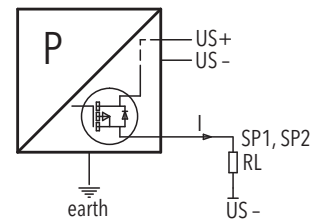
Welding flange (AISI 316L)
for G3/4" frontal membrane
Ordering No. C27805



8380.XX.XXXX.XX.XX.33

Electrical connection

| | | Protection / electrical connection | | | |
|-------------------|---------------------------------------|--|--|---|--|
| | | IP67*) | | | |
| | | M12x1 | | | |
| | | 5-pole 35 | | 4-pole 32 | |
| | | | | | |
| Output signal | | P1 | P2 | P3 | P4 |
| | PA | ✓ | ✓ | ✓ | |
| | PU | ✓ | ✓ | ✓ | |
| | PV | ✓ | ✓ | ✓ | |
| | PW | ✓ | ✓ | ✓ | |
| PS | | | | | ✓ |
| Pin Configuration | | | | | |
| | 8380.xx.xxxx.xx.PA/PU/PV/PW/PS | P1 1 3 2 4 5 Shield (***) | P2 1 3 5 4 2 Shield (***) | P3 1 3 2 4 Shield (***) | P4 1 3 - 4 2 Shield (***) |

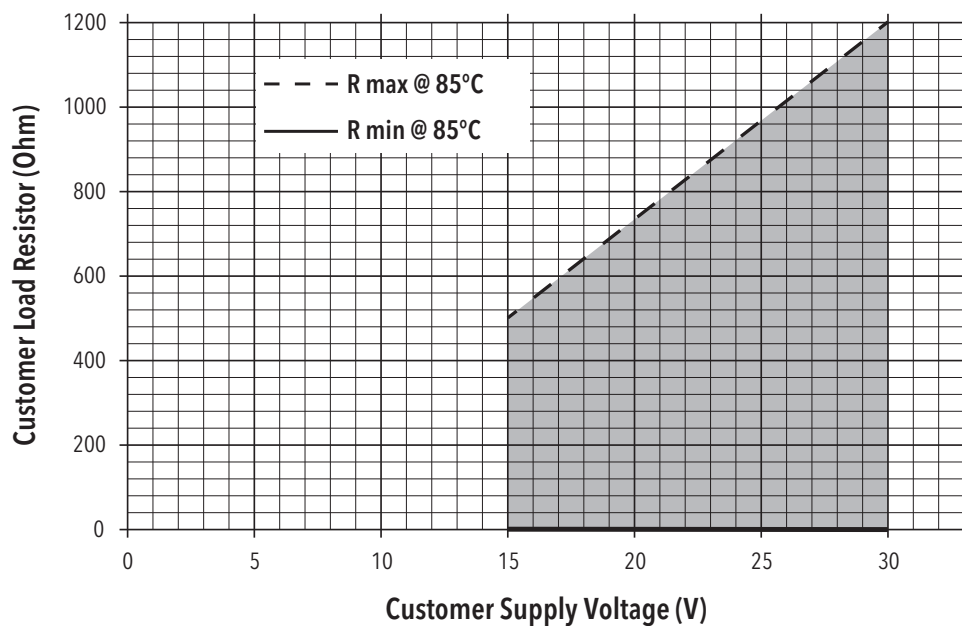


Connection of loads to switching output

*) Provided female electrical plug is mounted according to instructions

***) Die Verwendung eines abgeschirmten Kabels wird empfohlen

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



Functions switching output

