# CPA-K-807



- **hydrostatic level transmitter for aggressive media**
- **submersible probe, diameter 35 mm**
- **nominal pressure: from 0...4 $mH_2O$ up to 0...100 $mH_2O$**
- **output signals: 2-wire: 4...20 mA**
- **ceramic sensor**
- **plastic probe**
- **accuracy 0.5 % span**
- **excellent long term stability**
- **optional: various kinds of cables and seals**

The plastic submersible probe **CPA-K-807** is designed for continous level measurement for waste water or and different aggressive media. Basic element of this probe is ceramic sensor, which special design facilitates cleaning and helps prevent the accumulation of deposits, even when measuring media prone to fouling. The use of ceramic material provides high chemical resistance and long-term durability of the sensing element. Different cable and elastomer materials are available in order to achieve maximum media compatibility.

## PREFERRED AREAS OF USE ARE

Sewage
waste water treatment
water recycling
dumpsite

Aggressive media
most of acids and lyes

## TECHNICAL DATA

| **Input pressure range** | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Nominal pressure gauge | [bar] | 0.4 | 0.6 | 1 | 1.6 | 2.5 | 4 | 6 | 10 |
| Level | [$mH_2O$] | 4 | 6 | 10 | 16 | 25 | 40 | 60 | 100 |
| Overpressure | [bar] | 1 | 2 | 2 | 4 | 4 | 10 | 10 | 20 |
| Burst pressure ≥ | [bar] | 2 | 4 | 4 | 5 | 5 | 12 | 12 | 25 |
| max. ambient pressure (housing) | | 20 bar | | | | | | | |

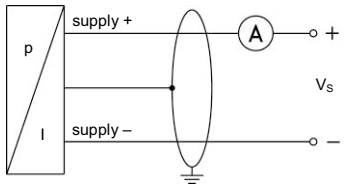
| **Output signal / Supply** | |
|---|---|
| Standard | 2-wire: 4 ... 20 mA / $V_S$ = 8 ... 32 $V_{DC}$ |
| **Performance** | |
| Accuracy [1] | ≤ ± 0.5 % span |
| Permissible load | $R_{max}$ = [($V_S$ – $V_{S\,min}$) / 0.02 A] W |
| Influence effects | supply: 0.05 % span / 10 V<br>load: 0.05 % span / kW |
| Long term stability | ≤ ± 0.1 % span / year |
| Response time | < 10 msec |
| *[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)* | |
| **Thermal effects (Offset and Span)** | |
| Thermal error | ≤ ± 0.2 % span / 10 K<br>in compensated range -25 ... 70 °C |
| **Permissible temperatures** | |
| Permissible temperatures | medium/ electronics/ environment/ storage: -20 … 80 °C * |
| **If the cable is intended for use in a smaller temperature range, the use of the probe is limited by this range.* | |
| **Electrical protection [2]** | |
| Short-circuit protection | permanent |
| Reverse polarity protection | no damage, but also no function |
| Electromagnetic compatibility | emission and immunity according to EN 61326 |
| *[2] additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request* | |
| **Electrical connection** | |
| Cable with sheath material [3] | PVC (-5 … 70 °C) grey (-25 … 70 °C in fixed condition) Ø 7,4 mm<br>PUR (-25 … 80 °C) black (with drinking water certificate) Ø 7,4 mm<br>FEP [4] (-25 … 75 °C) black Ø 7,4 mm |
| Cable capacitance | signal line/shield also signal line/signal line: 160 pF/m |
| Cable inductance | signal line/shield also signal line/signal line: 1 µH/m |
| Bending radius | static installation: 10-fold cable diameter dynamic application: 20-fold cable diameter |
| *[3] cable with integrated air tube for atmospheric pressure reference*<br>*[4] do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected* | |

| Materials (media wetted) | |
|---|---|
| Housing | PP-H |
| Seals | FKM / EPDM / FFKM |
| Diaphragm | ceramics $Al_2O_3$ 96 % |
| Cable sheath | PVC, PUR, FEP |
| **Miscellaneous** | |
| Current consumption | max. 25 mA |
| Weight | approx. 200 g (without cable) |
| Ingress protection | IP 68 |
| CE-conformity | EMC Directive: 2014/30/EU |

## ELECTRICAL CONNECTION

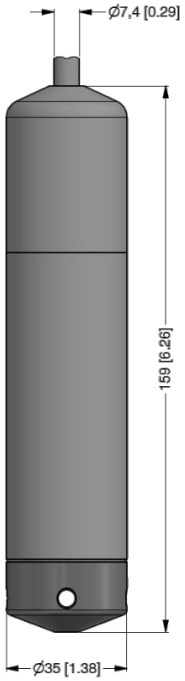
**Wiring diagram**

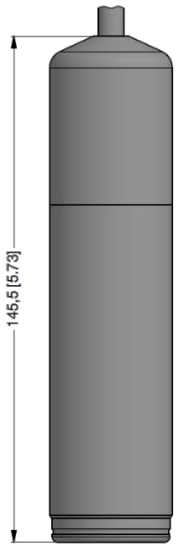
2-wire-system (current)




| Pin configuration | |
|---|---|
| Electrical connection | cable colours (DIN 47100) |
| Supply +<br>Supply – | wh (white)<br>bn (brown) |
| Shield | gn/ye (green / yellow) |

## DIMENSION DRAWINGS

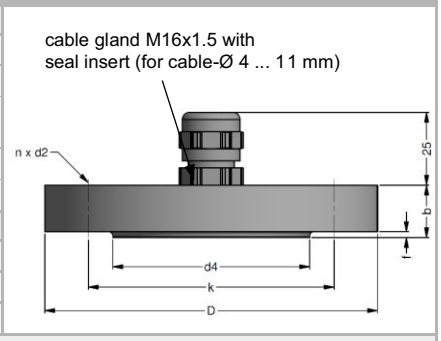



protection cap removable

## ACCESSORIES

| Assembling flange with cable gland | | |
|---|---|---|
| **Technical Data** | | |
| Suitable for | all probes | |
| Flange material | stainless steel 1.4404 (316L) | |
| Material of cable gland | standard: brass, zinc plated<br>on request: stainless steel 1.4305 (303); plastic | |
| Seal insert | material: TPE (ingress protection IP 68) | |
| Hole pattern | according to DIN 2507 | |
| **Version** | **Size (in mm)** | **Weight** |
| DN25 / PN40 | D = 115, k = 85, b = 18, n = 4, d = 14 | 1.4 kg |
| DN50 / PN40 | D = 165, k = 125, b = 20, n = 4, d = 18 | 3.2 kg |
| DN80 / PN16 | D = 200, k = 160, b = 20, n = 8, d = 18 | 4.8 kg |




| **Ordering type** | **Ordering code** |
|---|---|
| Assembling Flange DN25 / PN40 | 5000275 |
| Assembling Flange DN50 / PN40 | 5000278 |
| Assembling Flange DN80 / PN16 | 5000279 |

| Cable clamp | |
|---|---|
| **Technical Data** | |
| Suitable for | all probes with cable Ć 5.5 ... 10.5 mm |
| Material | standard: steel, zinc plated<br>optionally: stainless steel 1.4301 (304) |
| Weight | approx. 160 g |



| **Ordering type** | **Ordering code** |
|---|---|
| Terminal clamp, of steel, zinc plated | 1003440 |
| Terminal clamp, of stainless steel 1.4301 (304) | 1000278 |

## ORDER CODE

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| | | | |
|---|---|---|---|
| **Pressure** | | | |
| in bar | | | 390 |
| in m $H_2O$ | | | 391 |
| **Input** | **[$mH_2O$]** | **[bar]** | |
| | 0 … 4 | 0 … 0,4 | 4000 |
| | 0 … 6 | 0 … 0,6 | 6000 |
| | 0 … 10 | 0 … 1 | 1001 |
| | 0 … 16 | 0 … 1,6 | 1601 |
| | 0 … 25 | 0 … 2,5 | 2501 |
| | 0 … 40 | 0 … 4 | 4001 |
| | 0 … 60 | 0 … 6 | 6001 |
| | 0 … 100 | 0 … 10 | 1002 |
| Customer | | | 9999 |
| **Housing material** | | | |
| PP-H | | | R1 |
| Customer | | | 9 |
| **Diaphragm material** | | | |
| Ceramic $Al_2O_3$ 96% | | | 2 |
| Customer | | | 9 |
| **Output signal** | | | |
| 4 … 20 mA / 2-wire | | | 1 |
| 0 … 10 V / 3-wire [2] | | | 3 |
| Customer | | | 9 |
| **Seals** | | | |
| Viton (FKM) | | | 1 |
| EPDM | | | 3 |
| FFKM | | | 7 |
| Customer | | | 9 |
| **Accuracy** | | | |
| 0,5 % | | | 5 |
| 0,5 % including Calibration Certificate | | | T |
| Customer | | | 9 |

## ORDER CODE

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| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Electrical connection** | | | | | | | | |
| PVC - cable (grey, Ø 7,4 mm, price for 1 m)[1] | 1 | | | | | | | |
| PUR - cable (black, Ø 7,4 mm, price for 1 m)[1] | 2 | | | | | | | |
| FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)[1] | 3 | | | | | | | |
| Customer | 9 | | | | | | | |
| **Cable length** | | | | | | | | |
| in m | | 9 | 9 | 9 | | | | |
| **Special version** | | | | | | | | |
| Standard | | | | | 0 | 0 | 0 | |
| Customer | | | | | 9 | 9 | 9 | |
| **Accessories for submersible transmitter** | | | | | | | | |
| Terminal clamp - zinc plated | | | | | | | | 1003440 |
| Terminal clamp - Stainless Steel 1.4301 | | | | | | | | 1000278 |
| Mounting screw PG16 - plastic | | | | | | | | 5002200 |

1 - shielded cable with integrated ventilation tube for atmospheric pressure reference
2 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m

Manufacturer reserves the right to change sensor specifications without further notice.