CPA-K-858

- hydrostatic level transmitter for viscous and aggressive media
- detachable submersible probe, diameter 45 mm
- nominal pressure: from 0...40 cmH_2O up to 0...100 mH_2O
- output signals: 2-wire: 4...20 mA; 3-wire: 0...10 V
- plastic probe
- ceramic sensor
- accuracy 0.35 % / 0.25 % span
- chemical resistance, housing material PP-H or PVDF
- optional: diaphragm 99.9 % Al_2O_3, different kinds of cables and seals

The detachable plastic submersible probe **CPA-K-858** is designed for level measurement in most aggressive media. Usage in more viscous media as for example sludge is possible because of the semiflush diaphragm.
In order to facilitate stock-keeping and maintenance the transmitter head is plugged to the cable assembly with a connector and can be changed easily.

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]	0.04	0.06	0.1	0.16	0.25	0.4	0.6	1	1.6	2.5	4	6	10
Level [mH_2O]	0.4	0.6	1	1.6	2.5	4	6	10	16	25	40	60	100
Overpressure [bar]	2	2	4	4	6	6	8	8	15	25	25	35	35
max. ambient pressure (housing)	10 bar												

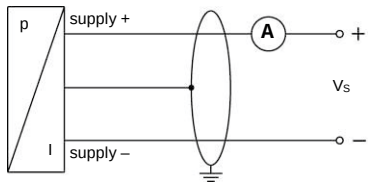
Output signal / Supply			
Standard	2-wire: 4 ... 20 mA / V_S = 9 ... 32 V_{DC}	option 3-wire:	0 ... 10 V / V_S = 12.5 ... 32 V_{DC}
Performance			
Accuracy	standard: option:	IEC 60770 [1] ≤ ± 0.35 % span ≤ ± 0.25 % span	
Permissible load	R_{max} = [(V_S – $V_{S\,min}$) / 0.02 A] W		
Influence e ects	supply: 0.05 % span / 10 V load: 0.05 % span / kW		
Long term stability	≤ ± 0.1 % span / year		
Turn-on time	700 msec		
Mean response time	< 200 msec	measuring rate 5/sec	
Max. response time	380 msec		
[1] accuracy according to EN IEC 62828-2– limit point adjustment (non-linearity, hysteresis, repeatability)			
Thermal e ects (Offset and Span)			
Thermal error	≤ ± 0.1 % span / 10 K in compensated range 0 ... 50 °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		
Lightning protection	2-wire: integrated	3-wire: without	
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 PUR (-25 … 80 °C) black (with drinking water certificate) Ø 7,4 mm 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 *[4] do not use freely suspended probes with an FEP cable if e ects due to highly charging processes are expected*	
Materials (media wetted)	
Housing	PP-H or PVDF
Seals	FKM / EPDM / others on request
Diaphragm	standard: ceramics Al_2O_3 96 % option: ceramics Al_2O_3 99.9 %
Cable sheath	PVC, PUR, FEP, others on request
Miscellaneous	
Option cable protection (on request)	prepared for mounting with PP-HT pipe Ø 25 mm; available as compact product (standard: pipe with a total length up to 2 m possible)
Current consumption	max. 25 mA
Weight	approx. 400 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2014/30/EU

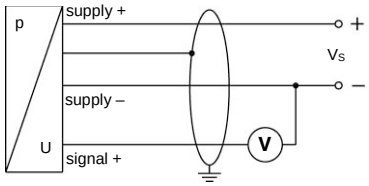
ELECTRICAL CONNECTION

Wiring diagram

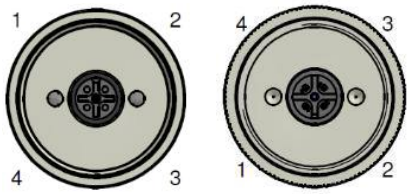
2-wire-system (current)



3-wire-system (voltage)



M12x1 (4-pin)

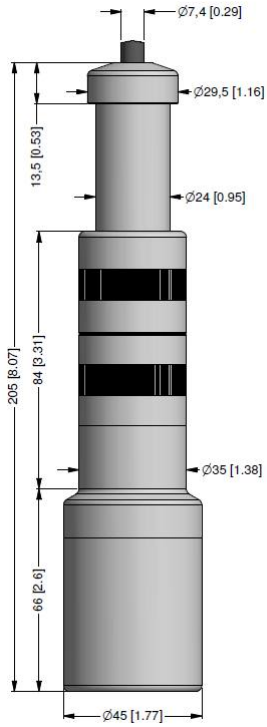


Pin configuration

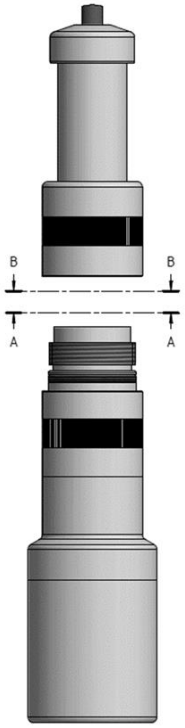
Electrical connection	M12x1 (4-pin)[5]	cable colours (DIN 47100)
Supply + Supply – Signal + (only for 3-wire)	3 4 1	wh (white) bn (brown) gn (green)
Shield	2	gn/ye (green / yellow)

[5] in detached version

DIMENSION DRAWINGS



standard



detached version

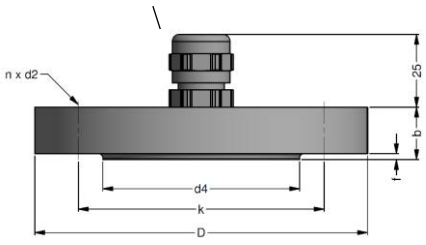
A - A

B - B

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 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

cable gland M16x1.5 with
seal insert (for cable-Ø 4 ... 11 mm)



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

Terminal clamp	
Technical Data	
Suitable for	all probes with cable Ć 5.5 ... 10.5 mm
Material	standard: steel, zinc plated 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

CPA-K-858-□□□-□□□□-□-□-□-□-□-□-□□□-□□□

Pressure			
in bar			4 1 5
in m H_2O			4 1 6
Input	**[mH_2O]**	**[bar]**	
	0…0.4	0…0,04	0 4 0 0
	0…0.6	0…0,06	0 6 0 0
	0…1.0	0…0,1	1 0 0 0
	0…1.6	0…0,16	1 6 0 0
	0…2.5	0…0,25	2 5 0 0
	0…4.0	0…0,4	4 0 0 0
	0…6.0	0…0,6	6 0 0 0
	0…10	0…1.0	1 0 0 1
	0…16	0…1,6	1 6 0 1
	0…25	0…2,5	2 5 0 1
	0…40	0…4.0	4 0 0 1
	0…60	0…6.0	6 0 0 1
	0…100	0…10	1 0 0 2
Customer			9 9 9 9
Housing material			
PP-H			R1
PVDF (accuracy 0,5 %)			B
Customer			9
Diaphragm material			
Ceramic Al_2O_3 96 %			2
Ceramic Al_2O_3 96 % with PTFE foil (accuracy ≥ 1 %) - not possible for underpressure			3
Ceramic Al_2O_3 99,9 %			C
Customer			9
Output signal			
4 … 20 mA / 2-wire			1
0 … 10 V / 3-wire [3]			3
Customer			9
Seals			
Viton (FKM)			1
EPDM			3
Customer			9
Electrical connection			
Without cable part			0
PVC - cable (grey, Ø 7,4 mm, price for 1 m)			1
PUR - cable (black, Ø 7,4 mm, price for 1 m)			2
FEP - cable with PTFE sheath (black, Ø 7,4 mm, price for 1 m)			3
Customer			9
Accuracy			
0,5 % (PVDF housing)			5
0,35 % (standard)			3
0,25 %			2
0,35 % including Calibration Certificate			S
Customer			9
Cable length			
in m			9 9 9
Special version			
Standard			0 0 0
Prepared for mounting with protecting pipe Ø 20 mm			1 0 6
Customer			9 9 9

Accessories for submersible transmitter		
Cabel part + price for cabel in m	5000695	5000722
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 - pipe is not part of the supply
3 - maximum length of PVC cable – 25 m, PUR, FEP, TPE – 40 m

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