

# LMK 858



## Separable Plastic Probe

Ceramic Sensor

accuracy according to IEC 60770:  
standard: 0.35 % FSO  
option: 0.25 % FSO

### Nominal pressure

from 0 ... 40 cmH<sub>2</sub>O up to 0 ... 100 mH<sub>2</sub>O

### Output signals

2-wire: 4 ... 20 mA  
3-wire: 0 ... 10 V  
others on request

### Special characteristics

- ▶ diameter 45 mm
- ▶ cable assembly and probe head separable
- ▶ chemical resistance
- ▶ housing PP-HT

### Optional versions

- ▶ diaphragm 99.9 % Al<sub>2</sub>O<sub>3</sub>
- ▶ different kinds of cables and elastomers
- ▶ cable protection (on request)

The separable plastic probe LMK 858 is designed for level measurement in most aggressive media. Usage in more viscous media as for example sludge is possible because of the semi-flush diaphragm.

In order to facilitate stock-keeping and maintenance the probe 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  
level measurement in  
most of acids and lyes



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 <sub>2</sub> O]	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

Output signal / Supply	
Standard	2-wire: 4 ... 20 mA / $V_S = 9 \dots 32 V_{DC}$
Option 3-wire	3-wire: 0 ... 10 V / $V_S = 12.5 \dots 32 V_{DC}$

Performance	
Accuracy <sup>1</sup>	standard: $\leq \pm 0.35 \% \text{ FSO}$ option: $\leq \pm 0.25 \% \text{ FSO}$
Permissible load	$R_{max} = [(V_S - V_{Smin}) / 0.02 \text{ A}] \Omega$
Influence effects	supply: 0.05 % FSO / 10 V      load: 0.05 % FSO / k $\Omega$
Long term stability	$\leq \pm 0.1 \% \text{ FSO} / \text{year}$ at reference conditions
Turn-on time	700 msec
Mean response time	< 200 msec      measuring rate 5/sec
Max. response time	380 msec

<sup>1</sup> accuracy according to IEC 60770 – limit point adjustment (non-linearity, hysteresis, repeatability)

Thermal effects (Offset and Span)	
Thermal error	$\leq \pm 0.1 \% \text{ FSO} / 10 \text{ K}$ in compensated range 0 ... 50 °C

Permissible temperatures	
Permissible temperatures	medium / electronic / environment / storage: -25 ... 80 °C

Electrical protection <sup>2</sup>	
Short-circuit protection	permanent
Reverse polarity protection	no damage, but also no function
Electromagnetic compatibility	emission and immunity according to EN 61326

<sup>2</sup> additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request

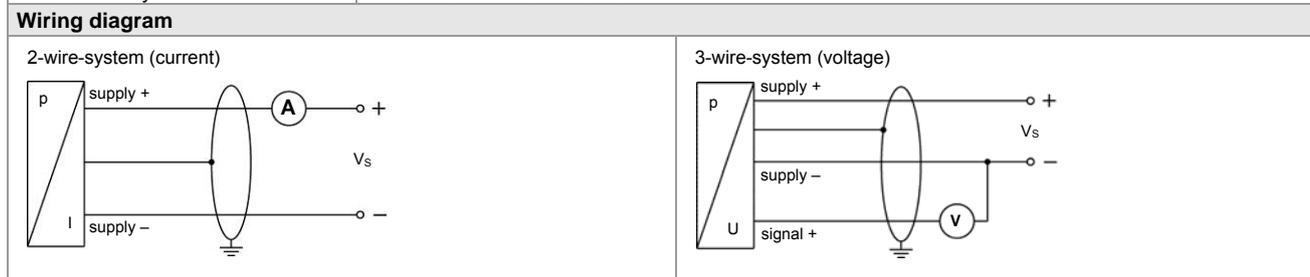
Electrical connection	
Cable with sheath material <sup>3</sup>	PVC (-5 ... 70 °C) grey $\varnothing$ 7.4 mm PUR (-25 ... 70 °C) black $\varnothing$ 7.4 mm FEP <sup>4</sup> (-25 ... 70 °C) black $\varnothing$ 7.4 mm
Cable capacitance	signal line/shield also signal line/signal line: 160 pF/m
Cable inductance	signal line/shield also signal line/signal line: 1 $\mu$ H/m
Bending radius	static installation: 10-fold cable diameter      dynamic application: 20-fold cable diameter

<sup>3</sup> shielded cable with integrated ventilation tube for atmospheric pressure reference

<sup>4</sup> do not use freely suspended probes with an FEP cable if effects due to highly charging processes are expected

Materials (media wetted)	
Housing	PP-HT
Seals	FKM, EPDM, others on request
Diaphragm	standard: ceramics Al <sub>2</sub> O <sub>3</sub> 96 %      option: ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %
Cable sheath	PVC, PUR, FEP, others on request

Miscellaneous	
Option cable protection (on request)	prepared for mounting with PP-HT pipe $\varnothing$ 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



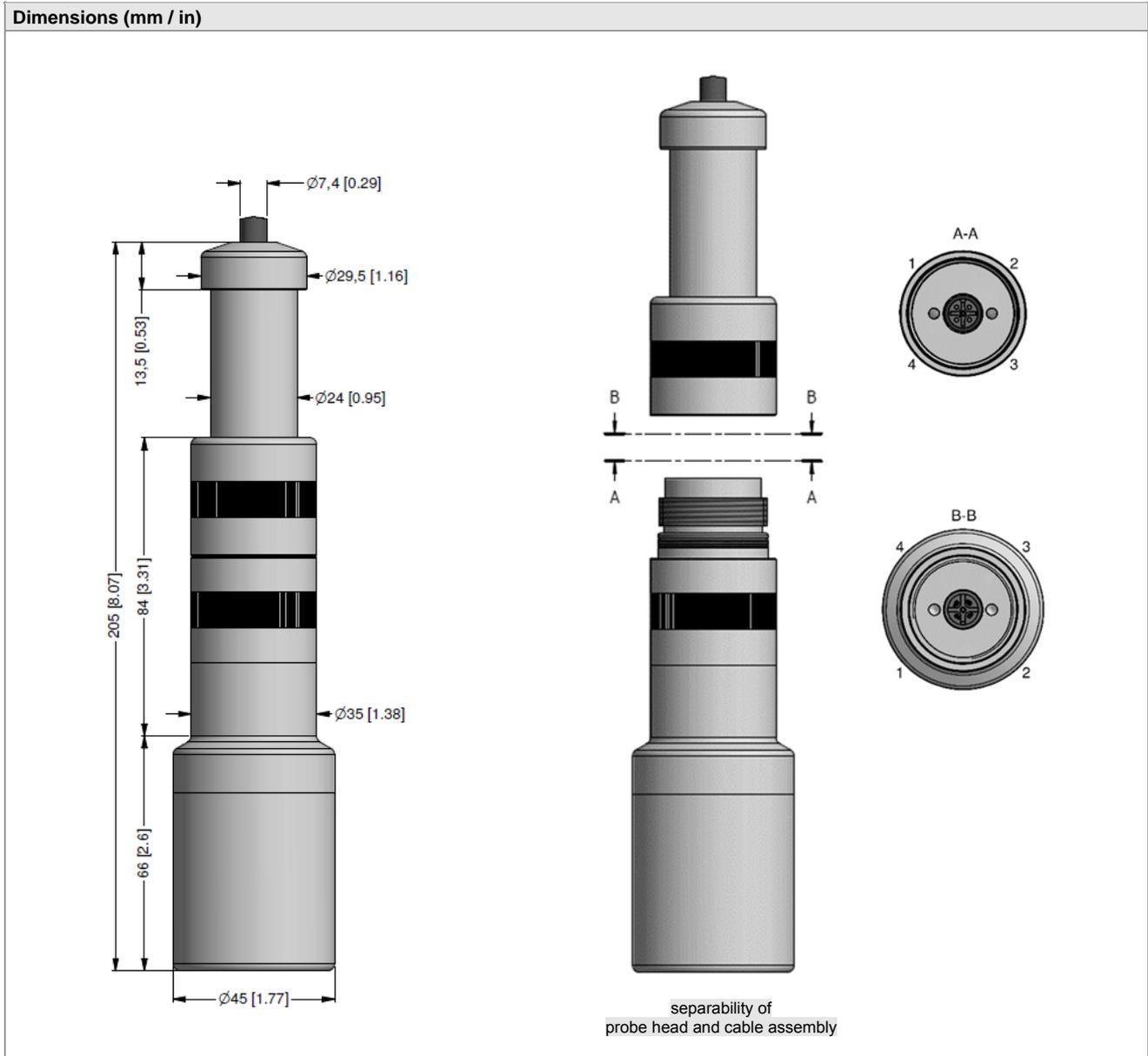
Pin configuration		
Electrical connection	M12x1 (4-pin) <sup>5</sup>	cable colours (IEC 60757)
Supply +	3	WH (white)
Supply -	4	BN (brown)
Signal + (only for 3-wire)	1	GN (green)
Shield	2	GNYE (green-yellow)

<sup>5</sup> in separated version

# LMK 858

Separable Plastic Probe

Technical Data



## Accessories

### Terminal clamp



#### Technical data

Suitable for	all probes with cable $\varnothing$ 5.5 ... 10.5 mm	
Material of housing	standard: steel, zinc plated	optionally: stainless steel 1.4301 (304)
Material of clamping jaws and positioning clips	PA (fibre-glass reinforced)	
Dimensions (mm)	174 x 45 x 32	
Hook diameter	20 mm	
<b>Ordering type</b>	<b>Ordering code</b>	<b>Weight</b>
Terminal clamp, steel, zinc plated	Z100528	approx. 160 g
Terminal clamp, stainless steel 1.4301 (304)	Z100527	

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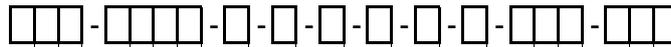
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**BDSENSORS**  
pressure measurement

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## Ordering code LMK 858

LMK 858



Pressure																				
	in bar	4	1	5																
	in mH <sub>2</sub> O	4	1	6																
Input		[mH <sub>2</sub> O]	[bar]																	
	0.4	0.04		0	4	0	0													
	0.6	0.06		0	6	0	0													
	1.0	0.10		1	0	0	0													
	1.6	0.16		1	6	0	0													
	2.5	0.25		2	5	0	0													
	4.0	0.40		4	0	0	0													
	6.0	0.60		6	0	0	0													
	10	1.0		1	0	0	1													
	16	1.6		1	6	0	1													
	25	2.5		2	5	0	1													
	40	4.0		4	0	0	1													
	60	6.0		6	0	0	1													
	100	10		1	0	0	2													
	customer			9	9	9	9													consult
Housing																				
	PP-HT						R													
	customer						9													consult
Diaphragm																				
	ceramics Al <sub>2</sub> O <sub>3</sub> 96 %						2													
	ceramics Al <sub>2</sub> O <sub>3</sub> 99.9 %						C													
	customer						9													consult
Output																				
	4 ... 20 mA / 2-wire								1											
	0 ... 10 V / 3-wire								3											
	customer								9											consult
Seals																				
	FKM								1											
	EPDM								3											
	customer								9											consult
Electrical connection																				
	PVC-cable (grey, Ø 7.4 mm) <sup>1</sup>								1											
	PUR-cable (black, Ø 7.4 mm) <sup>1</sup>								2											
	FEP-cable (black, Ø 7.4 mm) <sup>1</sup>								3											
	customer								9											consult
Accuracy																				
	standard	0.35 % FSO							3											
	option	0.25 % FSO							2											
	customer								9											consult
Cable length																				
	in m									9	9	9								
Special version																				
	standard												0	0	0					
	prepared for pipe mounting <sup>2</sup>												1	0	6					consult
	customer												9	9	9					consult

<sup>1</sup> shielded cable with integrated ventilation tube for atmospheric pressure reference

<sup>2</sup> pipe is not part of the supply