

# LMK 858

## Separable Plastic Submersible 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 and probe separable
- ▶ chemical resistance
- ▶ housing PVC

### Optional versions

- ▶ cable protection via PVC pipe
- ▶ diaphragm 99.9 % Al<sub>2</sub>O<sub>3</sub>
- ▶ different kinds of cable
- ▶ different kinds of seal materials

The separable plastic submersible 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 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

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 <sub>S</sub> = 9 ... 32 V <sub>DC</sub> option 3-wire: 0 ... 10 V / V <sub>S</sub> = 12.5 ... 32 V <sub>DC</sub>

Performance	
Accuracy	IEC 60770 <sup>1</sup> standard: ≤ ± 0.35 % FSO option: ≤ ± 0.25 % FSO
Permissible load	$R_{max} = [(V_S - V_{Smin}) / 0.02 A] \Omega$
Influence effects	supply: 0.05 % FSO / 10 V load: 0.05 % FSO / k $\Omega$
Long term stability	≤ ± 0.1 % FSO / year
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	≤ ± 0.1 % FSO / 10 K in compensated range 0 ... 50 °C

Permissible temperatures	
Permissible temperatures	medium: -10 ... 50 °C electronic / environment: -10 ... 50 °C storage: -10 ... 50 °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

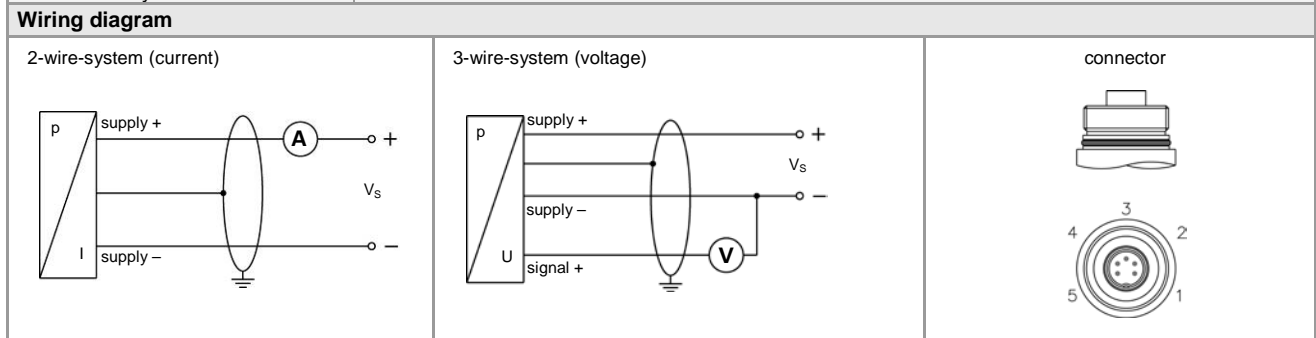
<sup>2</sup> additional external overvoltage protection unit in terminal box KL 1 or KL 2 with atmospheric pressure reference available on request

Electrical connection	
Cable with sheath material <sup>3</sup>	PVC (-5 ... 50 °C) grey PUR (-10 ... 50 °C) black FEP (-10 ... 50 °C) black
Cable protection	standard: without cable protection optional: prepared for mounting of a PVC pipe with diameter 25 mm

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

Materials (media wetted)	
Housing	PVC grey
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 %

Miscellaneous	
Connecting cables (by factory)	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
Current consumption	max. 25 mA
Weight	approx. 400 g (without cable)
Ingress protection	IP 68
CE-conformity	EMC Directive: 2004/108/EC



Pin configuration			
Electrical connection	Binder series 723 <sup>4</sup> (5-pin)		cable colours (DIN 47100)
	2 - wire	3 - wire	
Supply +	3	3	wh (white) bn (brown) gn (green)
Supply -	1	4	
Signal + (only for 3-wire)	-	1	
Shield	5	5	gn/ye (green / yellow)

<sup>4</sup> in separated version

Dimensions (in mm)			

## Accessories

Terminal clamp	
<b>Technical Data</b>	
Suitable for	all probes with cable $\varnothing$ 5.5 ... 10.5 mm
Material	standard: steel, zinc plated optionally: stainless steel 1.4301 (304)
Weight	approx. 160 g
<b>Ordering type</b>	<b>Ordering code</b>
Terminal clamp, steel, zinc plated	Z100528
Terminal clamp, stainless steel 1.4301 (304)	Z100527

This data sheet contains product specification, properties are not guaranteed. Subject to change without notice.

## Ordering code LMK 858

LMK 858

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Pressure																										
	in bar	4	1	5																						
	in mH <sub>2</sub> O	4	1	6																						
Input																										
	[mH <sub>2</sub> O]	0.40	0.04				0	4	0	0																
	[bar]	0.60	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																										
	PVC								A																	
	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 <sup>1</sup>								1																	
	PUR-cable <sup>1</sup>								2																	
	FEP-cable <sup>1</sup>								3																	
	customer								9																	consult
Accuracy																										
	standard		0.35 %						3																	
	option		0.25 %						2																	
	customer								9																	consult
Cable length																										
	in m									9	9	9														
Special version																										
	standard																									
	prepared for mounting with PVC pipe <sup>2</sup>																									
	customer																									consult

<sup>1</sup> cable with integrated air tube for atmospheric pressure reference  
<sup>2</sup> PVC pipe is not part of the supply

This price list contains product specification; properties are not guaranteed. Detailed information about options are defined in the datasheet. Subject to change without notice.

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