

LMK 358H



Detachable Stainless Steel Probe with HART®-communication

Ceramic Sensor

accuracy according to EN IEC 62828-2: 0.1 % span

Nominal pressure

from 0 ... 60 cmH₂O up to 0 ... 100 mH₂O

Output signals

2-wire: 4 ... 20 mA others on request

Special characteristics

- diameter 39.5 mm
- cable and sensor section detachable
- HART® communication (setting of offset, span and damping)
- permissible temperatures up to 85 °C
- high long-term stability

Optional versions

▶ IS-version

Ex ia = intrinsically safe for gas and

- cable protection on request
- diaphragm 99.9 % Al₂O₃
 accessories e.g. mounting flange with
- ▶ cable gland and terminal clamp

The detachable stainless steel probe LMK 358H has been designed for level measurement in waste water, waste and higher viscosity media. Basic element is a capacitive ceramic sensor.

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



Water

ground water level measurement rain spillway basin



Sewage

waste water treatment water recycling





level monitoring in open tanks with low filling heights fuel storage tank farms biogas plants













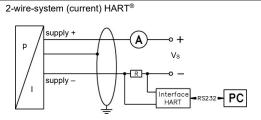


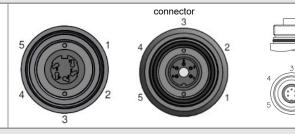
Input pressure range ¹								
Nominal pressure gauge	[bar]	0.06	0.16	0.4	1	2	5	10
Level	[mH ₂ O]	0.6	1.6	4	10	20	50	100
Overpressure	[bar]	2	4	6	8	15	25	35
max. ambient pressure (housing)		40 bar						
On customer request we adjust the devices by software on the required pressure ranges, within the turn-down-possibility (starting at 0.02 bar)								

Output signal / Supply					
Standard	2-wire: 4 20 mA	/ V _S = 12 36 V _{DC} with HART® commun	ication V _{S rated} = 24 V _{DC}		
Option IS-protection	2-wire: 4 20 mA	/ V _S = 12 28 V _{DC} with HART® commun			
Performance					
Accuracy ²	P _N ≥ 160 mbar	TD ≤ 5:1 ≤ ± 0.2 % span	TD _{max} = 10:1		
,		TD > 5:1 $\leq \pm [0.2 + 0.03 \times TD] \% \text{ spa}$			
	P _N < 160 mbar	≤ ± [0.2 + 0.1 x TD] % spar			
	P _N ≥ 0.6 bar	TD \leq 5:1 \leq ± 0.1 % span	TD _{max} = 10:1		
		TD > 5:1 $\leq \pm [0.1 + 0.02 \times TD] \% \text{ spa}$			
Permissible load	$R_{\text{max}} = [(V_{\text{S}} - V_{\text{S min}}) / ($	0.02 A] Ω load at HART®-commu	nication: $R_{min} = 250 \Omega$		
Long term stability		% span / year at reference conditions			
Influence effects	supply: 0.05 % span		Ω		
Turn-on time	850 msec	·			
Mean response time	140 msec – without c	onsideration of electronic damping	measuring rate 7/sec		
Max. response time	380 msec				
Adjustability	- electronic damping - offset: 0 80 % sp	configuration of following parameters possible (interface / software necessary ³) - electronic damping 0 100 sec - offset: 0 80 % span - turn-down of span: max. 10:1			
	o be ordered separately (soft	ware appropriate for Windows® 95, 98, 2000, NT Ve	ersion 4.0 or higher, and XP)		
Thermal effects (Offset and Spa					
Tolerance band	≤ ± (0.2 x turn-down)				
TC, average	± (0.02 x turn-down) 9	% span / 10 K			
in compensated range		-20 80 °C			
Permissible temperatures *If the cable is intended for use in a sn		environment/ storage: -20 85 °C * use of the probe is limited by this range.			
Electrical protection 4	ialler terriperature range, trie	use of the probe is inflited by this range.			
•					
Short-circuit protection Reverse polarity protection	permanent	as function			
Lightning protection	no damage, but also no function integrated				
Electromagnetic compatibility	emission and immunity according to EN 61326				
		ith atmospheric pressure reference available on request			
Mechanical stability					
Vibration	4 g (according to: DIN	J FN 60068-2-6)			
Electrical connection	i g (according to: Dir	1 211 00000 2 0)			
	D\(C \(\(\) \(\	grov (25 70 °C in fixed condition)	Ø 7.4 mm		
Cable with sheath material ⁵ 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 ⁶ (-25 75 °C) black Ø 7,4 mm					
	FEP ⁶ (-25 75 °C TPE-U (-25 125 °C		Ø 7,4 mm		
Bending radius		fold cable diameter, dynamic application: 20-f			
⁵ shielded cable with integrated air tub		. , , , , , , ,			
		lue to highly charging processes are expected			
Materials (media wetted)					
Housing	stainless steel 1.4404	(316L)			
Seals	FKM				
		thers on request			
Diaphragm	standard: ceramics				
		option: ceramics Al ₂ O ₃ 99.9 %			
Protection cap	POM-C				
Cable cheath	PVC, PUR, FEP, TPE	-U			
Explosion protection					
Approval DX5A-LMK 358H	IBExU10ATEX1185 X Zone 0 7: II 1G Ex ia I		85°C		
Safety technical maximum values	U _i = 28 V, I _i = 93 mA,	P_i = 660 mW, C_i = 13,2 nF , L_i = 0 μ H, C_{iGND} = as have an inner capacity of max. 27 nF opposition			
Permissible media temperature	in zone 0:	in zone 0: -20 60 °C with p _{atm} 0.8 bar up to 1.1 bar			
Connecting cables		ignal line/shield also signal line/signal line: 16	60 pF/m		

Miscellaneous			
Current consumption	max. 21 mA		
Weight	approx. 650 g (without cable)		
Ingress protection	IP 68		
CE-conformity	EMC Directive: 2014/30/EU		
Směrnice ATEX	2014/34/EU		
Minima dia mana			

Wiring diagram





Pin	confi	gurat	ion

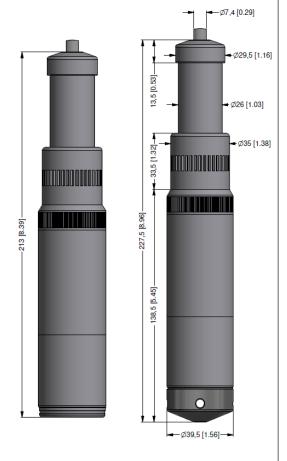
- III oo III garaan		
Electrical connection	Binder series 723 8 (5-pin)	cable colours (DIN 47100)
Supply +	3	WH (white)
Supply –	1	BN (brown)
Shield	5	GN/YE (green / yellow)

⁸ in detached version

Dimensions (mm / in)







protection cap removable

HART® is a registered trade mark of HART Communication Foundation;
Windows® is a registered trade mark of Microsoft Corporation Windows® is a registered trade mark of Microsoft Corporation

Terminal clamp

Technical Data			
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		
Ordering type		Ordering code	



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

Display program

CIT 200

Process display with LED display

CIT 250

Process display with LED display and contacts

CIT 300

Process display with LED display, contacts and analogue output

CIT 350

Process display with LED display, bargraph, contacts and analogue output

CIT 400

Process display with LED display, contacts, analogue output and Ex-approval

CIT 600

Multichannel process display with graphics-capable LC display

CIT 650

Multichannel process display with graphics-capable LC display and datalogger

CIT 700

Multichannel process display with graphics-capable TFT monitor, touchscreen and contacts

PA 440

Tel.:

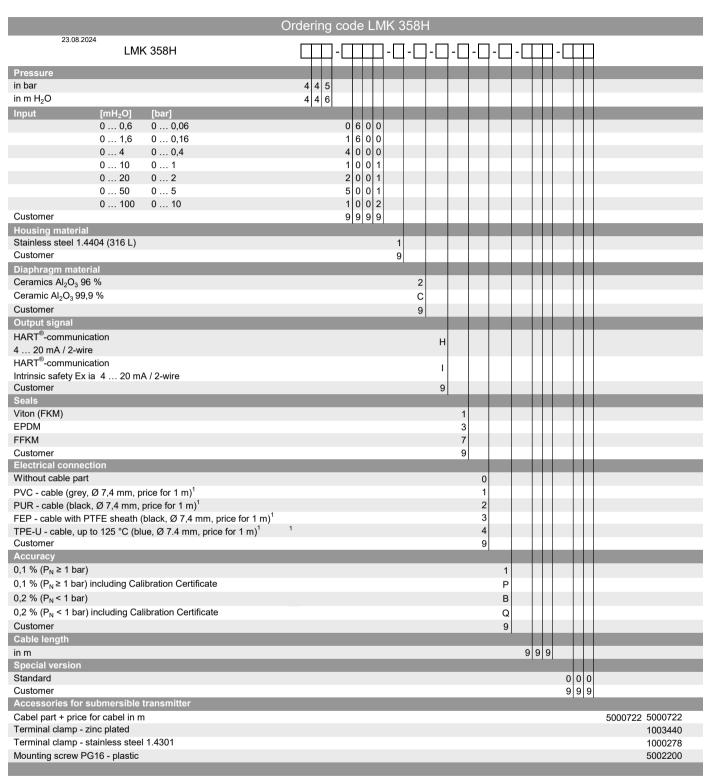
Field display with 4-digit LC display

For further information please contact our sales department or visit our homepage: http://www.bdsensors.com



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





0,-...without additional charge On request...in accordance with the producer

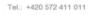
Surcharges for calibration are not subject to any discounts. Subject to change.

This document contains the specification for ordering the product; detailed technical parameters of the product and its possible variants are given in the data sheet.

BD SENSORS reserves the right to change sensor specifications without further notice.



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1 shielded cable with integrated ventilation tube for atmospheric pressure reference



