

Reed sensor For bypass level indicators Model BLR

KSR data sheet LM 10.04



for further approvals
see page 3



Applications

- Sensor for the continuous level measurement of liquids in bypass level indicators
- Chemical, petrochemical industry, natural gas, offshore, shipbuilding, machine building, power generating equipment, power plants
- Process water and drinking water treatment, food and beverage industry, pharmaceutical industry

Special features

- Installation of head-mounted transmitters in the connection housing possible
- Wide variety of different electrical connections, process connections, materials and contact separations
- Programmable and configurable head-mounted transmitters for 4 ... 20 mA, HART®, PROFIBUS® PA or FOUNDATION™ Fieldbus field signals
- Explosion-protected versions
- Temperature ranges from -100 ... +350 °C



Reed sensor, model BLR-S

Description

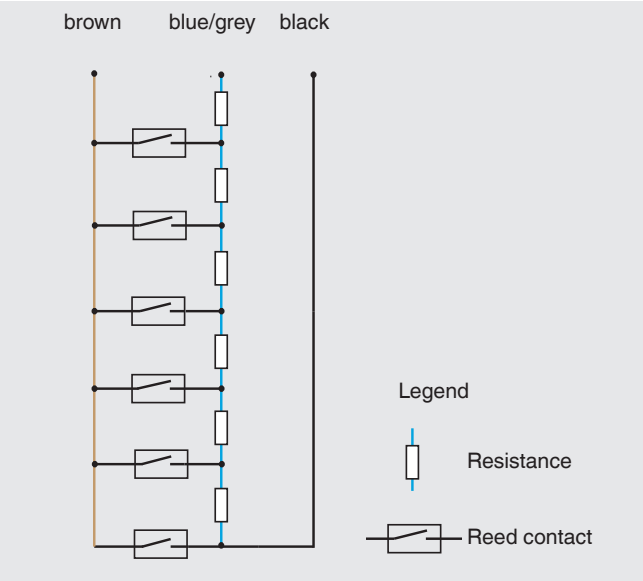
The model BLR reed sensors are used for continuous monitoring and recording of the liquid level in connection with transmitters. They work on the float principle with magnetic transmission (permanent magnet, reed switch and resistance measuring chain) in a 3-wire potentiometer circuit.

A magnetic system built into the float actuates reed contacts, through the walls of the bypass chamber and of the sensor tube, in a resistance measuring chain (potentiometer). The measurement voltage generated by this is proportional to the fill level.











The resistance measuring chain is made up from reed contacts and resistors soldered onto a PCB. Depending on requirements and design several different contact separations from 5 to 18 mm are available.

For selecting the optimum sensor (sensor model, connection housing, electrical connection, sensor tube (material and total length), contact separation, head-mounted transmitter, measuring range, approval) we offer application-related technical advice.

Internal circuit diagram of the reed sensors



Approvals

Logo	Description	Country
 	EU declaration of conformity <ul style="list-style-type: none"> ■ EMC directive EN 61326 emission (group 1, class B) and interference immunity (industrial application) ■ RoHS directive ■ ATEX directive (option) Hazardous areas - Ex i II 2G Ex ia IIC T4 ... T6 Gb or II 2G Ex ib IIC T4 ... T6 Gb or II 2D Ex ib IIIC T80 °C Db No. KEMA 01 ATEX 1052 X - Ex d II 2G Ex d IIC T6 Gb or II 2D Ex tb IIIC T80 °C Db No. TÜV 13 ATEX 7399 X 	European Union
	IECEX (option) Hazardous areas - Ex d Zone 1/2 -40 °C ≤ Ta ≤ +55 °C Ex d IIC T6 Ex tD A21 IP65 T80 °C No. IECEX TUR 09.0002X	International
	EAC <ul style="list-style-type: none"> ■ EMC directive No. TC N RU 4-DE.A301.B.00820 ■ Hazardous areas No. RU C-DE.ГБ08.B.01489 	Eurasian Economic Community
	GOST Metrology, measurement technology No. 19359	Russia
	KazInMetr Metrology, measurement technology No. 13947	Kazakhstan
	BelGIM Metrology, measurement technology No. 9711	Belarus
	UkrSEPRO Metrology, measurement technology No. UA-MI/2-4988-2015	Ukraine
	Uzstandard Metrology, measurement technology No. 02.6649	Uzbekistan
-	PESO Hazardous areas No. P331149/1	India
	DNV GL Ships, shipbuilding No. TAA00000M2	International

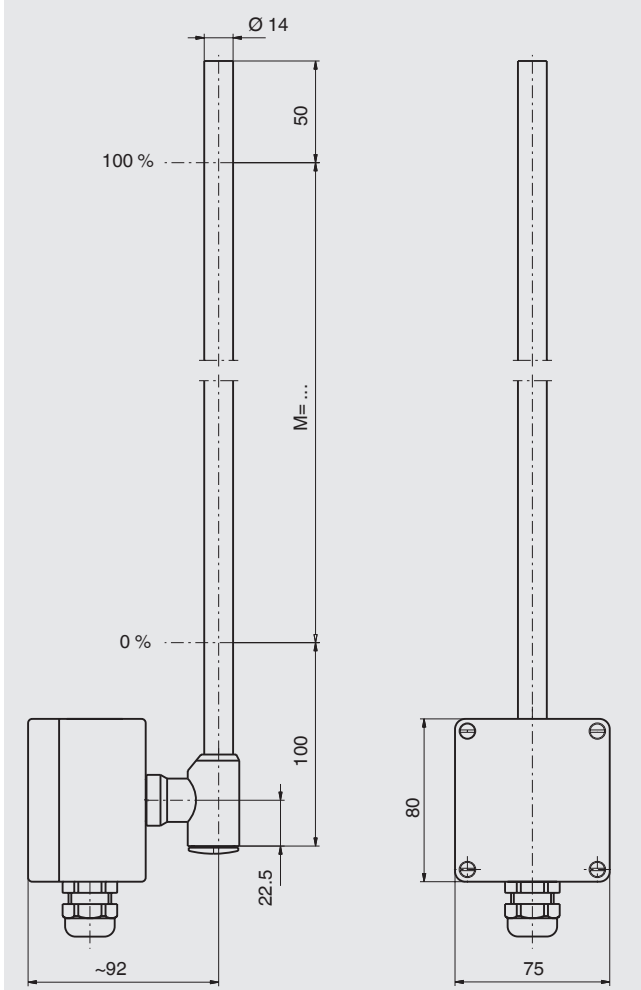
Approvals and certificates, see website

Reed sensor, standard version with connection housing

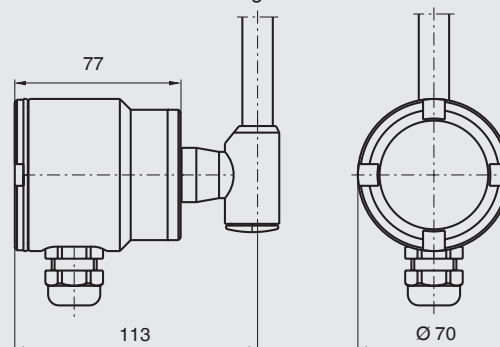
Models BLR-SA, BLR-SB

Guide tube and float made of 1.4571 stainless steel

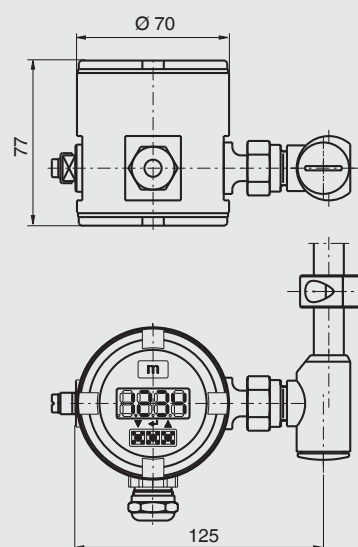
Aluminium and polyester connection housing



Stainless steel connection housing



Stainless steel connection housing with digital indicator (option)



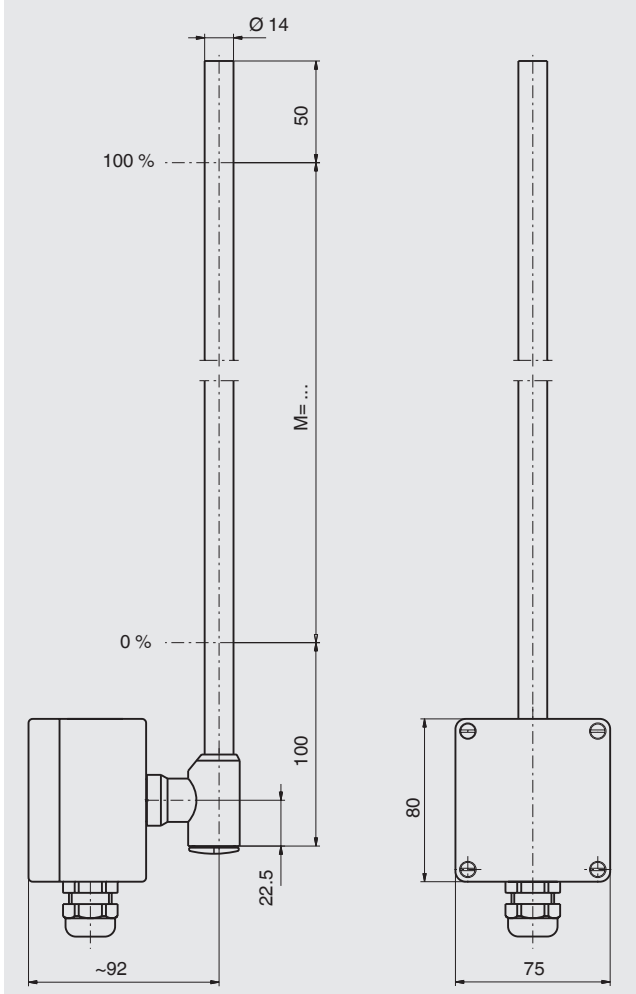
	Model BLR-SA	Model BLR-SB
Electrical connection	Connection housing: Aluminium 80 x 75 x 57 mm Option: Polypropylene, polyester, stainless steel	Connection housing: Aluminium 80 x 75 x 57 mm with head-mounted transmitter Option: Polypropylene, polyester, stainless steel
Guide tube diameter	14 mm	
Temperature range	<ul style="list-style-type: none"> ■ Standard version -50 ... +100 °C ■ High-temperature version -50 ... +200 °C ■ Low-temperature version -100 ... +100 °C ■ Standard version with Mikroterm -50 ... +250 °C ■ High-temperature version with Mikroterm -50 ... +350 °C 	
Resolution	2.7 mm / 5.5 mm / 7.5 mm / 9 mm (depending on contact separation)	
Overall resistance of the measuring chain	Depending on length and separation	
Head-mounted transmitter	External transmitter	Head-mounted transmitter, see page 7
Output	3-wire potentiometer	4 ... 20 mA
Permissible power supply	< AC 50 V, < DC 75 V	See the data sheet of the head-mounted transmitter used
Ingress protection	up to IP66 or IP68 per IEC/EN 60529 (depending on version)	

Reed sensor, explosion-protected version Ex i, intrinsically safe Models BLR-SAI, BLR-SBI (MG...)

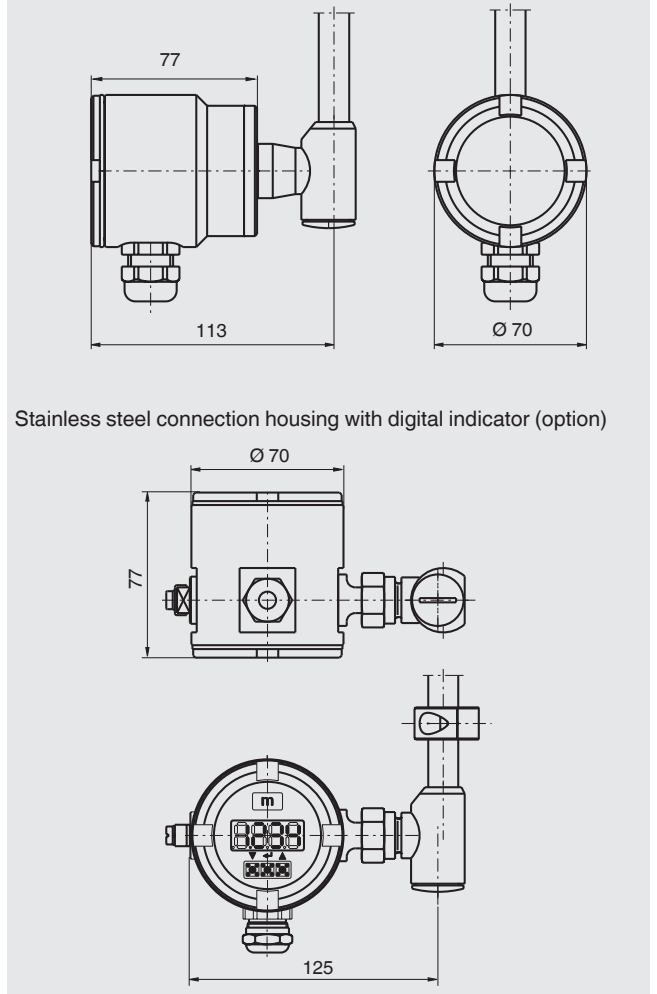
KEMA 01 ATEX 1052 X (II 2G Ex ia IIC T4 ... T6 Gb, II 2D Ex ib IIC T4 ... T6 Gb or II 2 D Ex ib IIIC T80 °C Db)
Guide tube and float made of 1.4571 stainless steel



Aluminium and polyester connection housing



Stainless steel connection housing



	Model BLR-SAI (MG...)	Model BLR-SBI (MG...)
Electrical connection	Connection housing: Aluminium 80 x 75 x 57 mm Option: Stainless steel	Connection housing: Aluminium 80 x 75 x 57 mm with head-mounted transmitter Option: Stainless steel
Guide tube diameter	14 mm	
Maximum permissible surface temperature at the sensor tube	T4: +100 °C T5: +65 °C T6: +50 °C	
Resolution	2.7 mm / 5.5 mm / 7.5 mm / 9 mm (depending on contact separation)	
Overall resistance of the measuring chain	3.2 ... 50 kΩ	
Control circuit	Ignition protection type Ex ia IIC (only for connection to a certified intrinsically safe control circuit) and ignition protection type intrinsically safe Ex ib IIC	
Head-mounted transmitter	External transmitter	Head-mounted transmitter, see page 7
Output	3-wire potentiometer	4 ... 20 mA
Permissible power supply	< AC 50 V, < DC 75 V	See the data sheet of the head-mounted transmitter used
Ingress protection	up to IP66 or IP68 per IEC/EN 60529 (depending on version)	

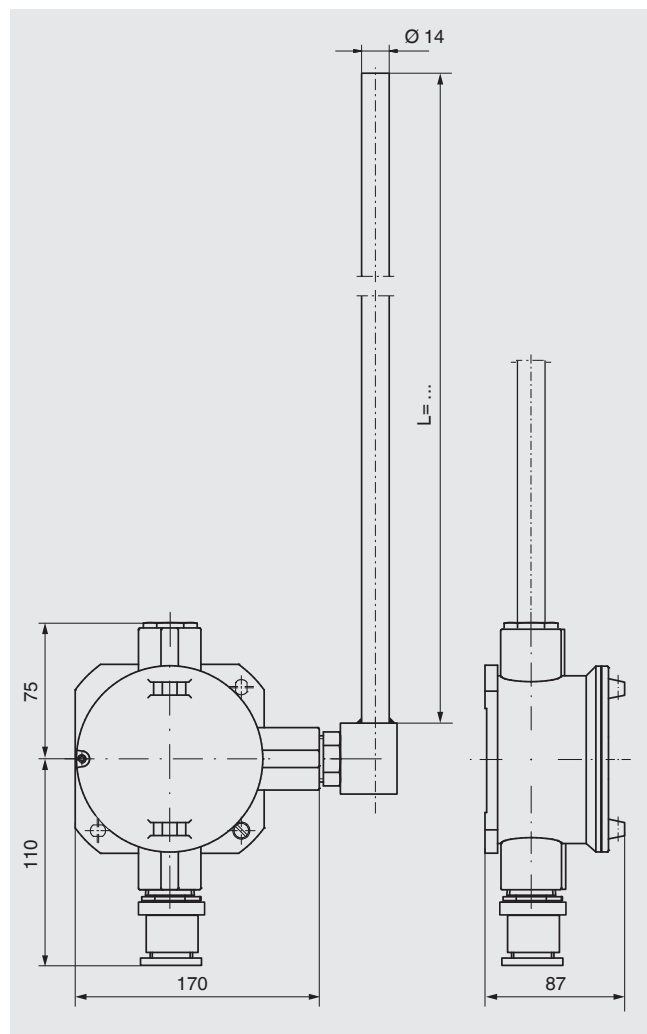
Reed sensor, explosion-protected version Ex d, flameproof enclosure

Models BLR-SAD, BLR-SBD (AVK-ADF)

TÜV 13 ATEX 7399 X (II 2G Ex d IIC T6 Gb / II 2 D Ex tb IIIC T80 °C Db)

IECEX TUR 09.0002X (-40 °C ≤ T_a ≤ +55 °C Ex d IIC T6 Ex tD A21 IP65 T80 °C)

Guide tube and float made of 1.4571 stainless steel



	Model BLR-SAD (AVK-ADF)	Model BLR-SBD (AVK-ADF)
Electrical connection	Connection housing: Aluminium 170 x 151 x 87 mm Option: Stainless steel	Connection housing: Aluminium 170 x 151 x 87 mm with head-mounted transmitter
Guide tube diameter	14 mm	
Maximum permissible surface temperature at the sensor tube	T4: +100 °C T5: +65 °C T6: +50 °C	
Resolution	2.7 mm / 5.5 mm / 7.5 mm / 9 mm (depending on contact separation)	
Overall resistance of the measuring chain	Depending on length and separation	
Head-mounted transmitter	External transmitter	Head-mounted transmitter, see page 7
Output	3-wire potentiometer	4 ... 20 mA
Permissible power supply	< AC 50 V, < DC 75 V	See the data sheet of the head-mounted transmitter used
Ingress protection	up to IP66 or IP68 per IEC/EN 60529 (depending on version)	

Head-mounted transmitter

Model T15



Model T32



Model T53



Model TLEH



Model	4 ... 20 mA	HART®	PROFIBUS® PA	FOUNDATION™ Fieldbus	Ex i	Display	Order no.
TE	x				x		014832
TS	x						005894
T32E	x	x			x		025216
T32S	x	x					114795
T53F				x	x		025727
T53P			x		x		034422
TLH	x	x				x	019989
TLEH	x	x			x	x	021104
T15	x				x		122955 122954

Ordering information

Model / Connection housing / Electrical connection / Sensor tube (material and total length) / Contact separation, head-mounted transmitter / Measuring range / Approval / Options

To order the described product the order number (if available) is sufficient.

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