

# LEVEL

## Tank Level Indicating Systems

Also available with  
Ex-Approval



switch



measure



control

**Barksdale**

CONTROL PRODUCTS

**CRANE** Barksdale, Inc./Barksdale GmbH  
A Subsidiary of Crane Co.

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### Important:

Specifications are subject to modification at any time without prior notice.

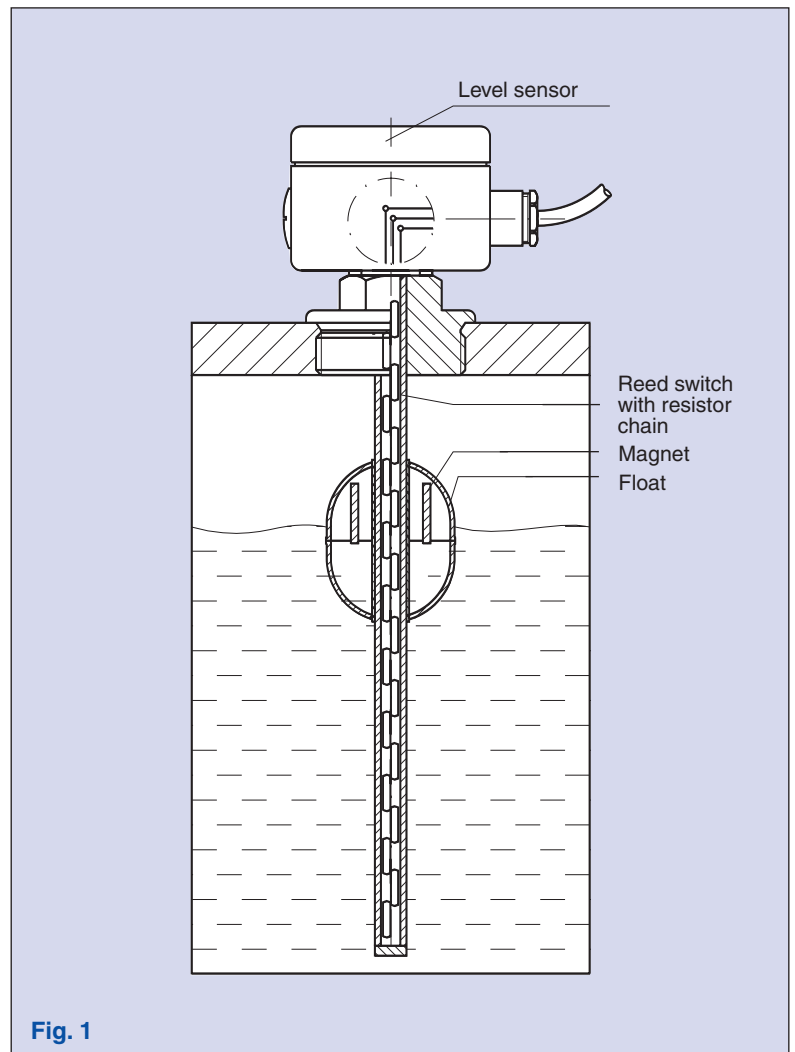
# Introduction

## Applications

The Barksdale Tank Level Indicating Systems are sensors for remote indication level of liquid media. They operate according to the float principle with magnetic transmission (Permanent magnet, Reed switch and resistor chain). The liquid level is indicated on indicating instruments connected to the sensor.

### Typical Applications for Tank Level Indicating Systems:

Waste water and sewage plants, filling and charging containers, heating oil tanks, remote level indication for rivers, canals and basins, radioactive fluids, tank trucks, drinking water and fuel containers for tanks or motor ships, trim and ballast tanks of oil rigs and submarines, interfacial level indicator for fluid of different densities as well as path sensing elements for indication and control of stroke movements e. g. of hydraulic and pneumatic cylinders.



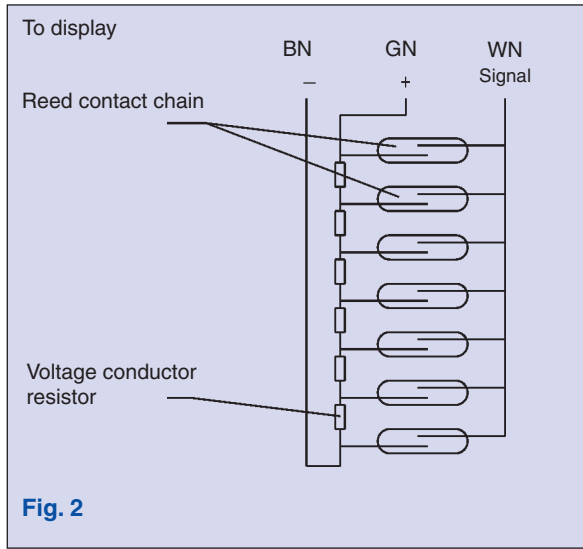
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Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

# Introduction

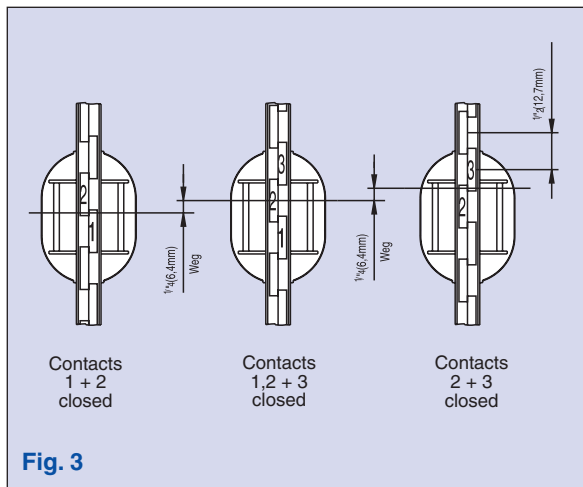
## Operation



The stem contains a full length internal network tapped by magnetically actuated Reed switches mounted at 6,4 mm intervals. A constant voltage across the resistance forms the voltage divider network. Tap switches are connected to a common conductor via series resistors to the receiver meter and are actuated by bar magnets within the float as it traverses the transmitter stem. The float varies the tap point on this voltage divider by raising and falling with liquid level.

All wetted parts are made of stainless steel or brass and are available with various mounting elements.  
 The standard float material is Cr-Ni-steel (1.4571, 1.4408)  
 PVC or brass are also available on request.  
 Fig. 2 shows the electrical operation of the Barksdale Tank Level Indicating Systems.

## Safety Switching Function



Magnetic reed switches are tapped into a voltage divider resistance at 6,4 mm intervals within the transmitter and connected to a remote indicating meter.  
 The magnet-equipped float closes these switches in a „2-3-2“ sequence as it moves as shown in Fig. 3. When two switches are closed, the effective tap point is halfway between the two. When the float moves another 6,4 mm and closes the next switch, while holding the first closed, the effective tap point is at the middle switch of the three and one 3,2 mm from the first tab point. Therefore, a voltage is read at the meter for each 6,4 mm of float travel.

## Transmitter Accuracy

Depending on requirements and model different screen sizes are available:

- R12 - (1/4" = 6,4 mm), accuracy appr. 0.2% at 3000 mm - standard
- R08 - (1/6" = 4,2 mm), accuracy appr. 0.1% at 3000 mm - on request

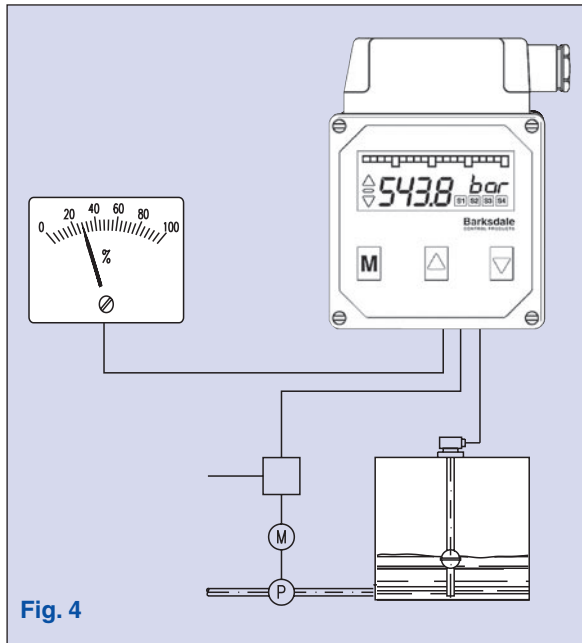
The measuring accuracy of the level sensor can be calculated by using the following formula in accordance to the measuring length:

$$\pm \frac{\left( \frac{\text{Screen}}{2} \pm 5 \text{ mm} \right)}{\text{Measuring length } L_m} \times 100\%$$

e. g.:  $\pm \frac{6,4 \text{ mm}}{1000 \text{ mm}} \times 100\% = 0,64\%$

# Introduction

## Installation and Maintenance



The transmitters can be installed from outside through the tank top or tank bottom by using a mounting plug or flange. The mounting position is vertical with a maximum angle of inclination of 30 degrees.

The level sensor and additional instruments are maintenance free in applications in clean media. The maintenance of the level sensor consists of an occasional „wipe-off“ cleaning from time to time in excessively contaminated liquids.

For the sensor connection shielded cable or wiring is recommended but not necessary.

The level sensors are available with terminal box, plug or PVC-cable. If the distance between sensor and display exceeds 15 m, a 4...20 mA 2-wire connection should be used for signal transmission (please see also page 18 / 19: Transducer).

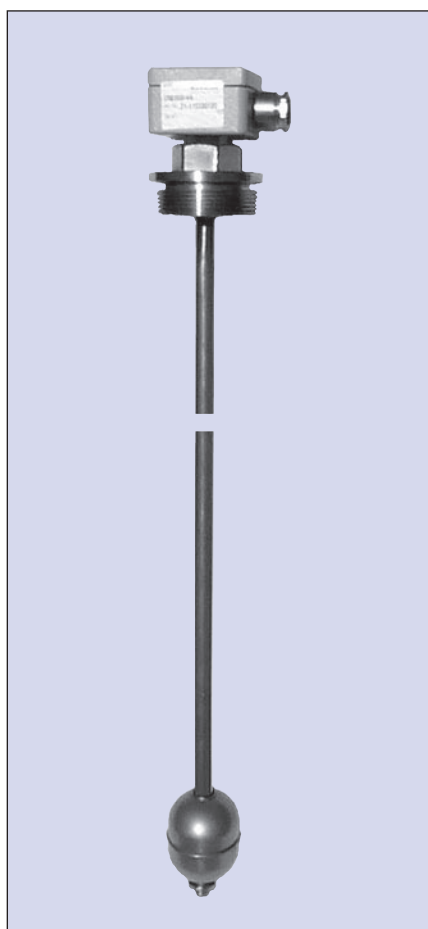
The cable length between sensor and receiver can be up to five kilometers using a transducer, depending on the cable diameter.

Fig. 4 shows a typical application with pump control, additional display and recorder.

## Technical Advantages

- Constant level monitoring with <math><0,5\text{ mm}</math> repeatability.
- Independent on foam formation, variable dielectric, conductivity, pressure and temperature of the liquid.
- Remote level indication via extremely long cables between level indicating system and level sensing element (container).
- Interfacial level indication possible by different float weights.
- Linear level indication independent of the shape of the container by transducer linearization via PC.
- The level sensors can be inserted in protection and bypass tubes in extremely turbulent or contaminated liquids.
- Continuously adjustable setting of the electronic maximum and minimum level value relays without moving the float or filling / emptying the container.
- Dotted line recorders, trip amplifiers and other additional instruments can be connected to the level indicating system with analog output.

# Overview Tank Level Indicating Systems



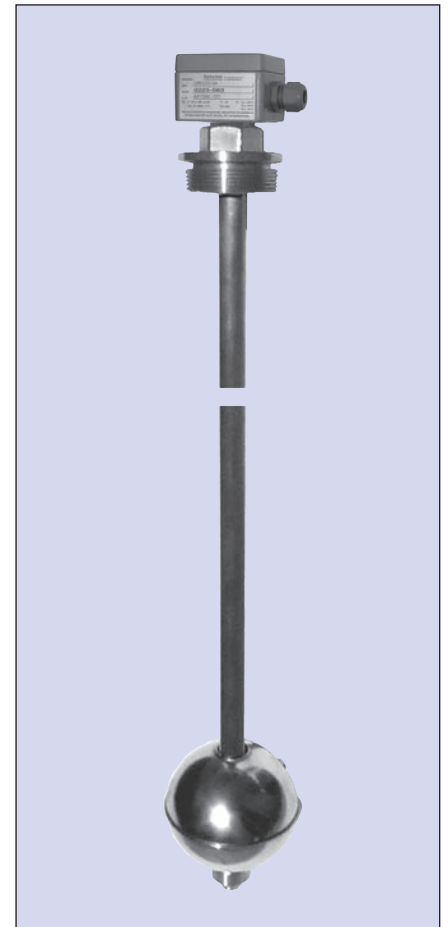
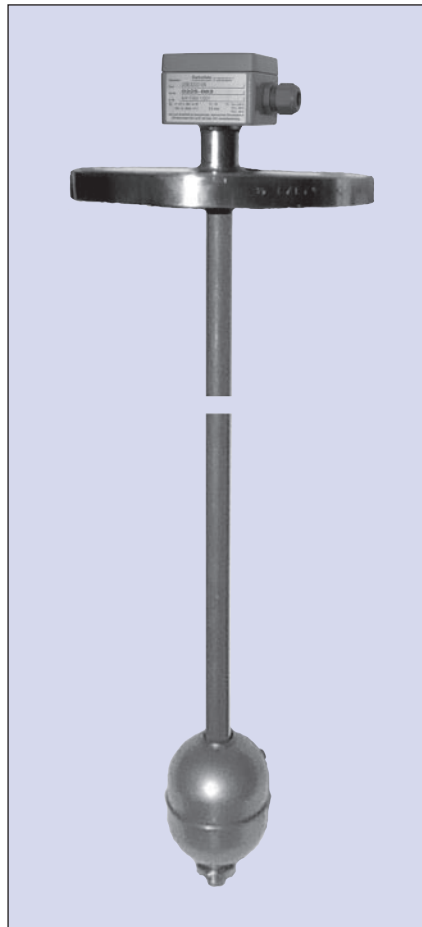
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Barksdale Tank Level Indicating Systems

Model	USE 3000	USE 6000	
<b>Total Length L<sub>0</sub></b>	max. 3000 mm	max. 6000 mm	
<b>Mounting Position</b>	from top / from bottom ±30°	from top / from bottom ±30°	
<b>Material</b>	Brass Stainless Steel 1.4571/ 1.4404	Stainless Steel 1.4571/ 1.4404	
<b>Mounting Elements</b>	Tank screw G 2 DIN flange DN 65 / PN 16	Tank screw G 2 DIN Flange DN 125 / PN 16	
<b>Float</b>	VA44, Ø 44 mm VA52, Ø 52 mm VA80, Ø 82 mm	VA100, Ø 105 mm	BN 42, Ø 42 mm
<b>Min. Density g/cm<sup>3</sup></b>	VA44: 0,9 / VA52: 0,74 / VA80: 0,5	0,62	0,55
<b>Max. Pressure in bar</b>	VA44: 25 / VA52: 25 / VA80: 16	32	15
<b>Max. Temperature</b>	-10 °C...+90 °C - Standard -50 °C...+150 °C - High Temperature	-10 °C...+90 °C - Standard -50 °C...+150 °C - High Temperature	
<b>Options</b>	DR - Slosh tube, PT-100 Element, Thermo reed, HT-Isolation, Interfacial Level Indication	DR - Slosh tube, PT-100 Element, Thermo reed, HT-Isolation, Interfacial Level Indication	
<b>Approvals</b>	---	---	
<b>Catalog Page</b>	P1 - P2	P3 - P4	

Specifications are subject to changes without notice.

# Tank Level Indicating Systems with Ex-Approval



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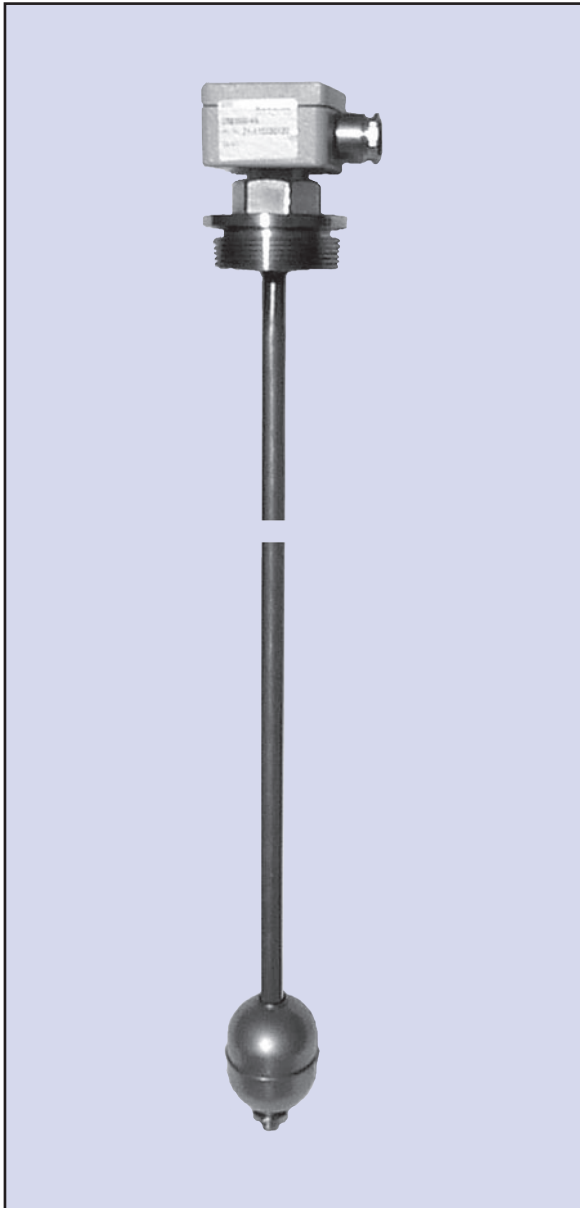
Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

Model	USE 3200	USE 6200	
<b>Total Length L<sub>0</sub></b>	max. 3000 mm	max. 6000 mm	
<b>Mounting Position</b>	from top / from bottom ±30°	from top / from bottom ±30°	
<b>Material</b>	Stainless Steel 1.4571/ 1.4404	Stainless Steel 1.4571/ 1.4404	
<b>Mounting Elements</b>	Tank screw G 2 DIN flange DN 65 / PN 16	Tank screw G 2 DIN Flange DN 125 / PN 16	
<b>Float</b>	VX44, Ø 44 mm VX52, Ø 52 mm VX80, Ø 82 mm	VX100, Ø 105 mm	BN 42, Ø 42 mm
<b>Min. Density g/cm<sup>3</sup></b>	VX44: 0,9 / VX52: 0,73 / VX80: 0,5	0,62	0,55
<b>Max. Pressure in bar</b>	VX44: 25 / VX52: 25 / VX80: 16	32	15
<b>Max. Temperature</b>	T1...T4 up to +100 °C T5 up to +65 °C T6 up to +50 °C	T1...T4 up to +100 °C T5 up to +65 °C T6 up to +50 °C	
<b>Options</b>	DR - Slosh tube, Interfacial Level Indication	DR - Slosh tube, Interfacial Level Indication	
<b>Approvals</b>	Ex-approval TÜV 01 ATEX 1717	Ex-approval TÜV 01 ATEX 1717	
<b>Catalog Page</b>	P5 - P6	P7 - P8	

# Type USE 3000

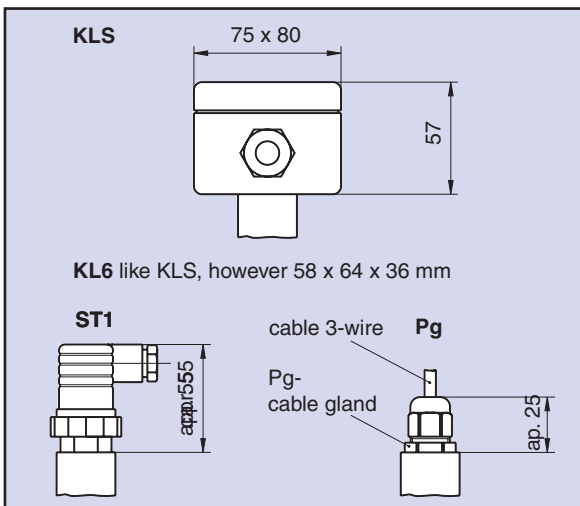
## USE 3000 - Level Sensor up to 3000 mm Length



### Technical Data

Max. Length $L_0$	: 3000 mm
Materials	: Stainless steel (1.4571, 1.4404), brass, other material on request
Mounting Element	: Stainless steel (1.4571, 1.4404), tank screw or flange
Stem	: Stainless steel (1.4571), brass, $\varnothing = 13 \times 1$ mm
Float	: Stainless steel (1.4571) - VA44, $\varnothing = 44$ mm, oval min. media density = 0,9 g/cm <sup>3</sup> max. pressure = 25 bar - VA52, $\varnothing = 52$ mm, oval min. media density = 0,74 g/cm <sup>3</sup> max. pressure = 25 bar - VA80, $\varnothing = 82$ mm, ball min. media density = 0,5 g/cm <sup>3</sup> max. pressure = 16 bar
Electrical Connection	: ST1 - Cube plug DIN43650 (3-pin + earth) PG - Cable gland PG 13,5 incl. 1,5 m cable KL6 - Aluminum terminal box (58 x 64 x 36 mm, 3 terminals) KLS - Aluminum terminal box incl. transducer MU3L (75 x 80 x 57 mm)
Protection Class	: ST1, KL6, KLS = IP65, PG = IP67
Temperature Ranges	: -10 °C... + 90 °C -50 °C...+150 °C HT - high temperature only with KL6 or silicone cable possible
Total Resistance	: 0...100 kOhm
Power Supply	: 8 ... 35 V DC with transducer, max. 24 V DC without transducer
Type of Screen	: R12 = screen 12,7 mm (1/2") accuracy $\pm 6,4$ mm appr. 0,2% at 3000 mm measuring length
Wiring	: 3-wire, length up to 5000 mm depending on cable diameter
Options	: DR - slosh tube, Pt100-element, thermo reed, HT - isolation, interfacial level indication

### Electrical Connections



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Barksdale Tank Level Indicating Systems

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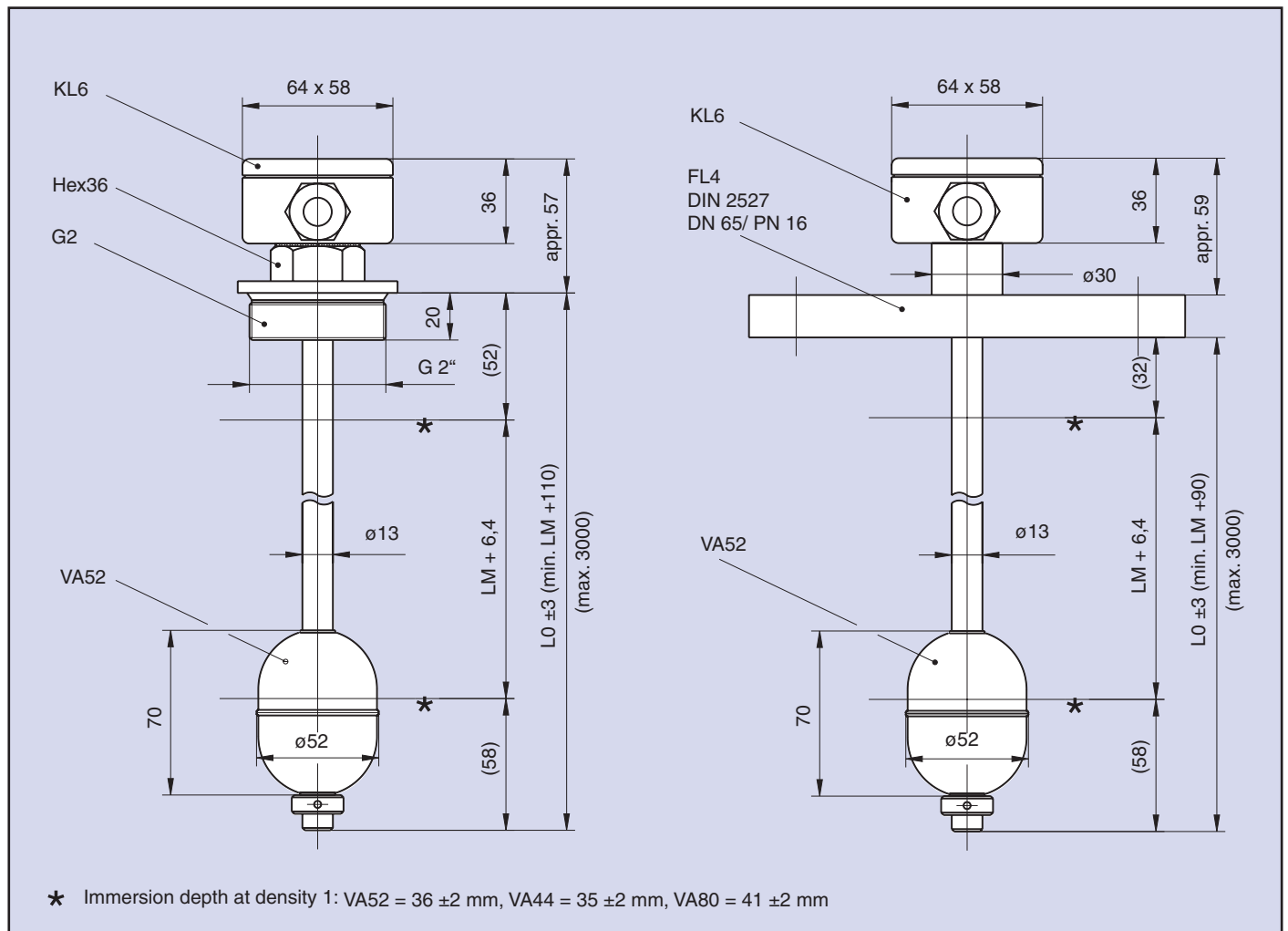


# Type USE 3000

## Dimensions (in mm)

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Barksdale Tank Level Indicating Systems



### Order number example

Type	Series	Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM	Options
USE	3000	VA	/ G2	KL6	VA52	R12	2000	-

### Your order number

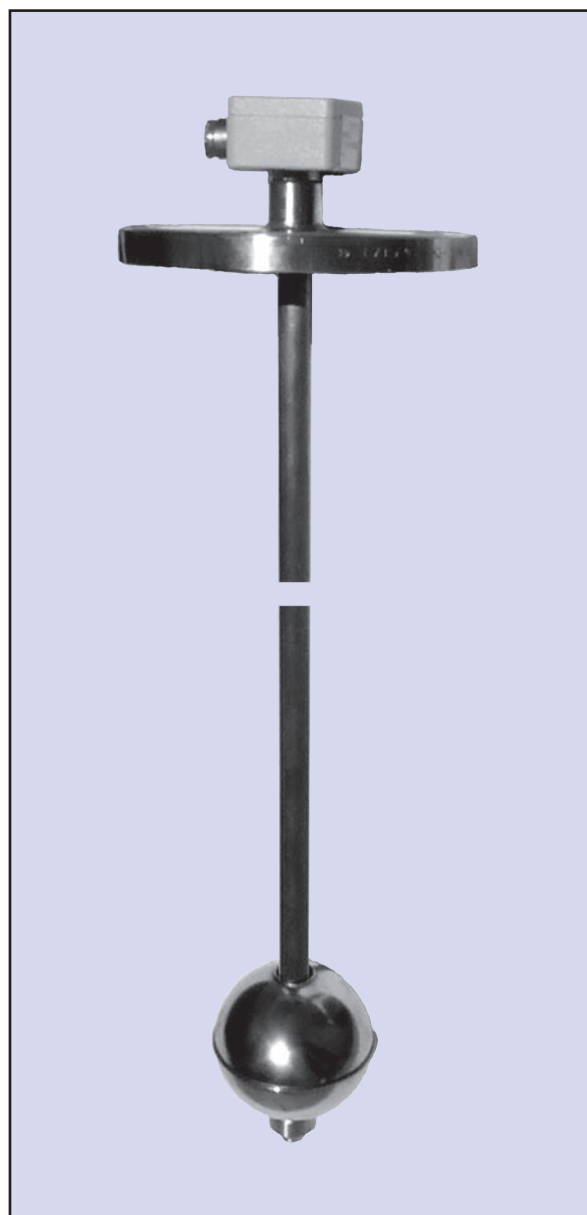
USE	3000		/					
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Specifications are subject to changes without notice.

Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM (in mm)	Options
(VA) Stainless steel 1.4571/ 1.4408	(G2) G 2 Tank screw	(ST1) Plug DIN 43650, 3-pin + PE (PG) Cable gland PG13,5, incl. 1,5 m cable	(VA52) Stainless steel float ø52 mm	(R12) Standard	xxxx  (e. g.: 2 m = 2000)	(PT100) Integrated tempera- ture measurement via Pt100-element
(MS) Brass	(FL4) DIN- flange, DN65/PN16, only VA	(KL6) Aluminum terminal box, 3 terminals  (KLS) Aluminum terminal box incl. transducer MU3L	(VA44) Stainless steel float ø44 mm  (VA80) Stainless steel float ø82 mm	(R08) Fine screen		(TR) Integrated tempera- ture measurement via thermo reed  (DR) Slosh tube (HT) HT-isolation (TM) Interfacial level indication

# Type USE 6000

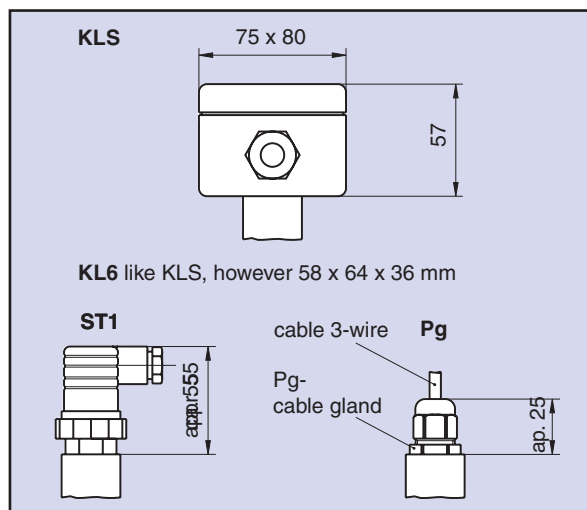
## USE 6000 - Level Sensor up to 6000 mm Length



### Technical Data

Max. Length $L_0$	: 6000 mm
Materials	: Stainless steel (1.4571, 1.4404), brass, other material on request
Mounting Element	: Stainless steel (1.4571, 1.4404), tank screw or flange
Stem	: Stainless steel (1.4571), brass, $\varnothing = 18 \times 1$ mm
Float	: Stainless steel (1.4571) VA100, $\varnothing = 105$ mm, oval min. media density = $0,62 \text{ g/cm}^3$ max. pressure = 32 bar : Buna-N BN 42, $\varnothing = 42$ mm min. media density = $0,55 \text{ g/cm}^3$ max. pressure = 15 bar
Electrical Connection	: ST1 - Cube plug DIN43650 (3-pin + earth) PG - Cable gland PG 13,5 incl. 1,5 m cable KL6 - Aluminum terminal box (58 x 64 x 36 mm, 3 terminals) KLS - Aluminum terminal box incl. transducer MU3L (75 x 80 x 57 mm)
Protection Class	: ST1, KL6, KLS = IP65, PG = IP67
Temperature Ranges	: $-10 \text{ }^\circ\text{C} \dots +90 \text{ }^\circ\text{C}$ $-50 \text{ }^\circ\text{C} \dots +150 \text{ }^\circ\text{C}$ HT - high temperature only with KL6 or silicone cable possible
Total Resistance	: 0...100 kOhm
Power Supply	: 8 ... 35 V DC with transducer, max. 24 V DC without transducer
Type of Screen	: R12 = screen 12,7 mm (1/2") accuracy $\pm 6,4$ mm appr. 0,1% at 6000 mm measuring length
Wiring	: 3-wire, length up to 5000 mm depending on cable diameter
Options	: DR - slosh tube, Pt100-element, thermo reed, HT - isolation, interfacial level indication

### Electrical Connections

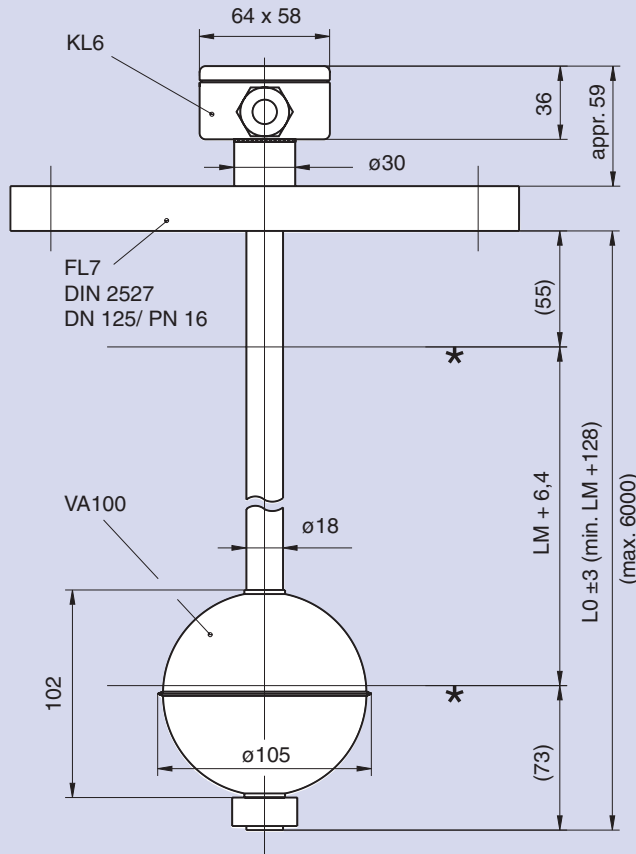


# Type USE 6000

## Dimensions (in mm)

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Barksdale Tank Level Indicating Systems



★ Immersion depth at density 1: VA100 = 52 ± 3 mm, BN42 = 33 ± 2 mm

### Order number example

Type	Series	Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM	Options
USE	6000	VA	FL7	KL6	VA100	R12	4000	-

### Your order number

USE	6000							
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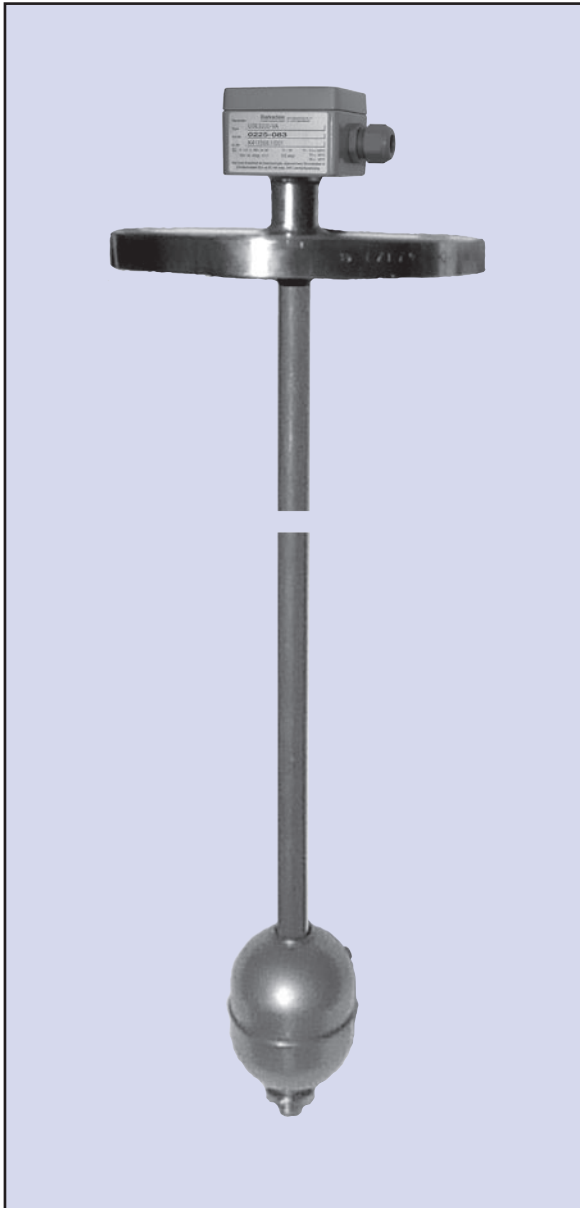
Specifications are subject to changes without notice.

Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM (in mm)	Options
(VA) Stainless steel 1.4571/ 1.4408	(G2) G 2 Tank screw  (FL7) DIN-flange, DN125/PN16, only VA	(ST1) Plug DIN 43650, 3-pin + PE (PG) Cable gland PG13,5, incl. 1,5 m cable  (KL6) Aluminum terminal box, 3 terminals  (KLS) Aluminum terminal box incl. transducer MU3L	(VA100) Stainless steel float, ø 105 mm  (BN42) Buna-N float ø42 mm	(R12) Standard  (R08) Fine screen	xxxx  (e. g.: 4 m = 4000)	(PT100) Integrated tempera- ture measurement via Pt100-element  (TR) Integrated tempera- ture measurement via thermo reed  (DR) Slosch tube (HT) HT-isolation (TM) Interfacial level indication

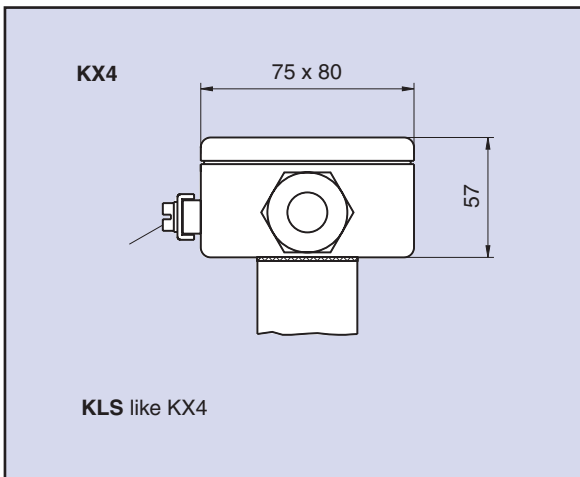
# Type USE 3200



## USE 3200 - Level Sensor for Applications in Category 1



### Electrical Connections



### Technical Data

Max. Length $L_0$	: 3000 mm
Materials	: Stainless steel (1.4571, 1.4408)
Mounting Element	: Stainless steel (1.4571, 1.4408), tank screw or flange
Stem	: Stainless steel (1.4571), $\varnothing = 13 \times 1$ mm
Float	: Stainless steel (1.4571) - VX44, $\varnothing = 44$ mm, oval min. media density = 0,9 g/cm <sup>3</sup> max. pressure = 25 bar - VX52, $\varnothing = 52$ mm, oval min. media density = 0,73 g/cm <sup>3</sup> max. pressure = 25 bar - VX80, $\varnothing = 82$ mm, ball min. media density = 0,5 g/cm <sup>3</sup> max. pressure = 16 bar
Electrical Connection	: KX4 - Aluminum terminal box (75 x 80 x 57 mm, 3 terminals) KLS - Aluminum terminal box incl. transducer MUEX (75 x 80 x 57 mm)
Protection Class	: KLX, KLS = IP65
Registration Mark	: $\text{Ex}$ II 1/2 G EEx ia IIC T6
Certificate No.	: TÜV 01 ATEX 1717
Temperature Ranges	: T1...T4 to +100 °C T5 to +65 °C T6 to +50 °C
Temperaturbereiche with Transducer MUEX	: T1... T4 to +85 °C T5... T6 to +60 °C
Total Resistance	: 10 kOhm ...100 kOhm
Power Supply	: 8 ... 24 V DC with transducer, max. 24 V DC without transducer
Type of Screen	: R12 = screen 12,7 mm (1/2") accuracy $\pm 6,4$ mm appr. 0,2% at 3000 mm measuring length
Wiring	: 3-wire, length up to 5000 mm depending on cable diameter
Options	: DR - slosh tube, interfacial level indication

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Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

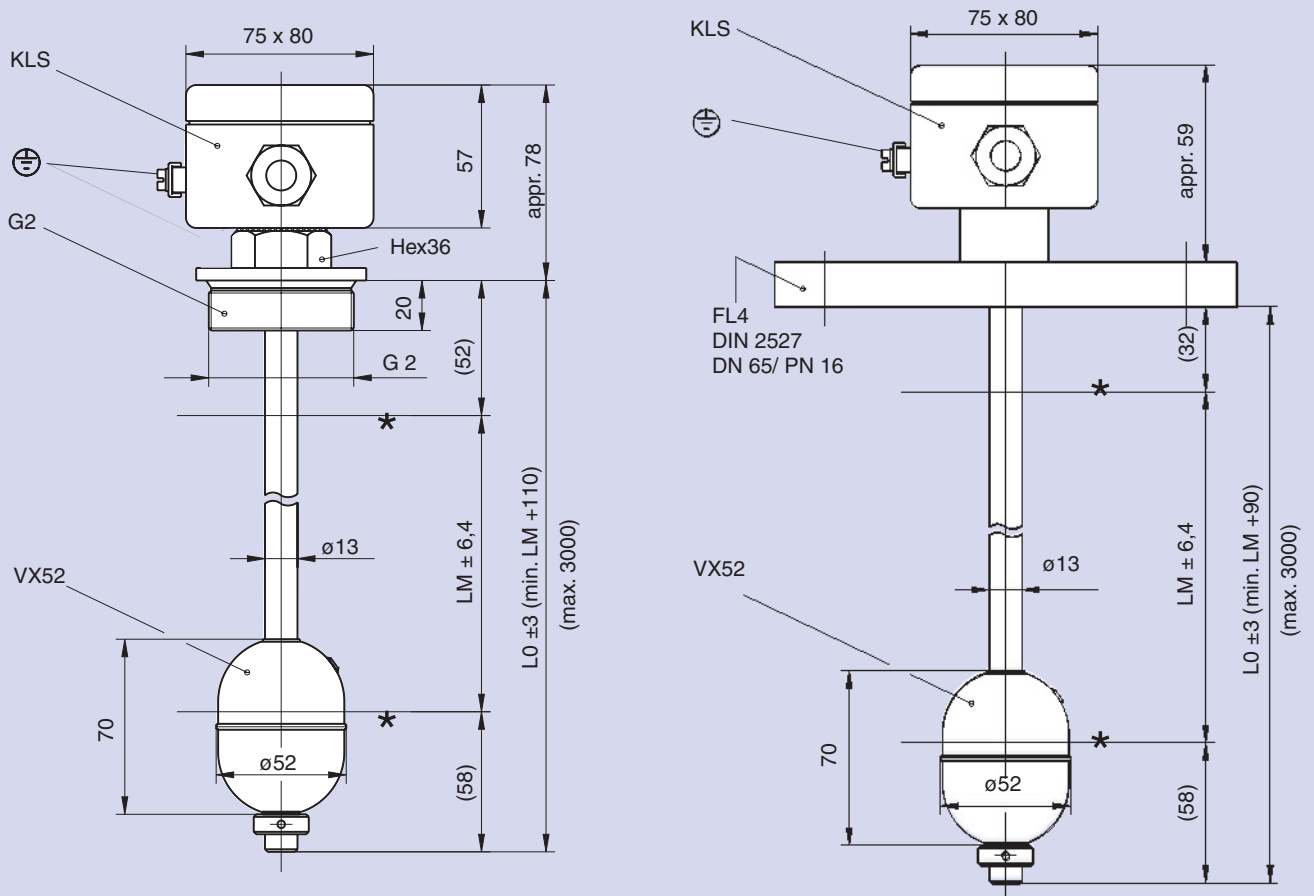
# Type USE 3200



## Dimensions (in mm)

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Barksdale Tank Level Indicating Systems



★ Immersion depth at density 1: VX52 = 36 ± 2 mm, VX44 = 35 ± 2 mm, VX80 = 41 ± 2 mm

### Order number example

Type	Series	Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM	Options
USE	3200	VA	FL4	KLS	VX52	R12	2000	-

### Your order number

USE	3200							
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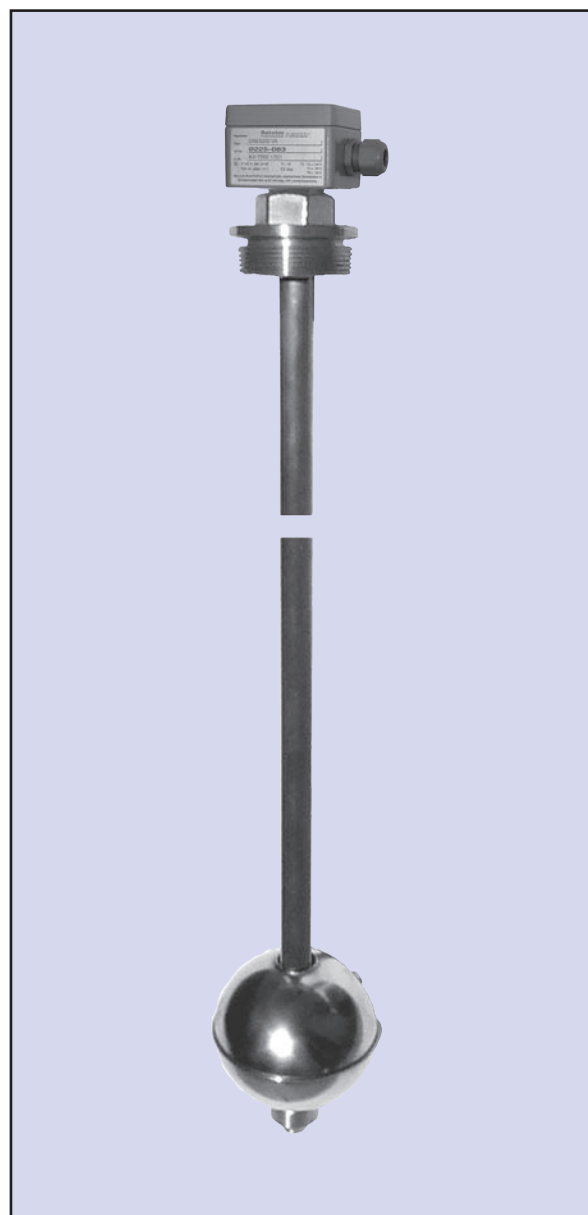
Specifications are subject to changes without notice.

Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM (in mm)	Options
(VA) Stainless steel 1.4571/ 1.4408	(G2) G 2 Tank screw  (FL4) DIN-flange, DN65/PN16, only VA	(KX4) Aluminum terminal box, 3 terminals  (KLS) Aluminum terminal box incl. transducer MUEX	(VX52) Stainless steel float, ø 52 mm  (VX44) Stainless steel float, ø44 mm  (VX80) Stainless steel float, ø82 mm	(R12) Standard	xxxx  (e. g.: 2 m = 2000)	(DR) Slosh tube  (TM) Interfacial level indication

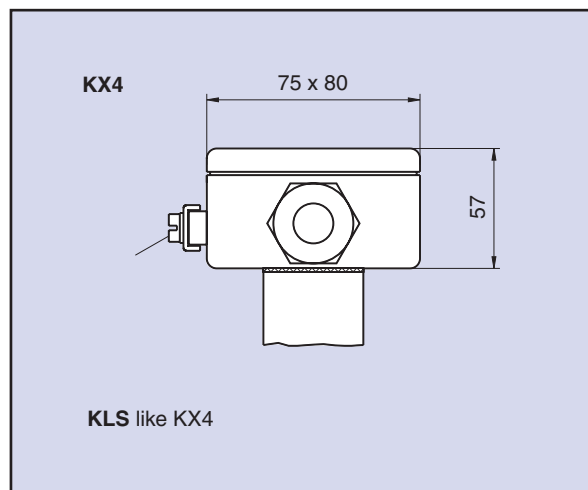
# Type USE 6200



## USE 6200 - Level Sensor for Applications in Category 1



### Electrical Connections



### Technical data

Max. Length $L_0$	: 6000 mm
Materials	: Stainless steel (1.4571, 1.4408)
Mounting Element	: Stainless steel (1.4571, 1.4408), tank screw or flange
Stem	: Stainless steel (1.4571), $\varnothing = 18 \times 1$ mm (if necessary with mounting strap)
Float	: Stainless steel (1.4571) VX100, $\varnothing = 105$ mm, oval min. media density = 0,62 g/cm <sup>3</sup> max. pressure = 32 bar : Buna-N BN 42, $\varnothing = 42$ mm min. media density = 0,55 g/cm <sup>3</sup> max. pressure = 15 bar
Electrical Connection	: KX4 - Aluminum terminal box (75 x 80 x 57 mm, 3 terminals) KLS - Aluminum terminal box incl. transducer MUEX (75 x 80 x 57 mm)
Protection Class	: KLX, KLS = IP65
Registration Mark	:  II 1/2 G EEx ia IIC T6
Certificate No.	: TÜV 01 ATEX 1717
Temperature Ranges	: T1...T4 to +100 °C T5 to +65 °C T6 to +50 °C
Temperaturbereiche with Transducer MUEX	: T1... T4 to +85 °C : T5... T6 to +60 °C
Total Resistance	: 10 kOhm ...100 kOhm
Power Supply	: 8 ... 24 V DC with transducer, max. 24 V DC without transducer
Type of Screen	: R12 = screen 12,7 mm (1/2") accuracy $\pm 6,4$ mm appr. 0,2% at 6000 mm measuring length
Wiring	: 3-wire, length up to 5000 mm depending on cable diameter
Options	: DR - slosh tube, interfacial level indication

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Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

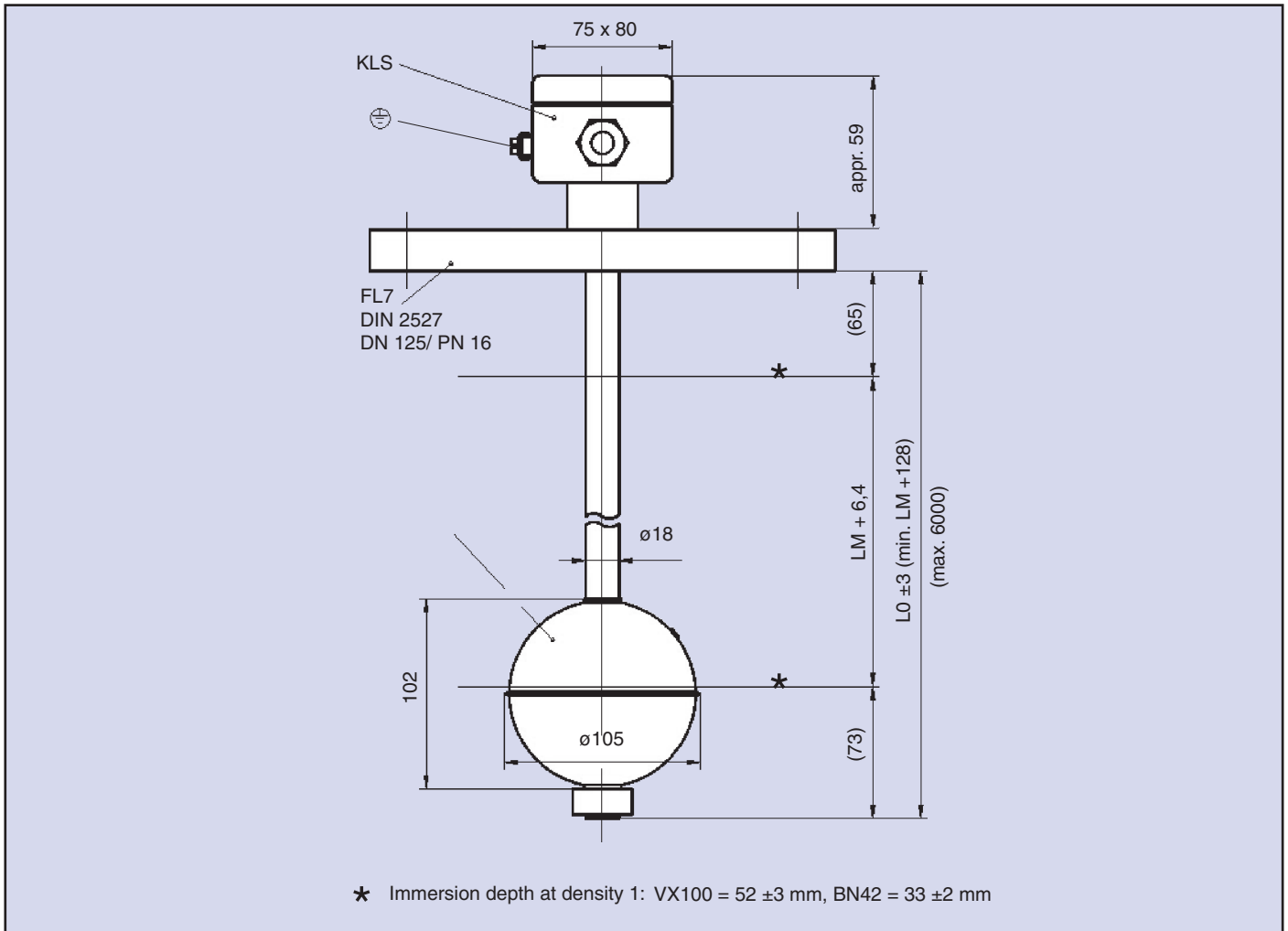
# Type USE 6200



## Dimensions (in mm)

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Barksdale Tank Level Indicating Systems



### Order number example

Type	Series	Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM	Options
USE	6200	VA	FL7	KLS	VX100	R12	4000	-

### Your order number

USE	6200							
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Specifications are subject to changes without notice.

Material	Mounting Element	Electrical Connection	Float Type	Screen	Meas. Length LM (in mm)	Options
(VA) Stainless steel 1.4571/ 1.4408	(G2) G2 Tank screw  (FL4) DIN-flange, DN125/PN16	(KX4) Aluminum terminal box, 3 terminals  (KLS) Aluminum terminal box incl. transducer MUEX	(VX100) Stainless steel float ø105 mm  (BN42) Buna-N float ø42 mm	(R12) Standard	xxxx  (e. g.: 4 m = 4000)	(DR) Slosh tube  (TM) Interfacial level indication

## Type UAS 3 - V3

**Trip amplifier for pressure, temperature, level, etc., digital display, 4 switching outputs and 1 analog output, accuracy class 0,2% f. s.**

### Features

8-digit 14-segment LCD display with bargraph and trend indication, microprocessor-controlled, self monitoring, all parameters are configured by keypad, units selectable, high accuracy, selective keypad lock, quick scanning rate (1 ms)

**Display Range** (free scalable): -9999...+9999

### Applications

OEM-applications, hydraulics and pneumatics, test beds, heavy industry

### Technical Data

Measuring Principle	: Amplifier with 12 Bit A/D-converter
Materials :	
Housing (Electronics)	: Aluminum cast G AL SI 12
Seal (Housing)	: Neoprene
Keypad	: Polyester foil
Operating Elements	: Keypad with easy response pushbuttons
Protection Class	: IP65
Dimensions	: 100 (W) x 135 (H) x 80 (D) mm
Weight	: appr. 1080 g
Analog Inputs	
Current Input	: 4...20 mA
Voltage Input	: 0...10 V DC
Resistance Input	: 0,5...100 kOhm
Temperature	: PT100 element acc. to IEC751, see UTS 3
Linearity Error	: $\leq \pm 0,2\%$ f. s. at 25 °C
A/D-Converter:	
Resolution	: 12 bit (4096 steps per measuring span)
Scanning Rate	: 1000 / s
Operating Display	: 8-digit 14-segment LCD display, height 12 mm, red
Bargraph	: 20-segment for actual value
Trend Arrows	: Last changes
Display Range	: -9999...+9999 (scalable)
Display Rate	: 4/s
Display Unit	: All technical units
Sensor Connection	: Plug 3-pin acc. to DIN 43650 incl. electrical plug
Electrical Connection	: Plug-in, terminal strip with 14 screws for 1,5 mm <sup>2</sup> , AWG14 slots
Cable Gland	: 1 x PG 13,5 side entry = standard 2 x PG 13,5 top entry = optional

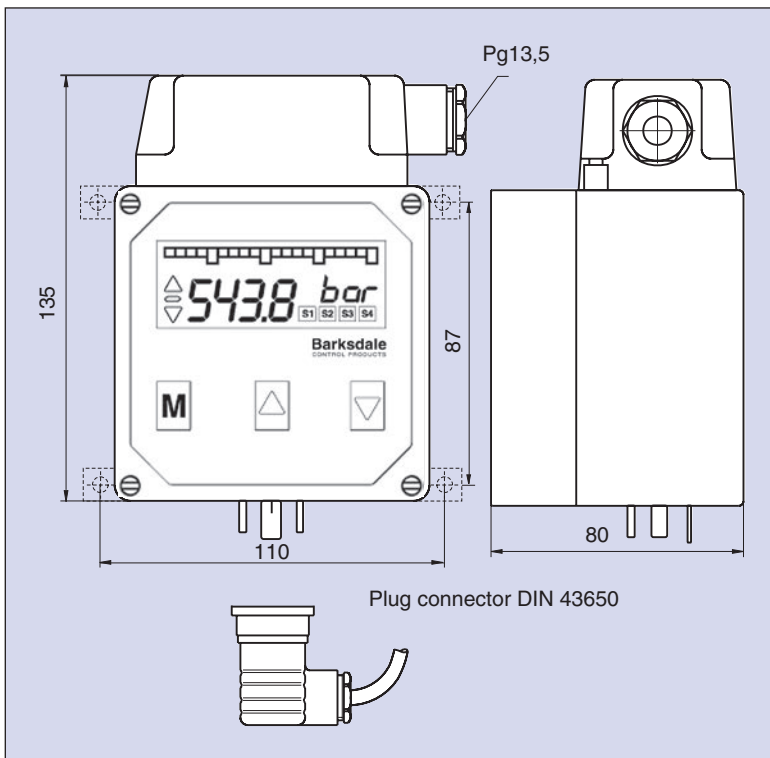


Temperature Influence	: $\leq \pm 0,05\%$ f. s. / 10K
Compensation Range	: -10 °C...+70 °C
Repeatability	: $\leq \pm 0,01\%$ f. s.
Temperature Range	: -10 °C...+ 70 °C (Electronics) -30 °C...+ 80 °C (Storage)
Power Supply	: 18... 30 V DC, reversed polarity protected
Power Consumption	: appr. 350 mA at $U_b = 24$ V DC (without load)
Analog Output	
Current Output	: 4... 20 mA
Load	: max. $RI = (U_b - 12 \text{ V}) / 20 \text{ mA}$ $RI = 600 \text{ Ohm}$ at $U_b = 24 \text{ V DC}$
Load Influence	: 0,3% / 100 Ohm
Scanning Rate	: 1 ms
Voltage Output	: 0...10 V DC
Rating	: max. 10 mA, short circuit-proof
Adjustment Range	: 25%...100% f. s.
4 x Relay Output(s) - SPDT-Contacts	
Contact Rating	: max. 120 V DC / 250 V AC max. 120 W / 1250 VA
Cycles	: 1 Mio. at 24 V DC / 2 A
Switching Rate	: max. 20 / s
Delay	: 0,0 ms... 9,9 s adjustable
Operation Time	: 1 ms
Status Display	: S1 ... S4 on LCD display
Options	: Mounting bracket, shock mounts

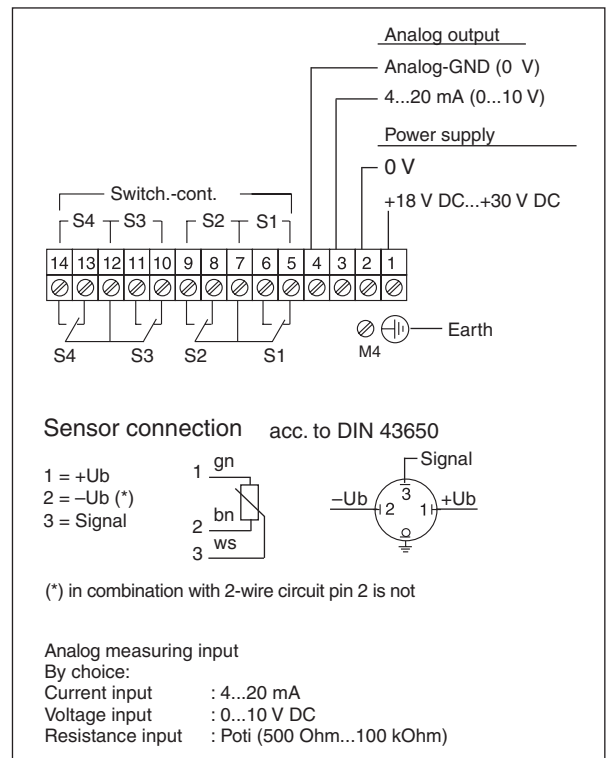


# Type UAS 3 - V3

## Dimensions (in mm)



## Electrical Connection



## Order Numbers

Electronic trip amplifier with 4 relais outputs, 1 input and multi-function digital display		
Analog input	Analog output	Order Number
4 ... 20 mA	---	0003-026
4 ... 20 mA	4...20 mA	0003-024
4 ... 20 mA	0...10 V	0003-025
0 ... 10 V	---	0003-032
0 ... 10 V	4...20 mA	0003-030
0 ... 10 V	0...10 V	0003-031
resistance 0,5 ... 100 kOhm	---	0003-029
resistance 0,5 ... 100 kOhm	4...20 mA	0003-027
resistance 0,5 ... 100 kOhm	0...10 V	0003-028

## Accessories

Order Number	Description
0099-001	Mounting traverse, standard (1 set = 2 pcs.)
0099-002	Mounting traverse, Hydac-compatible (1 set = 2 pcs.)
914-0107	Vibration dampers (1 set = 4 pcs.)

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Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

# Type MU3L

## Function

The R/I transducer type MU3L transforms the electrical resistance of the level sensor (3-wire potentiometer circuit) into a load independent output current of 4...20 mA. It is installed in the level sensor connection head.

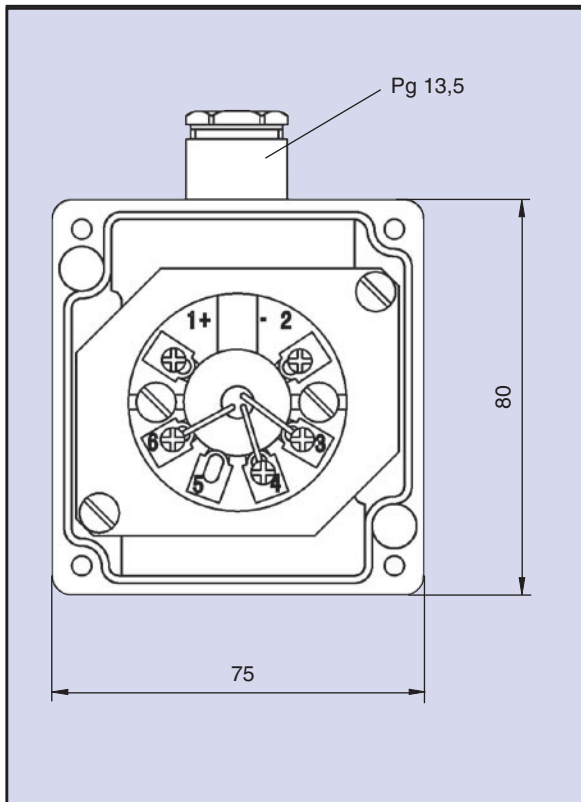
The built-in wire breaking protection reduces the exit current to 3,8 mA in case of wire breakage. Special configurations are possible and programmable via PC.

## Technical Data

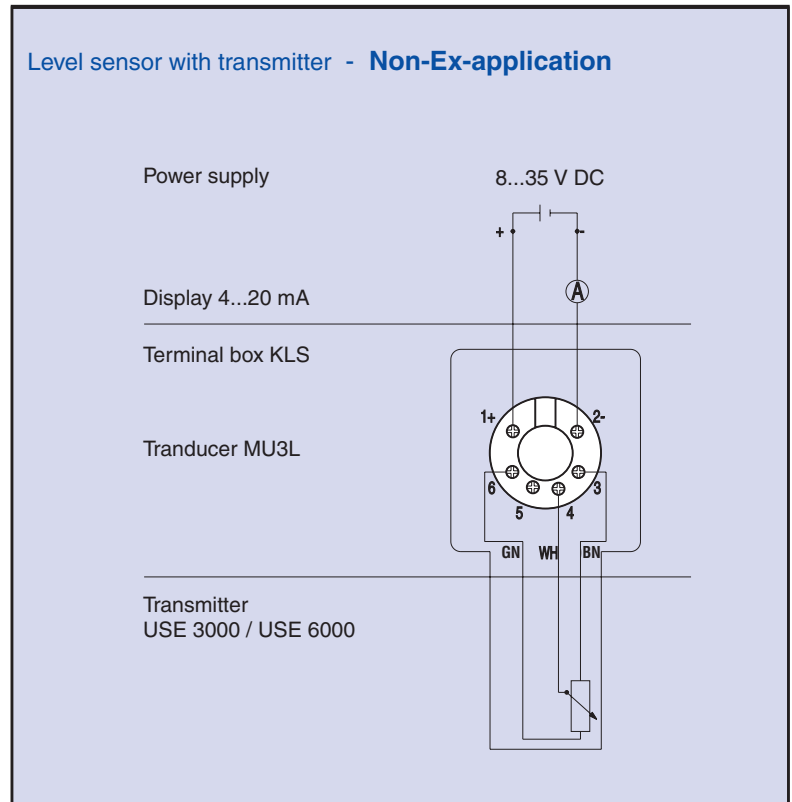
Power Supply	: 8...35 V DC
Output Signal	: 4...20 mA
Refresh Rate	: 7,4 Hz
Load	: $\leq (+UB-8) / 0,023 \text{ Ohm}$ $< \pm 0,01\% \text{ f. s.} / 100 \text{ Ohm}$
Signal at	
Wire Breaking	: 3,5 mA
Response Time	: 0,33 sec.
Accuracy	: 0,2% f. s.
Max. Ambient Temperature	: -40 °C...+85 °C
Level Indication Circuit	: 3-wire potentiometer circuit

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## Dimensions (in mm)



## Connection Scheme



Barksdale Tank Level Indicating Systems

Specifications are subject to changes without notice.

# Type MUEX



## Function

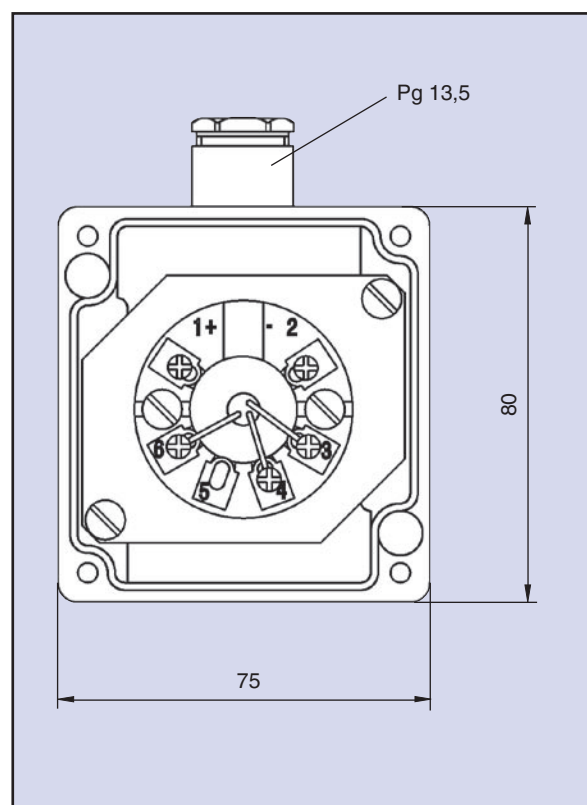
The R/I transducer type MUEX is designed for applications in hazardous areas. It transforms the electrical resistance of the level sensor (3-wire potentiometer circuit) into a load independent output current of 4...20 mA and is installed in the level sensor connection head.

The built-in wire breaking protection reduces the exit current to 3,5 mA in case of wire breakage. Special configurations are possible and programmable via PC.

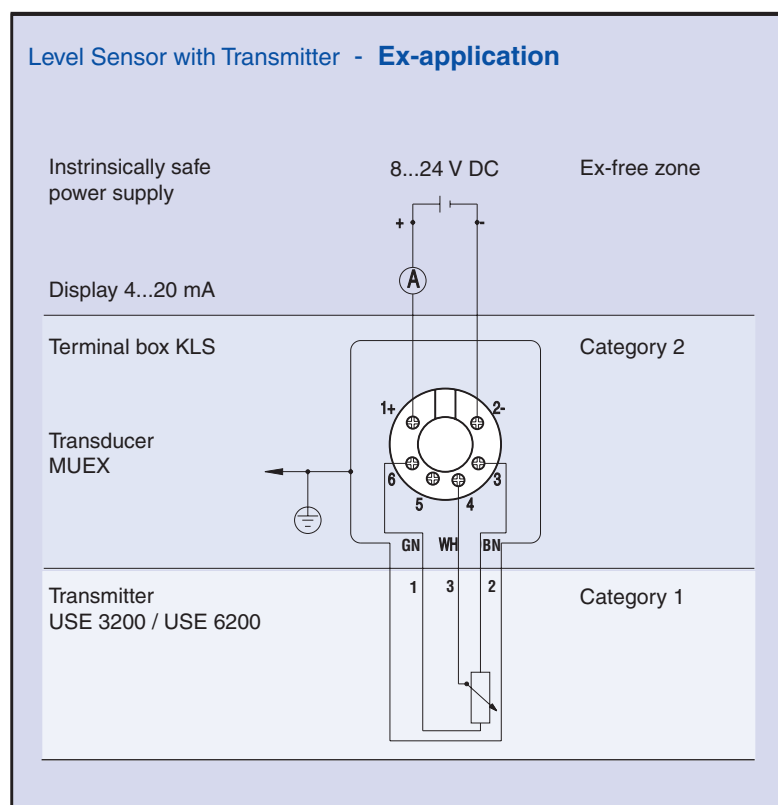
## Technical Data

Power Supply	: 8...24 V DC, intrinsically safe acc. DIN EN 50020 or equal
Output Signal	: 4...20 mA
Refresh Rate	: 7,4 Hz
Load	: $\leq (+UB-8) / 0,023 \text{ Ohm}$ $< \pm 0,01\% \text{ v. M. E.} / 100 \text{ Ohm}$
Signal at Wire Breaking	: 3,5 mA
Response Time	: 0,33 sec.
Accuracy	: 0,2% f, s.
Max. Ambient Temperature	: T1 to T4: $-40 \text{ }^\circ\text{C} \dots +85 \text{ }^\circ\text{C}$ T5 and T6: $-40 \text{ }^\circ\text{C} \dots +60 \text{ }^\circ\text{C}$
Level Indication Circuit	: 3-wire potentiometer circuit
Approval	: Cenelec EEx ia IIC T1... T6 ATEX Ex II 1 G application in category 1, 2, 3
Certificate No.	: DEMKO 99 ATEX 126 964
Ex-data	: $U_i$ 24 V DC $I_i$ 120 mA DC $P_i$ 0,84 W $L_i$ $\leq 10 \mu\text{H}$ $C_i$ $\leq 1 \text{ nF}$

## Dimensions (in mm)



## Connection Scheme



**The fastest way to more information:**

... just complete the order form below and fax it!

**Fax to :** **Barksdale GmbH**  
 Dorn-Assenheimer Strasse 27  
 D-61203 Reichelsheim / Germany  
**Fax: +49 (0) 60 35 - 9 49-111**

**From :** Name : .....  
 Company : .....  
 Department : .....  
 Street / P.O.Box : .....  
 Post Code / City : .....  
 Telephone : .....  
 Fax : .....  
 e-mail : .....  
**Date :** .....

Please send me detailed information about:

- Mechanical Pressure Switches
- Electronic Pressure Sensors
- Electronic Pressure Switches
- Level Switches
- Continuous Tank Level Indicating Systems
- Level Probes
- Bypass Level Indicating Systems
- Flow Switches
- Mechanical Temperature Switches
- Electronic Temperature Sensors
- Electronic Temperature Switches
- Shear Seal- / Air Suspension Valves

Please send me the Barksdale product CD with all available information about the complete product range (format: PDF).

Specifications are subject to changes without notice.

Barksdale Tank Level Indicating Systems

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In addition to the Tank Level Indicating Systems listed in this catalog our product range includes various other instrumentation and control equipment to monitor, measure and control

 **Pressure**

 **Temperature**

 **Level**

 **Flow**

We have the right solution for your measuring tasks.

Just contact us.

# Our Products



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Barksdale Tank Level Indicating Systems

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CONTROL PRODUCTS

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A Subsidiary of Crane Co.

**Barksdale GmbH**

Dorn-Assenheimer Strasse 27  
D-61203 Reichelsheim / Germany

Tel.: +49 - 60 35 - 9 49-0

Fax: +49 - 60 35 - 9 49-111 and 9 49-113

e-mail: [info@barksdale.de](mailto:info@barksdale.de)

[www.barksdale.de](http://www.barksdale.de)

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