- **Ceramic diaphragm**
- **Capacitive measuring cell**
- **2-wire technology (output 4-20 mA)**
- **Integrated overload protection**
- **Extensive, almost front flush diaphragm**
- **Ex approval for zone 0 as standard**

NivuBar Plus II

Submersible probe with integrated 4-20 mA transmitter for hydrostatic level measurement in water and waste water. With capacitive ceramic measuring cell without oil filling.

This hydrostatic level probe is developed to meet the high demands of industrial and environmental protection. The stainless steel probe body is locked by a capacitive ceramic measuring cell at the bottom and is held by the self-supporting cable on the top.
The probe can be suspended e.g. on manhole walls by using a straining clamp.
The non-corrosive enclosure with ingress protection IP68 (NEMA 6X) permits universal use for reliable determination of levels in containers, basins, pump stations and tanks.

The extensive diaphragm has proven as very reliable, particularly in the sewage environment.

The Ex-approval II 1G Ex ia IIC/IIB T4 is standard and the NivuBar Plus II therefore can be installed in all explosive surroundings.

Utilising the widely used 2-wire technology, the installation costs are very low.

Specifications are subject to change.
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Specifications

Submersible probe

Measurement range	1, 2, 4, 6, and 10 m water column special measurement ranges on request
Power supply	12 to 36 V DC, Ex: 12 to 28 V DC
Output signal	4 - 20 mA, 2-wire technology
Accuracy according to IEC 60770	0.25 % / 0.35 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	free cable end
Load	600 Ohm / 24 V 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-10 °C to +70 °C
Storing temperature	-25 °C to +70 °C
Material	• diaphragm: ceramic (Al_2O_3) • enclosure: stainless steel 1.4571 • sealing: Viton® • cable: ø9 mm Polyurethane
Cable length	10, 20, 30, 50, 100 m special length on request
Protection	IP68
Measuring principle	capacitive
Ex-approval	II 1G Ex ia IIC/IIB T4 IBEx U05 ATEX 1193X
Accessories	
Terminal clamp	AKL 1, stainless steel 1.4571
Locking sleeve (carrier)	G1.5", stainless steel, as holder for NivuBar Plus II probe
Connector box	KLB2 with overvoltage protection and pressure compensation; material: Plastic
Junction box	BPG Ex with pressure compensation
Surge arrestor	Type 9001/51-280-091-141 ATEX for connection to SPS in zone 1

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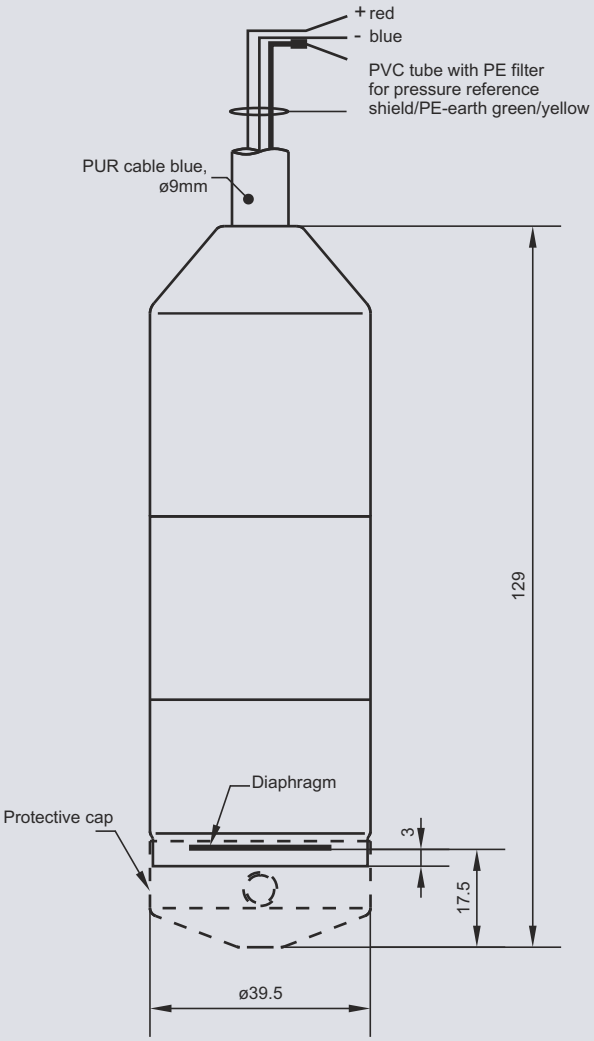
You can find more information in the instruction manual or on **www.nivus.com**

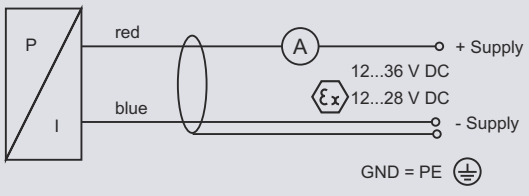
Dimensions and connection



Dimensions in **mm**

Connection

2-wire: 4...20mA



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- Ceramic diaphragm
- Capacitive measuring cell
- 2-wire technology (output 4-20 mA)
- Integrated overload protection
- Extensive, almost front flush diaphragm
- Independent measurement range setting via HART interface
- Ex approval for zone 0 (optional)

NivuBar H II

Submersible probe with integrated 4-20 mA transmitter for hydrostatic level measurement in water and waste water. With capacitive ceramic measuring cell without oil filling and independent measurement range setting via HART interface.

This probe is developed to meet the high demands of industrial and environmental protection. The stainless steel probe body is locked by a capacitive ceramic measuring cell at the bottom and is held by the self-supporting cable on the top. The probe can be suspended e.g. on manhole walls by using a straining clamp.
The non-corrosive enclosure with ingress protection IP68 (NEMA 6X) permits universal use for reliable determination of levels in containers, basins, pump stations and tanks.
The extensive diaphragm has proven as very reliable, particularly in the sewage environment.

The probe is also available with Ex-approval and therefore can be installed in all explosive surroundings.
Via the HART protocol the measurement range of the probe can be set universally. This is done via a laptop with the NIVUS Configuration Software and the HART interface converter. The Measurement range is adjustable until 20 m water column.
This enables a low set limit of 20 % in relation to the stated measurement range (FSO) of the probe e.g. 0 to 2 m or 4 to 6 m.
Utilising the widely used 2-wire technology, the installation costs are very low.

Specifications are subject to change.
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Specifications

Submersible probe

Measurement range	0 to 20 m water column lowest range: 20% of measurement value adjustable via HART special measurement ranges on request
Power supply	12 to 36 V DC, Ex: 12 to 28 V DC
Output signal	4 - 20 mA, 2-wire technology
Accuracy according to IEC 60770	0.1 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	free cable end
Load	600 Ohm / 24 V 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-10 °C to +70 °C
Storing temperature	-25 °C to +70 °C
Material	• diaphragm: ceramic (Al2O3) • enclosure: stainless steel 1.4571 • sealing: Viton® • cable: ø9 mm Polyurethane
Cable length	10, 20, 30, 50, 100 m special length on request
Protection	IP68
Measuring principle	capacitive
Ex-approval (optional)	FTZÚ 06 ATEX 0027X II 1GD Ex ia IIB/IIC T4 T85°C
Accessories	
Terminal clamp	AKL 1, stainless steel 1.4571
Locking sleeve (carrier)	G1.5", stainless steel, as holder for NivuBar Plus II probe
Connector box	KLB2 with overvoltage protection and pressure compensation; material: Plastic
Junction box	BPG Ex with pressure compensation
Surge arrestor	Type 9001/51-280-091-141 ATEX for connection to PLC in zone 1
HART interface module (interface converter)	for connection to PC via RS232 interface
HART configuration software	on CD ROM
HART-Modul	HAM-300, adapter module for integration into mA loop

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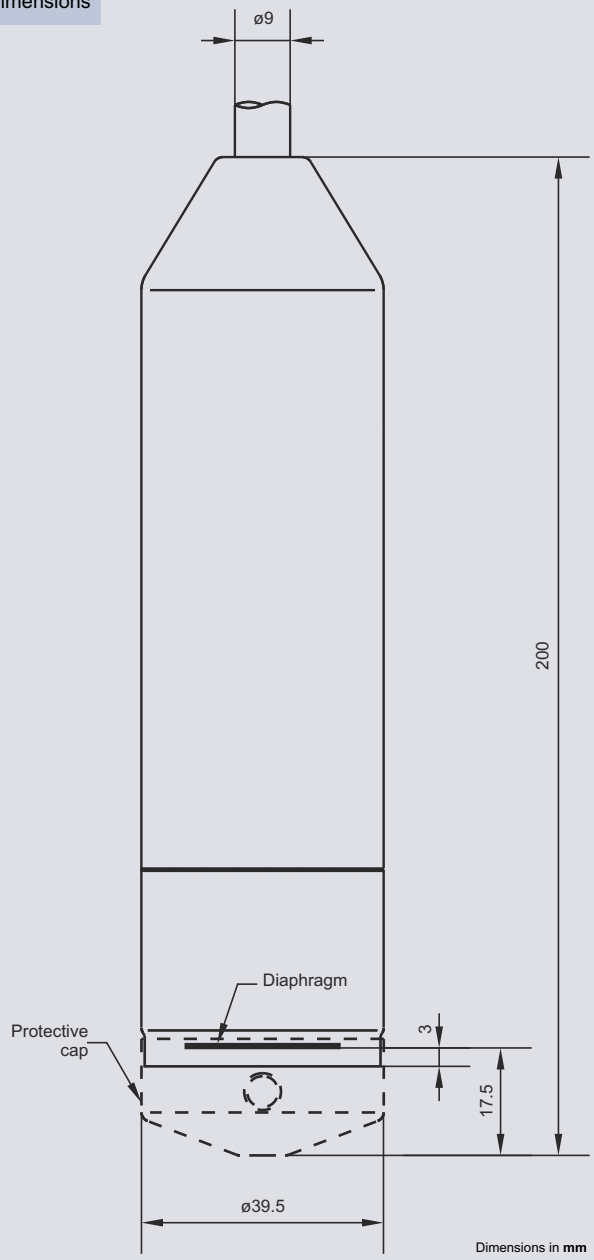
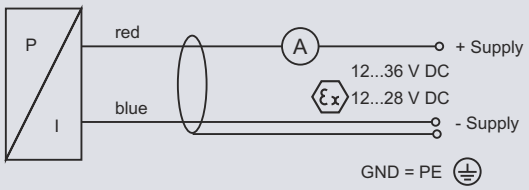
Dimensions



Connection

2-wire: 4...20mA



- **Stainless steel diaphragm**
- **Piezoresistive measuring cell**
- **2-wire technology (output 4-20 mA)**
- **Integrated overload protection**
- **High accuracy**
- **High electrical operational reliability**

AquaBar

Submersible probe with integrated 4-20 mA transmitter for hydrostatic level measurement in clear to slightly polluted fluids.

The diameter of only 27mm allows to use the AquaBar in stand pipe applications which are mainly used in ground water level measurement and deep well measuring.

The proven piezoresistive measurment principle ensures high long-term stability and operational reliability. The AquaBar is highly resistant against electrical faults caused by incorrect wiring, short circuit and overvoltage.

The robust probe enclosure is made of 1.4571 stainless steel with a 1.4435 stainless steel diaphragm. It is held by a self-supporting PUR cable. The probe can be suspended e.g. on manhole walls by using a straining clamp.

Utilising the widely used 2-wire technology, the installation costs are very low. Special measurement ranges and customised versions are available on request.

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Specifications

Submersible probe

Measurement range	4, 6, und 10 m water column special measurement ranges on request
Power supply	12 to 36 V DC
Output signal	4 - 20 mA, 2-wire technology
Accuracy according to IEC 60770	0.35 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	free cable end
Load	600 Ohm / 24 V 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-10 °C to +70 °C
Storing temperature	-25 °C to +70 °C
Material	• diaphragm: stainless steel 1.4435 • enclosure: stainless steel 1.4571 • sealing: Viton® • cable: ø9 mm Polyurethane
Cable length	10, 20, 30, 50, 100 m special length on request
Protection	IP68
Measuring principle	piezoresistive
Accessories	
Straining clamp	AKL 1, stainless steel 1.4571
Pressure compensation	for junction boxes, not submersible
Junction box	IP65 with pressure compensation

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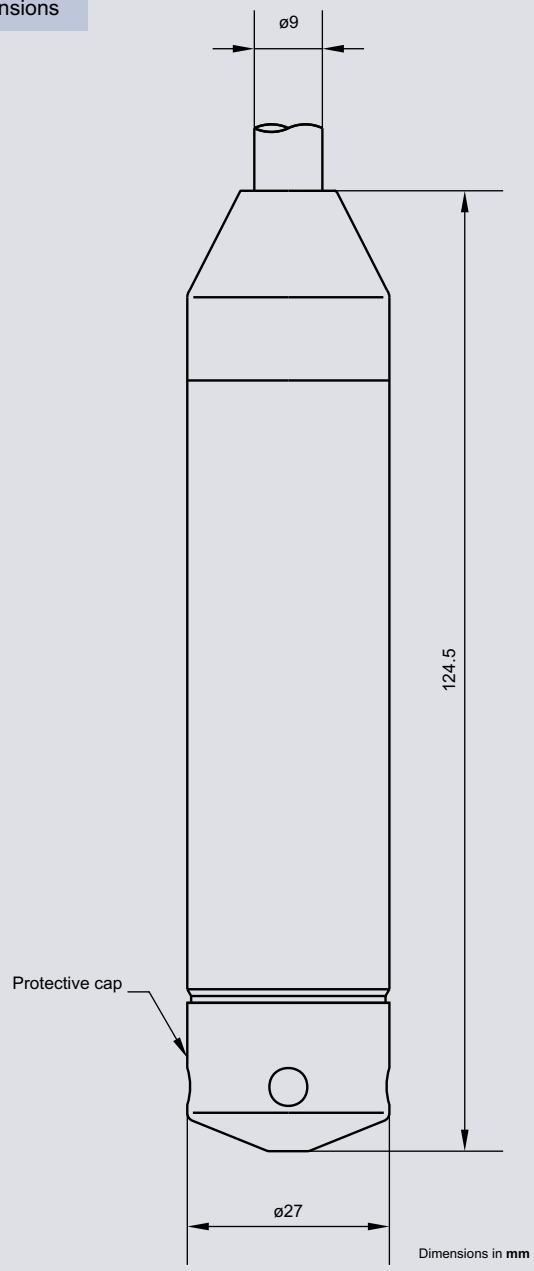
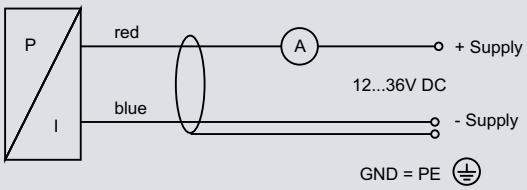
Dimensions



Connection

2-wire: 4...20mA



- **Stainless steel diaphragm**
- **Piezoresistive measuring cell**
- **2-wire technology (output 4-20 mA)**
- **Integrated overload protection**
- **Probe diameter only 19mm**
- **Suitable for 1" pipes**

AquaBar BS

Submersible probe with integrated 4-20 mA transmitter for hydrostatic level measurement in wells, open water bodies and for ground water level measurement.

An outside diameter of only 19 mm enables the probe to be used even in 1" protective pipes.
The probe can be used in all media which are consistent with stainless steel and PUR.

The piezoresistive pressure pickup guarantees high accuracy and long-term stability.

The probe operates in 2-wire technology (4-20mA).
An integrated overvoltage and polarity protection ensures high electric operational reliability.
On request the probes can be manufactured according to conditions specified by the customer.
For probe mounting straining clamps and connection boxes with integrated pressure compensation are available.

Specifications are subject to change.
H:\AquaBar_BS\ab-bs-db-en.cdr / Rev. 01 - 21.06.2008

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Specifications

Submersible probe

Measurement range	4, 6, 10 and 20 m water column special measurement ranges on request
Power supply	12 to 36 V DC
Output signal	4 - 20 mA, 2-wire technology
Accuracy according to IEC 60770	0.35 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	free cable end
Load	600 Ohm / 24 V 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-10 °C to +70 °C
Storing temperature	-25 °C to +70 °C
Material	• diaphragm: stainless steel 1.4435 • enclosure: stainless steel 1.4571 • sealing: Viton® • cable: ø7.4 mm Polyurethane
Cable length	10, 20, 30, 50, 100 m special length on request
Protection	IP68
Measuring principle	piezoresistive
Accessories	
Straining clamp	AKL 1, stainless steel 1.4571
Pressure compensation	for junction boxes not submersible
Junction box	IP65 with pressure compensation

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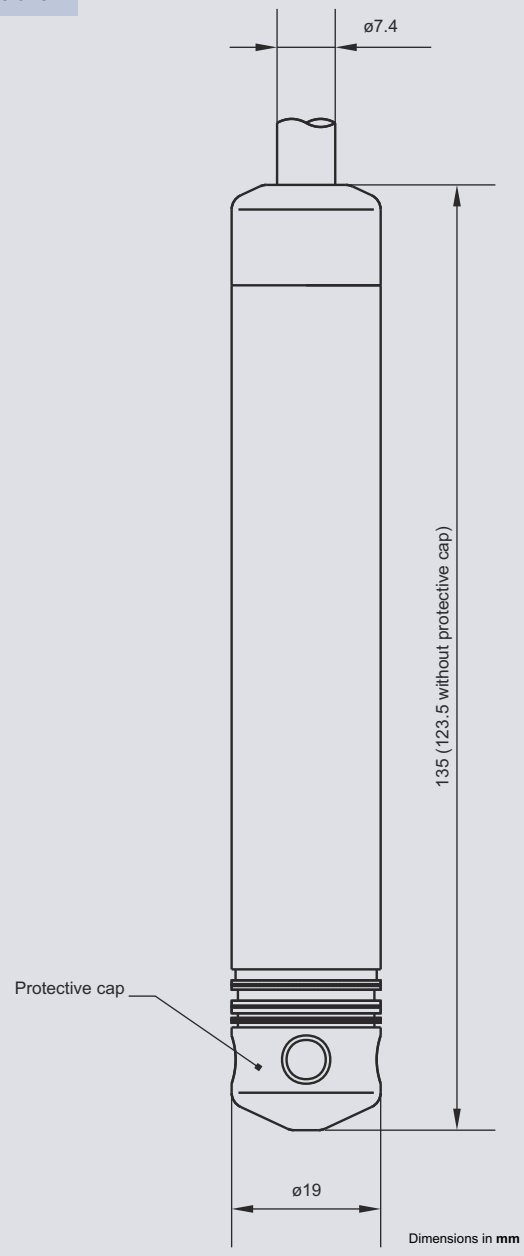
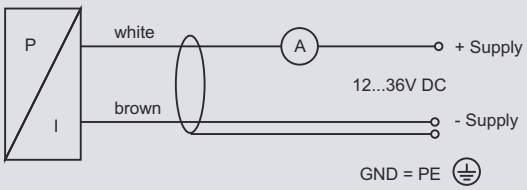
Dimensions



Connection

2-wire: 4...20mA



- **Ceramic diaphragm**
- **Capacitive measuring cell**
- **2-wire technology (output 4-20 mA)**
- **Integrated overload protection**
- **High accuracy**
- **High electric operational reliability**
- **Ex approval for zone 0 (optional)**

HydroBar G II

Screw-in probe with integrated 4-20 mA transmitter for hydrostatic level measurement in clear fluids, sludges and gases. The probes are particularly suitable for level investigation in tanks, containers and pipe lines.

Due to the large front-flush diaphragm and the G1½“ connection the probe has particularly proven in the wastewater area. The unit is designed for flush installation, allowing to use it even in viscous liquids. There is no possibility of failures caused by sediments at the membrane therefore.

The HydroBar G II can be used in aggressive media such as acids and caustic solutions as well.
Measuring in these extreme operating conditions is possible by using a capacitive ceramic gauge head made of 96%- Al_2O_3.
The probe is also available with Ex-approval II 1G Ex ia IIC/IIB T4.

The HydroBar G II has a fixed measurement range and utilises proven 2-wire technology.

Optionally available is a 4-character LED display integrated in the enclosure lid.

Specifications are subject to change.
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Specifications

Screw-in probe

Measurement range / overpressure	1 mWC / 2 bar I 2 mWC / 2 bar 4 mWC / 4 bar I 6 mWC / 4 bar 10 mWC / 7 bar I 20 mWC / 10 bar 1 bar / 7 bar I 2 bar / 10 bar 4 bar / 25 bar I 6 bar / 25 bar 10 bar / 40 bar I 20 bar / 60 bar Special measurement ranges on request
Power supply	12 to 36 V DC, Ex: 12 to 28 V DC
Output signal	4-20 mA, 2-wire technology
Accuracy according to IEC 60770	0.25 % / 0.35 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	M16 x 1.5 (for cable 4 to 11 mm)
Process connection	G1½" DIN ISO 228
Load	600 Ohm / 24 V 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-25 °C to +85 °C (electronics)
Temperature of measured substance	-25 °C to +125 °C
Storing temperature	-40 °C to +100 °C
Material	• field enclosure stainless steel 1.4305
Medium-contacting	• diaphragm: ceramic Al_2O_3 • pressure conn. stainless steel 1.4571 • sealing: Viton®
Protection	IP67
Measuring principle	capacitive
Ex-approval (optional)	II 1G EEx ia IIC/IIB T4 IBEx U05 ATEX 1193X
Mechanical strength	• vibration: 10 g RMS (20...2000 Hz) • shock: 100 g/11 ms
Accessories	
Surge arrestor	Type 9001/51-280-091-141 ATEX for connection to PLC in zone 1

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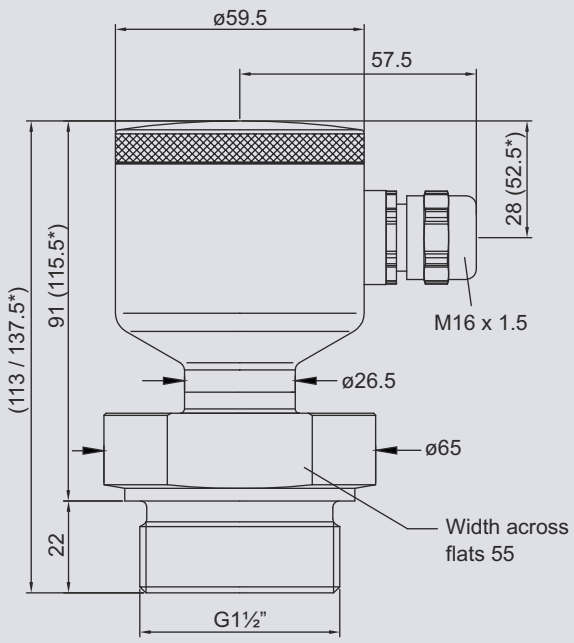
Dimensions

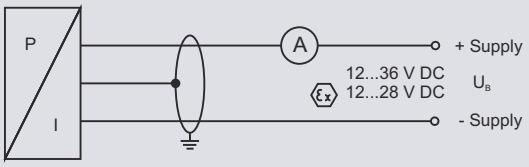


* Dimensions of probe with LED display.

Dimensions in **mm**

Dimensions

2-wire: 4...20mA



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Specifications are subject to change.
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- **Stainless steel diaphragm**
- **Piezoresistive measuring cell**
- **2-wire technology (output 4-20 mA)**
- **Integrated overload protection**
- **High accuracy**
- **High electric operational reliability**
- **Ex approval for zone 0 (optional)**

UniBar E

Screw-in probe with integrated 4-20 mA transmitter for hydrostatic level measurement in clear fluids and gases. The probes are particularly sufficient for level investigation in tanks, containers and pipe lines.

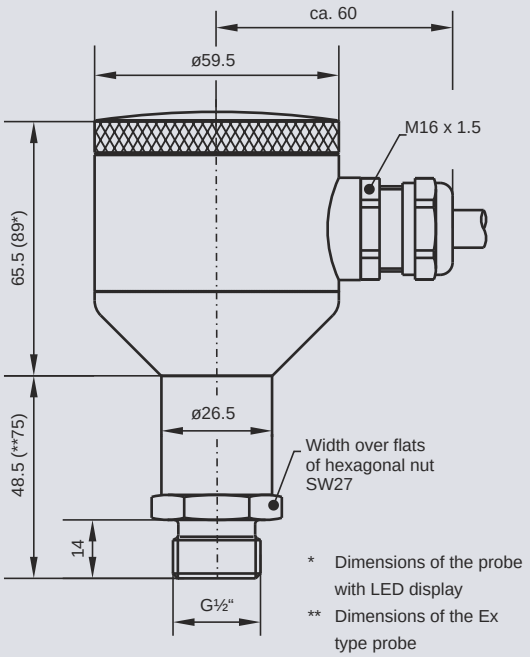
The unit comes with a G1/2“ connection (DIN 3852) as standard process connection. The electric connection is made by screw terminals in stainless steel enclosure or plugs according to DIN ISO 4400. Various standard measurement ranges are available. The probes can be calibrated to the customer's individual requirements on request.
UniBar E probes are designed for rough industrial use. The UniBar E has proven even in aggressive media such as acids, lye and bleach.

The use under such extreme conditions is possible by using piezoresistive measurement cells made of stainless steel (1.4404).
The probe is also available with Ex-approval II 1G Ex ia IIC/IIB T4 and therefore can be installed in all explosive surroundings.
The UniBar E has a fixed measurement range. The probe utilises 2-wire technology.
Optionally available is a 4-character LED display integrated in the enclosure lid.

Specifications are subject to change.
H:\UniBar_E\ube-db-01-en.cdr / Rev. 04 - 25.06.2014

Specifications

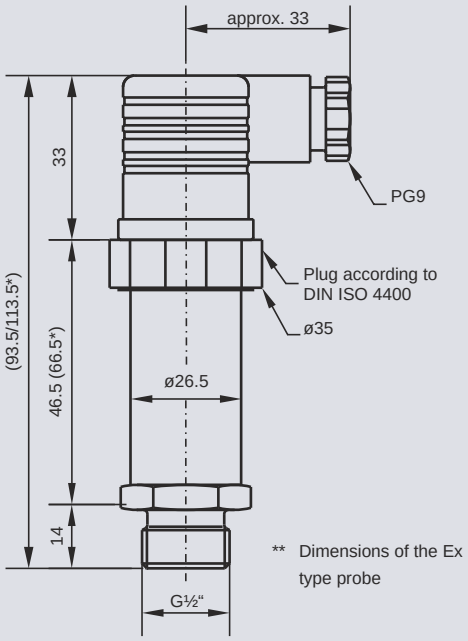
Dimensions



* Dimensions of the probe with LED display
** Dimensions of the Ex type probe

Dimensions in **mm**

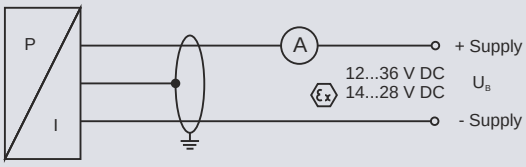
Dimensions



** Dimensions of the Ex type probe

Dimensions in **mm**

Connection



Connection

DIN 4400
PIN 1 = Supply +
PIN2 = Supply -
PIN3 = not connected

GND = PE

Screw-in probe

Measurement range/ overpressure	1 mWC / 1 bar I 2 mWC / 1 bar 4 mWC / 1 bar I 6 mWC / 3 bar 10 mWC / 3 bar I 20 mWC / 6 bar 1 bar / 3 bar I 2 bar / 6 bar 4 bar / 20 bar I 6 bar / 20 bar 10 bar / 20 bar I 20 bar / 90 bar Special measurement ranges on request.
Power supply	12 to 36 V DC, Ex: 14 to 28 V DC
Output signal	4-20 mA, 2-wire technology
Accuracy according to IEC 60770	0.25 % / 0.35 % FSO
Long-term stability	± 0.1 % FSO / year
Electric connection	field enclosure M16 x 1.5 / plug PG 9
Process connection	G½" DIN 3852 open connection with 12 mm diameter
Load	600 Ohm / 24 V or 1000 Ohm / 32 V
Integrated overvoltage protection	-120 to 150 V DC (1 sec at 25 °C)
Operating temperature	-25 °C to +85 °C (electronics)
Temperature of measured substance	-25 °C to +125 °C
Storing temperature	-40 °C to +100 °C
Material	• field enclosure stainless steel 1.4404 (inox 316L) with cable gland made of nickel-plated brass • plug "enclosure" stainless steel 1.4404 (inox 316L)
Medium-contacting	• diaphragm: stainless steel 1.4435 (inox 316Ti) • pressure conn. stainless steel 1.4571 • sealing: Viton®
Protection	field enclosure IP 67; plug IP 65
Measuring principle	piezoresistive
Ex-approval (optional)	II 1G Ex ia IIC T4; ATEX 2011X
Mechanical strength	• vibration: 10 g RMS (20...2000 Hz) • shock: 100 g/11 ms
Accessories	
Surge arrestor	type 9001/51-280-091-141 ATEX for connection to SPS in Zone 1
PA430 plug-on display	4-20 mA; LED; self-supplied via UniBar E plug connector
PA430-Ex	see above for Ex zone 1

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Specifications are subject to change.
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Specifications

Submersible Probes			
NivuBar Plus II ø39.5 mm	Diaphragm Meas. principle Ex approval Medium Meas. range Fastening	ceramics capacitive zone 0 water, wastewater 1, 2, 4, 6, 10 m WC suspend on cable	For use preferably in: • level monitoring in open tanks at low fill levels • depth measurement in wells and open water bodies • ground water level measurement • sewage works, water processing
NivuBar H II ø39.5 mm	Diaphragm Meas. principle Ex approval Medium Meas. range Fastening	ceramics capacitive zone 0 (optional) water, wastewater 0 - 20 m WC free adjustable suspend on cable	For use preferably in: • level monitoring in open tanks at low fill levels • depth measurement in wells and open water bodies • ground water level measurement • sewage works, water processing
NivuBar G II ø39.5 mm	Diaphragm Meas. principle Ex approval Medium Meas. range Fastening	ceramics capacitive zone 0 water, wastewater 1, 2, 4 m WC 1“ thread at probe bottom	For use preferably in: • level monitoring in open tanks at low fill levels • open water bodies • ground water level measurement • sewage works, water processing
AquaBar ø27 mm	Diaphragm Meas. principle Medium Meas. range Fastening	stainless steel piezo-resistive water, wastewater 2, 4, 6, 10 m WC suspend on cable	For use preferably in: • environmental technology: water processing, sewage works • depth measurement in wells and open water bodies • ground water level measurement • level monitoring in open tanks
AquaBar BS ø19 mm	Diaphragm Meas. principle Medium Meas. range Fastening	stainless steel piezo-resistive water 4, 6, 10, 20 m WC suspend on cable	For use preferably in: • depth measurement in wells and open water bodies • ground water level measurement • level monitoring in open tanks
Screw-In Probes			
HydroBar G	Diaphragm Meas. principle Ex approval Medium Meas. range Fastening	ceramics capacitive zone 0 (optional) liquids, sludge, gas 1, 2, 4, 6, 10, 20 m WC G1½“ thread	For use preferably in: • level measurement in closed tanks and pipes • environmental technology: water processing, sewage works
UniBar E	Diaphragm Meas. principle Ex approval Medium Meas. range Fastening	stainless steel piezo-resistive zone 0 (optional) liquids, gas 1, 2, 4, 6, 10, 20 m WC G½“ thread	For use preferably in: • level measurement in closed tanks and pipes • environmental technology • sewage works • pneumatics / hydraulics • process technology and engineering

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