



Digital inductive conductivity transmitter

- Fully integrated in Bürkert's process control systems
- Insensitive to coating fluids
- Wide range of applications: Fertiliser dosing, cooling water monitoring, concentration measurement

Type 8223 can be combined with...



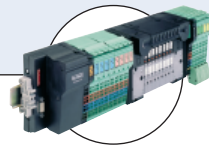
Type 2031

Valve for continuous control



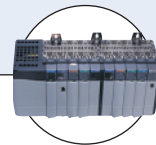
Type 1067

Continuous SideControl



Type 8644

Valve islands



PLC

The conductivity transmitter Type 8223 is available in a splash-proof plastic IP65 housing.

The sensor component consists of two magnetic coils in a PP, PVDF or PEEK housing. In order to measure conductivity, an AC voltage source is connected to the primary magnetic coil. The magnetic field induced generates a current in the secondary magnetic coil. The intensity of the induced current is a direct function of the conductivity of the solution.

The integrated temperature sensor for automatic compensation is a standard feature in the sensor housing. The transducer Type 8223 functions in a 3-wire circuit and requires a power supply of 12-30 V DC.

4...20 mA standard signal is available as output signal, proportional to the conductivity or the temperature of the fluid.


A wide range of stainless steel, brass and plastic fittings are available (see data sheet Type S020).

Technical data

General data

Compatibility	with fittings S020 (see corresponding data sheet)
Materials	
Housing / Nut	PEHD / PC glass reinforced fibre
Cable plug / Screws	PA / Stainless steel
Wetted parts materials	
Fitting	Brass, stainless steel 1.4404/316L, PVC, PP or PVDF
Sensor holder / Seal	PP, PVDF or PEEK / FKM or EPDM
Electrical connections	Cable plug acc. to EN 175301-803
Connection cable	Shielded, cross-section: max. 1.5 mm ²
Complete device data (fitting + electronic module)	
Pipe diameter	DN 15 up to DN 200
Conductivity measurement	
Measuring range	80 µS/cm up to 1 mS/cm - 800 µS/cm up to 10 mS/cm 8 mS/cm up to 100 mS/cm - 80 mS/cm up to 1 S/cm
Accuracy	± 2 % of F.S.*
Temperature measurement	
Measuring range	-10 up to +80°C
Accuracy	± 2 % of F.S.* (within 0 up to +70°C)
Medium temperature max.	with fitting in PVC: 50°C, PP, PVDF, stainless steel, brass: 80°C
Temperature compensation	automatic (with integrated temperature sensor - reference temperature 25°C)
Fluid pressure max.	PN6 (see pressure/temperature chart)
Electrical data	
Power supply	12-30 V DC (regulated and filtered)
Current consumption with sensor	≤ 50 mA + 22 mA analog output
Output: analog signal	4-20 mA programmable, proportional to conductivity or temperature max. load: 1000 Ω at 30 V DC; 690 Ω at 24 V DC; 300 Ω at 15 V DC; 150 Ω at 12 V DC

* of F.S. = of full scale

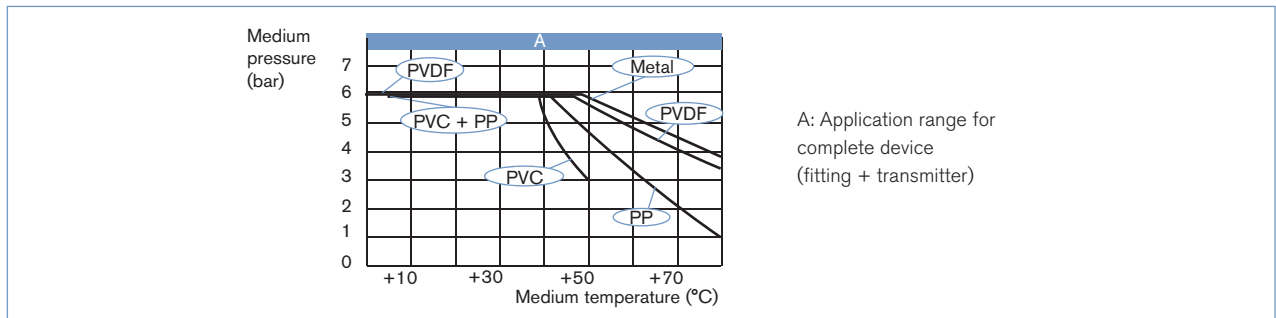
Environment	
Ambient temperature	0 up to 60°C (operation and storage)
Relative humidity	≤ 80%, without condensation
Standard, directives and approvals	
Protection class	IP65 with cable plug mounted and tightened
Standard and directives 	EN 50081-1 (1992), EN 50082-2 (1995) Complying with article 3 of §3 from 97/23/CE directive.*
EMC	
Pressure	

* For the 97/23/CE pressure directive, the device can only be used under following conditions (depend on max. pressure, pipe diameter and fluid).

Type of fluid	Conditions
Fluid group 1, §1.3.a	DN ≤ 25 only
Fluid group 2, §1.3.a	DN ≤ 32, or DN > 32 and PN*DN ≤ 1000
Fluid group 1, §1.3.b	DN ≤ 200
Fluid group 2, §1.3.b	DN ≤ 200

Pressure / Temperature diagram

Please be aware of the fluid pressure-temperature dependance according to the respective fitting+sensor material as shown in the diagram.

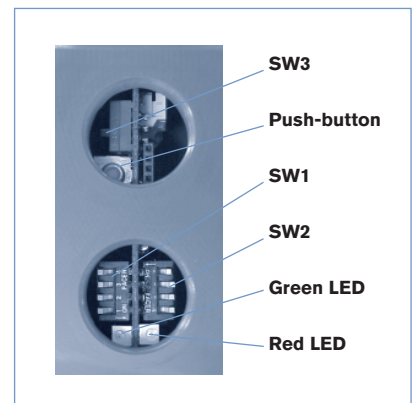


Programming

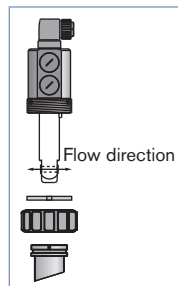
Configuration is done by DIP switches

- SW1:** Selection of
 - ▶ measuring range (switches 1 and 2)
 - ▶ filtering level of conductivity (switches 3 and 4)
- SW2:** Selection of
 - ▶ temperature compensation or
 - ▶ transmission of temperature on 4...20 mA output
- SW3:** Selection of
 - ▶ current output mode, sinking or sourcing

Push-button allows calibration of sensor "zero conductivity" point.



Installation



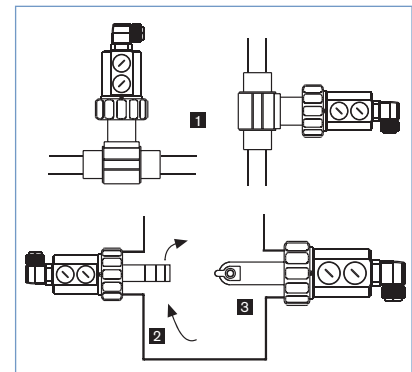
The 8223 conductivity transmitter can easily be installed into any Bürkert insertion fitting system (S020) by just fixing the main nut.

The device must be protected against constant heat radiation and other environmental influences,

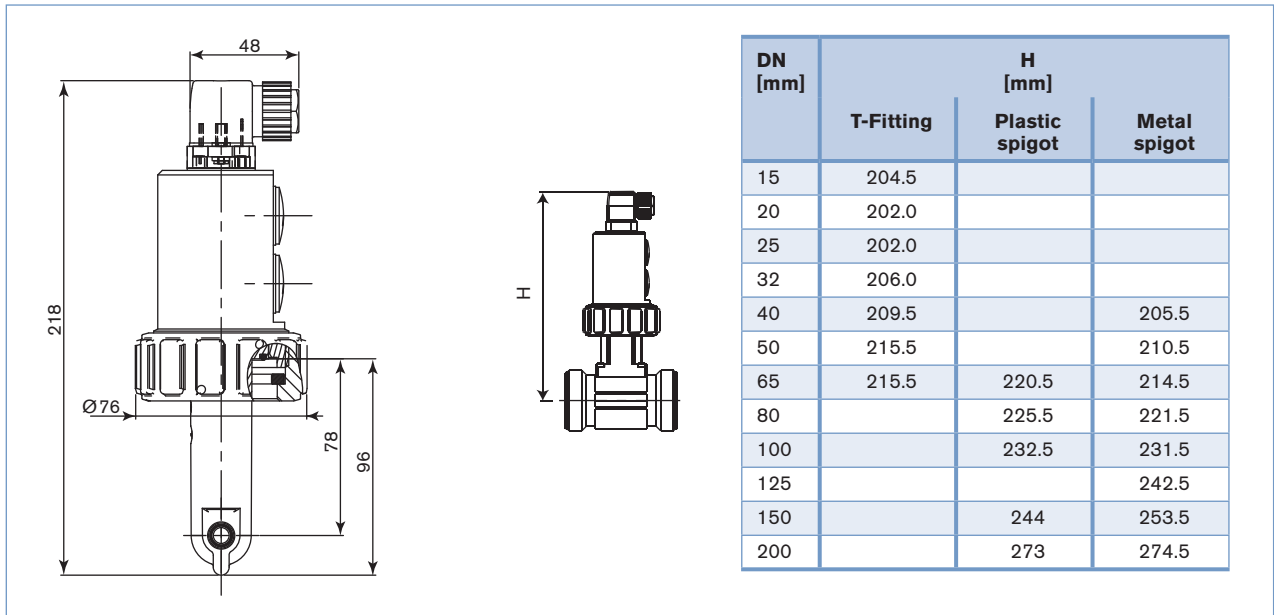
such as magnetic fields or direct exposure to sunlight.

The device can be mounted in following positions:

- 1- Horizontal or vertical pipes
- 2- Mounting in tank without mixer
- 3- Mounting in tank with mixer.



Dimensions [mm]










Ordering chart for transmitter Type 8223

Voltage supply	Output	Sensor version	Electrical connection	Item no.
12-30 V DC	4-20 mA	PP	Cable plug DIN EN 175301-803	558 767
		PVDF	Cable plug DIN EN 175301-803	440 440
		PEEK	Cable plug DIN EN 175301-803	550 335

Ordering chart - accessories for transmitter Type 8223

Description	Item no.
Ring	619 205
PC - nut	619 204
Set with 1 green FKM + 1 black EPDM gasket	552 111
Cable plug DIN EN 175301-803 with cable gland (Type 2508)	438 811
Cable plug DIN EN 175301-803 with NPT1/2" reduction without cable gland (Type 2509)	162 673

Combining the conductivity transmitter Type 8223 with fittings Type S020

Available Fitting DN	 <p>T- fitting S020</p>	<p>DN15 DN65</p> 
	 <p>Welding tab S020</p>	<p>DN50 DN200</p> 
	 <p>Fusion spigot S020</p>	<p>DN65 DN100</p> 
<p>Conductivity measurement</p> <p>8223</p>		<p>DN15 DN32 DN200</p> 

Note A: Only with plastic fitting with true union connection DIN8063

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In case of special application conditions, please consult for advice.

Subject to alteration.
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