

pH or ORP Transmitter

8202 ELEMENT neutrino

- Analog 4-20 mA output
- Universal process connection
- Compatible with 120 mm pH/ ORP probes Type 8203
- Temperature compensated pH measurement

Please see fittings



The Bürkert ELEMENT neutrino transmitter, Type 8202, is a compact device designed for the measurement of:

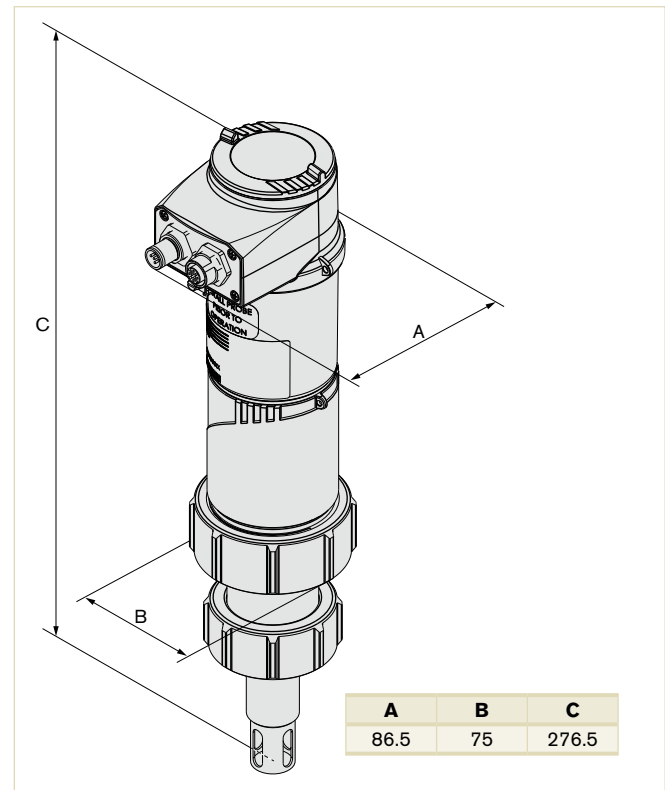
- the pH in clean liquids or liquids containing solids, sulphides or proteins
- or the oxidation-reduction potential in clean liquids or liquids containing solids, sulphides or proteins which may present low conductivity.

Technical Data

Pipe + Transmitter	
Pipe diameter	DN25-110 mm (DN<25 mm with reduction)
pH measurement	
Measuring range	0-14 pH
Accuracy	±0.05 pH
ORP measurement	
Measuring range	-2000 to +2000 mV
Accuracy	±3 mV
Temp. measurement	
Measuring range	-40 °C to +130 °C
Accuracy	±1 °C
Temp. compensation	
	automatic (integrated Pt1000) - reference temperature 25 °C
Ambient temperature	
	-10 °C to +60 °C (Operation and storage without probe)
Medium temp.*	
With PVC nut connection	0 up to +50 °C restricted by the used probe
With PVDF nut connection (on request)	-20 °C up to +130 °C restricted by the used adaptor or probe restriction with adaptor S022 in:
	- PVC: 0 °C up to +50 °C
	- PP: 0 °C up to +80 °C
	- Metal: -20 °C up to +130 °C
Fluid pressure max	PN16
4-20 mA output accuracy	±1%
Environment	
Relative humidity	≤ 85%, without condensation

* If the specific temperature limits for the probe used and the temperature limits given in the above technical data chart are different, please use the more restrictive range.


Envelope Dimensions [mm] (see datasheet for details)



Technical Data (continued)

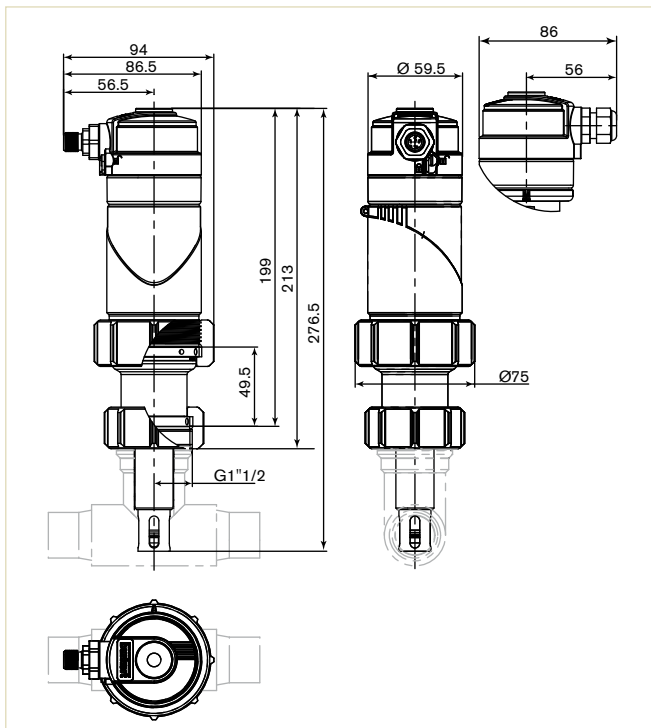
Electrical data	
Power supply	12-36 V DC, filtered and regulated
Current consumption with sensor	≤ 25 mA
Reversed polarity of DC	Protected
Voltage peak	Protected
Output	
Current	4-20 mA max. loop impedance: 1100 Ω at 36 V DC; 610 Ω at 24 V DC; 100 Ω at 12 V DC;
Response time (10%-90%)	5 s. (standard)

Technical Data (continued)

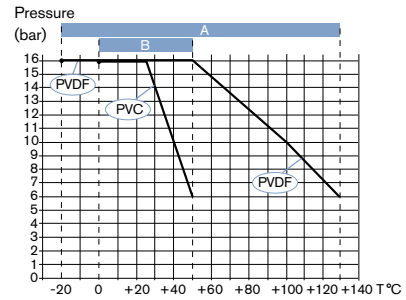
General data	
Compatibility	Any pipe from which are fitted out with Bürkert adaptor S022 (see separate data sheet)
Materials	See exploded view, opposite
Housing	Stainless steel 1.4561 (316L), PPS
Cover	PPS
Seals	EPDM
Fixed connector/cable gland	PA66
Nut	PVC (PVDF on request)
Wetted part materials	
Sensor holder	PVDF, Stainless steel 1.4571 (316Ti)
Probe	See probe specific technical data
Probe	120 mm Bürkert pH or ORP probe Type 8203 or any combined 120 mm pH or ORP probe, without temperature sensor, with PG13.5 head, S7/S8 connector
Temperature sensor	Pt1000 integrated within the holder
Electrical connections	1x 5-pin M12 male fixed connector, or Terminal strip via 1x cable gland M16x1.5
Recommended connection cable for terminal strip	Shielded cable (Measuring data acc. to CEI 664-1/VDE 0110 (4.97))
Solid H05(07) V-U	0.25 up to 1.5 mm ²
Flexible H05(07) V-K	0.25 up to 1.5 mm ²
With wire end ferrule	0.25 up to 1.5 mm ²
With plastic collar ferrule	0.25 up to 0.75 mm ²
Diameter	4 to 8 mm
Standards, directives and approvals	
Protection class	IP65, IP67, NEMA 4X and NEMA 6P, with M12 cable plug or cable gland tightened or obturated and cover properly mounted and secured
Standard and directives 	
EMC	EN 61000-6-2, EN 61000-6-3
Pressure	Complying with article 3 of §3 from 97/23/CE directive.*
Vibration / Shock	EN 60068-2-6 / EN 60068-2-27

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

Envelope Dimensions [mm] (continued)



Pressure / temperature chart



Application range of a 8202 ELEMENT neutrino transmitter:

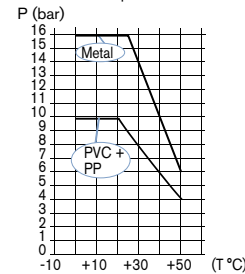
A : with PVDF nut (on request)

B : with PVC nut

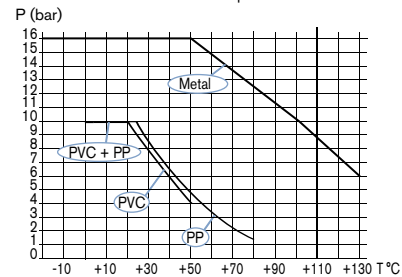
The measures have been made at an ambient temperature of 60 °C, without probe.

Application range of a 8202 ELEMENT neutrino transmitter (without probe)

- with PVC nut with S022 adaptor



- with PVDF nut with S022 adaptor



Ordering Chart

Description	Voltage supply	Output	Sensor version	Nut material	Electrical connection	Item no.
Compact transmitter: sensor holder with integrated Pt1000 + electronic module with cover	12 - 36 V DC	1 x 4 - 20 mA	None	PVC	5-pin M12 male fixed connector	561 685
					Cable gland	561 686

Accessories

Description	Item no.
One Ø 46x2 mm EPDM seal for 120 mm probe holder (with instruction sheet)	559 169
EPDM seal for cover/housing sealing	561 752
Probe holder with PVC nut	560 947
pH-probe -10...40 °C, 0 - 6 bar, pH 0 - 14 - PLASTRODE pH 120 mm	560 377
pH-probe 0... 80 °C, 0 - 6 bar, pH 0 - 14 - FLATRODE pH 120 mm	561 025
pH-probe -10...60 °C, 0 - 6 bar, pH 2 - 14 - LOGOTRODE pH 120 mm	427 114
pH-probe 0...130 °C, 0 - 6 bar, pH 0 - 14 - UNITRODE PLUS pH 120 mm	560 376
pH-probe 0...130 °C, 0 - 16 bar, pH 0 - 14 - CERATRODE pH 120 mm	418 319
Redox potential-probe 0...80 °C, 0 - 6 bar, -2000 ... +2000 mV - FLATRODE ORP 120 mm	561 027
Redox potential-probe -10...50 °C, 0 - 6 bar, -2000... +2000 mV - LOGOTRODE ORP 120 mm	560 379
Redox potential-probe 0...130 °C, 0 - 6 bar, -2000... +2000 mV - UNITRODE PLUS ORP 120 mm	560 378
Storage solution for probe (KCl 3M), 500 ml	418 557
Cleaning solution set for probe, 3 x 500 ml	560 949
Buffer solution, 500 ml, pH=4	418 540
Buffer solution, 500 ml, pH=7	418 541
Buffer solution, 500 ml, pH=10	418 543
Buffer solution, 500 ml, Redox potential = 475 mV	418 555
5 pin M12 female straight cable plug with plastic threaded locking ring, to be wired	917 116
5 pin M12 female straight cable plug moulded on cable (2 m, shielded)	438 680

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8202 ELEMENT neutrino
- pH or ORP probe, Type 8203
- INSERTION Adapters (see Type S022)



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