

pH Transmitter

- Accepts all standard pH probes
- Removable programming puck
- Data upload/download via puck
- With temperature compensation
- Diagnostic function

Please see fittings

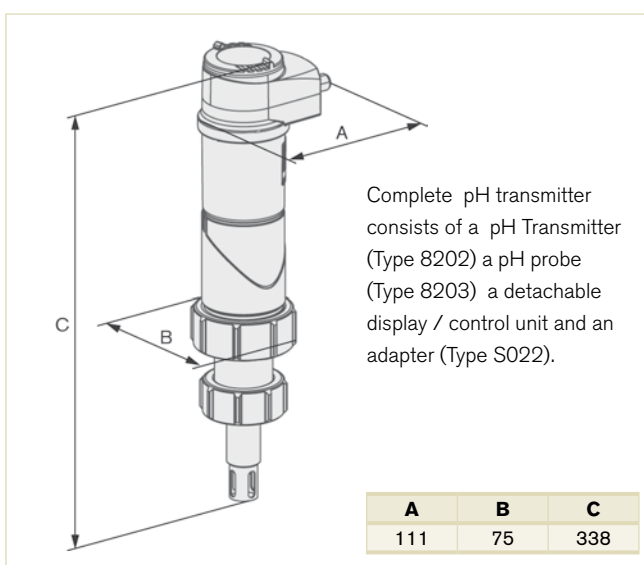


pH transmitter with programmable outputs. pH and temperature output via single or dual analog 4-20 mA. Two transistor outputs are also included. Transmitters are engineered for a wide scope of measuring ranges and can be delivered in 2-wire or 3-wire configurations. Intelligent, integrated, beautiful design fits perfectly with an assortment of easily configured fittings.

Technical Data

pH measurement	
Measuring range	-2 to 16 pH or -580 to +580 mV
Resolution	0.001 pH or 0.1 mV
Accuracy	±0.02 pH or 0.5 mV
Minimal pH scale	
	0.5 pH or 30 mV (i.e. 6.7 to 7.2 pH or -20 to +10 mV corresponding to 4-20 mA)
Temperature compensation	
	Automatic via integrated temperature sensor Pt. 1000
Temperature performance (via integrated Pt1000)	
	Measuring range -40 °C to +130 °C (-40 to 266 °F)
	Resolution 0.1 °C (0.18 °F) Accuracy ± 1 °C (1.8 °F)
Minimal temperature scale	
	10 °C (18 °F) (i.e. 10 °C to 20 °C (50 to 68 °F) corresponding to 4-20 mA)
Available fitting materials	
	Stainless, PP, PVC
Housing material	
	Stainless steel, PPS, PC
Insertion finger	
	PVDF
Gasket seal	
	EPDM
Max. fluid temperature	
	-20 °C to +130 °C (depending on fitting & pH probe)
with PVC nut connection	0 °C to 50 °C
Max. fluid pressure	
	0-16 bar
Ambient temperature	
	-10 °C to +60 °C
Relative humidity	
	≤ 85%, without condensation
Storage temperature	
	-10 °C to +60 °C (without probe)
Ingress protection	
	IP65, IP67
Voltage supply	
	14-36 V DC for 2-wire models 12-36 V DC for 3-wire models
Electrical protection	
	Reversed polarity of DC and peak protected
Current consumption max.	
	1 A max. (with transistor load)
Electrical connections	
	1 x 5-pin M12 male (2-wire) 1 x 5-pin M12 male + 1 x 5-pin M12 female (3-wire)

Envelope Dimensions [mm] (see datasheet for details)





Technical Data (continued)

Outputs		4-20 mA configurable temperature or pH 2 Transistors, configurable, open collector, 700 mA max., 0.5 A max. per transistor if the 2 transistor output are wired
Output load		1100 Ω at 36 V 610 Ω at 24 V 180 Ω at 14 V
Electrical data		
Power supply		
3 outputs transmitter (2-wire)	14-36 V DC, filtered and regulated	
4 outputs transmitter (3-wire)	12-36 V DC, filtered and regulated	
Current consump. with sensor		
3 outputs transmitter (2-wire)	≤ 1 A (with transistor loads) ≤ 25 mA (at 14 V DC without transistor loads, with current loop)	
4 outputs transmitter (3-wire)	≤ 5 mA (at 12 V DC without transistor loads, without current loop)	
Reversed polarity of DC		Protected
Voltage peak		Protected

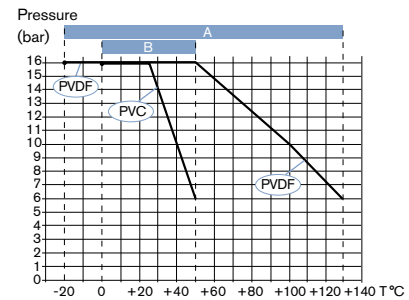
Options

- Blind version (Neutrino)
- ORP: see datasheet 8202

Technical Data (continued)

Short circuit	Protected for transistor outputs
Output	
Transistor	configurable as sourcing or sinking (respectively both as PNP or NPN), open collector max. 700 mA, 0.5 A max. per transistor if the 2 transistor outputs are wired output NPN: 0.2-36 VDC output PNP: V+ power supply
Current	4-20 mA programmable as sourcing or sinking, max. loop impedance: 1 100 W at 36 V DC; 610 W at 24 V DC; 180 W at 14 V DC
3 outputs transmitter (2-wire)	configurable in the same mode as transistor: sourcing or sinking, max. loop impedance: 1 100 W at 36 V DC; 610 W at 24 V DC; 180 W at 12 V DC
4 outputs transmitter (3-wire)	
Response time (10% - 90%)	150 ms (standard)
General data	
Compatibility	Any pipe which are fitted out with Bürkert adaptor S022 (see separate data sheet)
Materials	
Housing/cover/seals	See exploded view, opposite
Screws/Display/navigation key	Stainless steel 1.4561, PPS / PC / EPDM
Fixed connector mounting plate	Stainless steel 1.4404 (316L)
Fixed connector/Nut	Brass nickel plated / PVC or PVDF
Wetted part materials	
Probe 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	
Temperature sensor	Pt1000 integrated within the holder
Display (accessories)	
Display (accessories)	Grey dot matrix 128x64 with backlighting
Electrical connections	
3 outputs transmitter (2-wire)	1x 5-pin M12 male fixed connector,
4 outputs transmitter (3-wire)	1x 5-pin M12 male and 1x 5-pin M12 female fixed connectors
Connection cable	
Connection cable	Shielded cable
Standards, directives and approvals	
Protection class	
Protection class	IP65 and IP67 with M12 cable plug mounted and tightened and cover fully screwed down
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
Approvals	
UL-Recognized for US and Canada 	61010-1 + CAN/CSA-C22 No.61010-1

Pressure / temperature chart



Application range of a 8202:

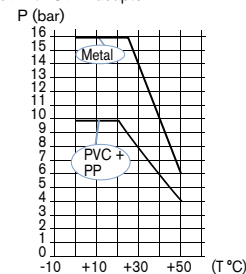
A : with PVDF nut

B : with PVC nut

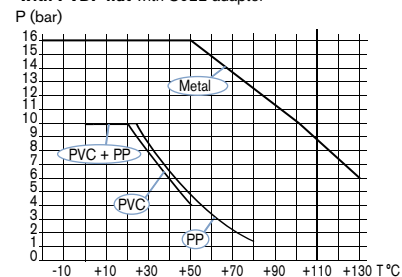
The measures have been made at an ambient temperature of 60 °C, without probe.

Application range of a 8202 (without probe)

- with PVC nut with S022 adaptor



- with PVDF nut with S022 adaptor



Ordering Chart

8202 ELEMENT

Transmitter				
Wiring	Outputs	Nut	M12	Item no.
2-wire	2 x transistors + 1 x 4 - 20 mA	PVC	5-pin male	559 630
		PVDF	5-pin male	559 632
3-wire	2 x transistors + 2 x 4 - 20 mA	PVC	5-pin male + female	559 631
		PVDF	5-pin male + female	559 633

Probe Type 8203 (additional versions available)		Item no.
pH probe 0...130 °C, 0 - 16 bar, pH 0 - 14 - UNITRODE PLUS pH 120 mm		560 376
pH probe 0...80 °C, 0 - 6 bar, pH 0 - 14 - FLATRODE pH 120 mm		561 025

Accessories

Description	Item no.
Display/programming module	559 168
Electrical connector, 5-pin M12 male, plug only	560 946
Electrical connector, 5-pin M12 male, 2 m prewired	559 177
Electrical connector, 5-pin M12 female, plug only	917 116
Electrical connector, 5-pin M12 female, 2 m prewired	438 680

Note

For a complete transmitter the following items must be ordered:

- Transmitter, Type 8202 ELEMENT
- pH or ORP probe, Type 8203
- Display/programmer module
- M12 cable socket, cable connector (only cable socket for a 4-20 mA current output, cable and cable connector for two 4-20mA current outputs)

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