



GAS & SPECIALTY SENSORS

PH OR ORP TRANSMITTER DS8202 SERIES

DESCRIPTION

The Berkert **DS8202** pH and ORP transmitter is a compact device designed for measuring the pH or oxidation-reduction potential (ORP) in clean liquids or liquids that may have low conductivity. The transmitter consists of a replaceable standard 120 mm pH or ORP probe screwed in a probe holder with integrated Pt1000 temperature sensor.

This assembly is then mated to an enclosure containing the electronic module and a removable display for a quick and easy installation. The pH/ORP transmitter can operate independent of the display, but it will be required for programming the transmitter and also for visualizing the measured and processed data.

The **DS8202 Standard** is available with either two transistors and one 4-20 mA output or two transistors and two 4-20 mA outputs. The **DS8202 Nutrino Series** is a cost effective less featured product measuring pH and ORP but with one 4-20 mA output and is not available with an LCD display.

Principles of Operation: The 8202 device can be used as a pH or a ORP transmitter according to the probe version mounted into the holder. The pH or redox probe is a glass membrane with variable selectivity according to the pH or the redox, which must be calibrated with buffer solution before the installation of the transmitter into the pipe.

When a pH probe is immersed into the solution a difference in potential is formed due to ions (H+) between the glass membrane and the solution. This difference in potential measured in relation to a reference electrode is directly proportional to the pH value (59.16 mV per pH unit at 25°C).

NEW!



DS8202



FEATURES

- **Programmable outputs: two transistor and single or dual analog 4-20 mA (Process + Temp)**
- **Removable backlighted display**
- **Universal process connection**
- **Compatible with 120 mm pH/ ORP probes**
- **Diagnostic function**

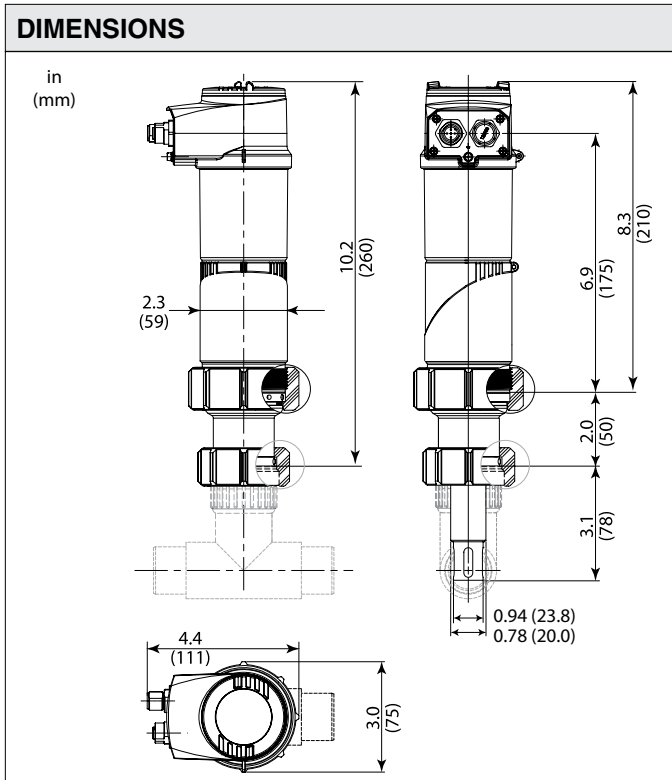
SPECIFICATIONS

Supply Voltage	Single analog output: 14-36 VDC Dual analog output: 12-36 VDC	Media Temperature Range	pH: 32° to 176°F (0° to +80°C) 14° to 122°F (-10° to +50°C)
Protection	Reversed polarity of DC Voltage peak Short circuit	Operating Humidity	≤ 85%, without condensation
Supply Current	With Sensor: ≤ 1 A (with transistor loads) Single analog output: ≤ 25 mA (at 14 VvDC without transistor loads, with current loop) Dual analog output: ≤ 5 mA (at 12 V DC without transistor loads, without current loop)	Operating Temperature	Transmitter: 14° to 140°F (-10° to +60°C) Probe (Flatrobe) 32° to 140°F (0° to +60°C)
Signal Output	Transistor (programmable as PNP or NPN) Current: 4-20 mA	Materials of Construction	Housing / cover / seals: Stainless steel 1.4561, PPS / PC / EPDM Screws / Display / navigation key: Stainless steel / PC / PBT 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
Maximum Output Impedance Accuracy	610 Ω at 24 V DC pH: ±0.02 pH or 0.5 mV ORP: ± 3 mV temperature: ±1°C (1.8°F)	Enclosure Rating	IP65 and IP67 with M12 cable plug mounted and tightened and cover fully tightened
Measurement Range	pH: -2 to 16 pH or -580 to +580 mV ORP: -2000 to +2000 mV Temperature: -40 to +130°C (-40 to 266°F)	Cable Type	Shielded cable
Display Resolution	Grey dot matrix 128x64 with backlighting pH: 0.01 pH or 0.1 m ORP: 1 mV Temperature: 0.1°C (0.18°F)	Wiring Terminations	Single analog output: 1x 5-pin M12 male fixed connector Dual analog output: 1x 5-pin M12 male and 1x 5-pin M12 female fixed connectors
Response Time	150 ms (10 to 90%)	Dimensions	Standard: 8.9"H x 2.95" diameter (exposed) Nutrino: 8.4"H x 2.3" diameter (exposed)
Fluid Pressure Limit	0 to 87 PSI (0 to 6 bar)	Approvals	UL-Recognized: 61010-1 + CAN/CSA-C22 No.61010-1 EMC: EN 61000-6-2, EN 61000-6-3
Maximum Pressure	58 psi (4 bar)	Warranty	1 year
Media Compatibility	pH: Contaminated fluids (viscous, suspended solids, small volumes) ORP: Clean (cooling-water, waste water or slightly contaminated)		

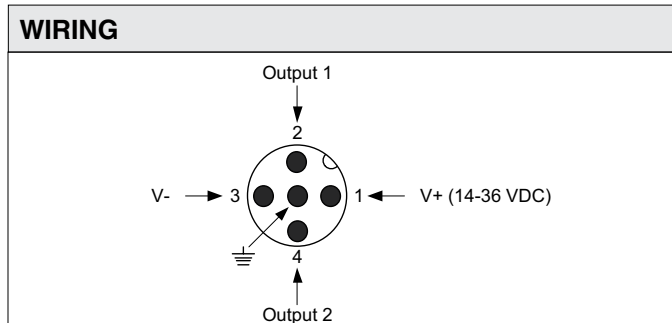
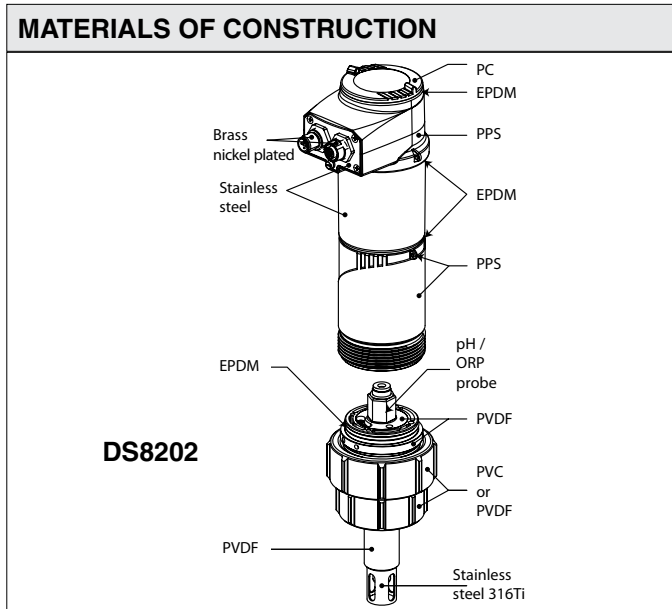
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Installation: The 8202 pH/ORP transmitter can be installed into any adaptor with G 1-1/2" external threaded sensor connection by just threading the main nut. Select the required S022 adaptor (see below in related products) according to specific requirements of the sensor and material (temperature and pressure), and install it in a vertical position with an angle no greater than 75° from the vertical center line.



ORDERING INFORMATION

MODEL	DESCRIPTION
559634	DS8202 Standard pH transmitter, single analog output, PVC mounting nut
559636	DS8202 Standard pH transmitter, single analog output, PVDF mounting nut
559635	DS8202 Standard pH transmitter, dual analog output, PVC mounting nut
559637	DS8202 Standard pH transmitter, dual analog output, PVDF mounting nut
561686	DS8202 Nutrino pH transmitter, single analog output, cable gland, PVC mounting nut

Ordering note: Choose one transmitter and one probe.

RELATED PRODUCTS

559168	Removable display/programmer module (not available for Nutrino products)
560854	S022 adapter for use with existing Burkert fitting body DN32 or bigger, PVC-U/FKM, EPD
561025	pH probe 0° to 176°F, 0 to 87 psi bar, pH 0 to 14 - FLATRODE pH 4.7" (120 mm)
561027	ORP probe 0 to 176°F, 0 to 87psi, -2000 to +2000 mV - FLATRODE ORP 4.7" (120 mm)
561227	S022 solvent adapter for use with a 1" x 1" up to a 3" x 1" Tee, PVC-U/FKM, EPDM
561228	S022 threaded adapter for use with threaded tank or pipe, 1 1/4" NPT, PVC-U/FKM, EPD
561230	S022 adapter for use with existing Burkert fitting body DN32 or bigger, PP/FKM, EPD
561232	S022 welded adapter for use directly on a pipe, Stainless steel/FKM, EPD
561233	S022 adapter for use with existing Burkert fitting body DN32 or bigger, Stainless steel/FKM, EPD

ACCESSORIES

418540	Buffer solution, 500 ml, pH = 4
418541	Buffer solution, 500 ml, pH = 7
418543	Buffer solution, 500 ml, pH = 10
418555	Buffer solution, 500 ml, ORP = 475 mV
418557	Storage solution for probes (KCl 3M), 500 ml
560949	Cleaning solution set for probes, 3x 500 ml