



GAS & SPECIALTY SENSORS

CONDUCTIVITY TRANSMITTER

DS8222 SERIES

DESCRIPTION

The Burkert transmitter DS8222 is a compact transmitter designed for measuring the conductivity of fluids. The transmitter consists of a sensor, enclosure with cover, and an optional and removeable display. The sensor comprises a cell with two electrodes and a platinum 1000 ohm temperature probe. The sensor itself is available with three different cell constants; C = 0.01, 0.1, and 1.0. The C = 1.0 constant uses graphit electrolyte, while the other two incorporate stainless steel. The conductivity transmitter can operate independent of the display but the display is required for programming the transmitter. The DS8222 Series is available with three fully programmable outputs (two transistor and one 4-20 mA analog output) or with four fully programmable outputs (two transistor and two 4-20 mA analog outputs).

The DS8222 "Nutrino" Series, a less featured conductivity transmitter, has only one 4-20 mA analog output and is not available with LCD display.

FEATURES

- **Programmable outputs: two transistor and single or dual analog 4-20 mA**
- **Removable backlighted display**
- **Universal process connection**
- **Three cell constants for covering a wide measuring range**
- **Diagnostic functions**

SPECIFICATIONS

Supply Voltage	Single analog output: 14-36 VDC Dual analog output: 12-36 VDC Nutrino	Operating Humidity	≤ 85%, without condensation
Protection	Reversed polarity of DC Voltage peak Short circuit	Operating Temperature	Transmitter: 14° to 140°F (-10° to +60°C) Probe (Flatrobe) 32° to 140°F (0° to +60°C)
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)	Materials Of Construction	Housing / cover: Stainless steel 1.4561, PPS / PC Seals / Screws EPDM / Stainless steel Fixed connector mounting plate: Stainless steel Fixed connector: Brass nickel plated Display / navigation key: PC / PBT Nut: PVC or PVDF Wetted part materials Conductivity sensor: PVDF, stainless steel 1.4571 (316Ti) Electrode: Stainless steel 1.4571 (316Ti) for cell constant C=0.01 or C=0.1 or graphite for cell constant C=1.0
Signal Output	Switch: (programmable as PNP or NPN) Current: 4-20 mA	Enclosure Rating	Standard: IP65 and IP67 with M12 cable plug mounted and cover tightened Nutrino: also includes NEMA 4X and NEMA 6P
Maximum Output Impedance	610 Ω at 24 V DC	Cable Type	Shielded cable
Accuracy	Conductivity: ± 3% of measured value Temperature: ± 1.8°F (1°C)	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
Measurement Range	Conductivity: 0.05 µS/cm to 10 mS/cm Temperature: -40° to 266°F (-40° to +130°C)	Dimensions	Standard: 7.1"H x 2.8" diameter (exposed) Nutrino: 4.1"H x 2.3" diameter (exposed)
Display Resolution	Grey dot matrix 128x64 with backlighting 1 nS/cm	Approvals	UL-Recognized: 61010-1 + CAN/CSA-C22 No.61010-1 EMC: EN 61000-6-2, EN 61000-6-3
Response Time	150 ms (10 to 90%)	Warranty	1 year
Fluid Pressure Limit	0 to 87 PSI (0 to 6 bar)		
Maximum Pressure	58 psi (4 bar)		
Media Compatibility	pH: Contaminated fluids (viscous, suspended solids, small volumes) ORB: - Clean (cooling-water, waste water or slightly contaminated)		
Media Temperature Range	PVC nut connection: 32° to 122°F (0° to +50°C) PVDF nut connection: -4° to 212°F (-20° to +100°C)		

NEW!



DS8222



559168 Display/
Programing Module

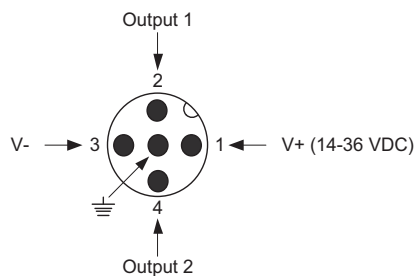


Installation: The DS8222 Series conductivity transmitters can be installed into any adaptor with G 1-1/2" external threaded sensor connection by just fixing the main nut. Select and install the required SO22 adaptor (see related products) onto the pipe according to specific requirements of the sensor and material (temperature and pressure). For mounting on a tank or direct mounting on a pipe (DN100 and DN110), an adaptor with a G 1-1/2" external threaded sensor connection must be used. The transmitter can be installed in any position. In order to get reliable measurement air bubbles must be avoided.

Please ensure that the mounting location provides a continuous and complete immersion of the sensor in the flow stream. Consult the installation manual for complete installation instructions.

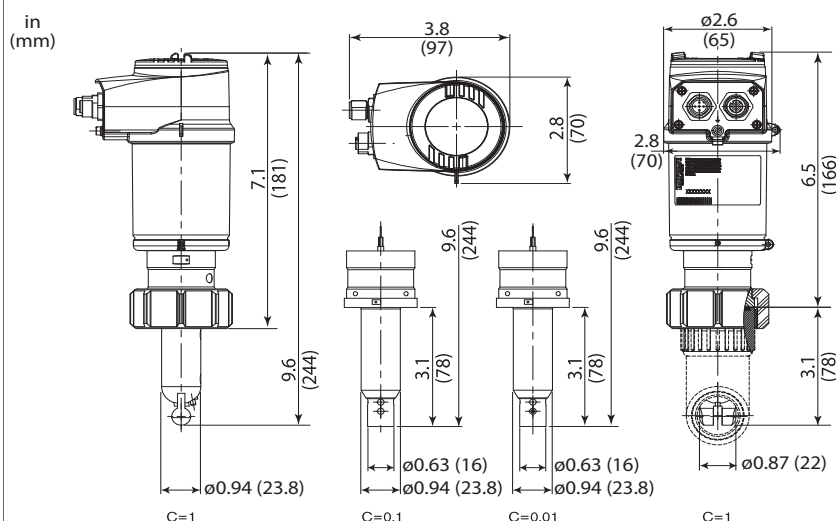


WIRING



Principles of operation: Conductivity is defined as the ability of a solution to conduct electrical current. The load carriers are ions (e.g. dissolved salt or acids). In order to measure conductivity two electrodes are used which are set at a fixed distance apart and with a known specified surface. An AC voltage source is connected to the electrodes. The measured current is a direct function of the conductivity of the solution.

DIMENSIONS



ORDERING INFORMATION

MODEL	DESCRIPTION
562394	DS8222 Standard conductivity transmitter, single analog output, C=0.01, PVC mounting nut
562396	DS8222 Standard conductivity transmitter, single analog output, C=0.01, PVDF mounting nut
599624	DS8222 Standard conductivity transmitter, single analog output, C=0.10, PVC mounting nut
559626	DS8222 Standard conductivity transmitter, single analog output, C=0.10, PVDF mounting nut
559638	DS8222 Standard conductivity transmitter, single analog output, C=1.0, PVC mounting nut
559622	DS8222 Standard conductivity transmitter, single analog output, C=1.0, PVDF mounting nut
562395	DS8222 Standard conductivity transmitter, dual analog output, C=0.01, PVC mounting nut
562397	DS8222 Standard conductivity transmitter, dual analog output, C=0.01, PVDF mounting nut
559625	DS8222 Standard conductivity transmitter, dual analog output, C=0.10, PVC mounting nut
559627	DS8222 Standard conductivity transmitter, dual analog output, C=0.10, PVDF mounting nut
559639	DS8222 Standard conductivity transmitter, dual analog output, C=1.0, PVC mounting nut
559623	DS8222 Standard conductivity transmitter, dual analog output, C=1.0, PVDF mounting nut
561662	DS8222 Nutrino conductivity transmitter, analog output, C=0.01, Cable gland
561664	DS8222 Nutrino conductivity transmitter, analog output, C=0.10, Cable gland
561666	DS8222 Nutrino conductivity transmitter, analog output, C=1.0, Cable gland
561668	DS8222 Nutrino conductivity transmitter, analog output, C=0.01, G3/4" external thread
561670	DS8222 Nutrino conductivity transmitter, analog output, C=0.10, G3/4" external thread
561672	DS8222 Nutrino conductivity transmitter, analog output, C=1.0, G3/4" external thread

RELATED PRODUCTS

560854	SO22 adapter for use with existing Burkert fitting body DN32 or bigger, PVC-U/FKM, EPD
561227	SO22 solvent adapter for use with a 1" x 1" up to a 3" x 1" Tee, PVC-U/FKM, EPDM
561228	SO22 threaded adapter for use with threaded tank or pipe, 1 1/4" NPT, PVC-U/FKM, EPD
561230	SO22 adapter for use with existing Burkert fitting body DN32 or bigger, PP/FKM, EPD
561232	SO22 welded adapter for use directly on a pipe, Stainless steel/FKM, EPD
561233	SO22 adapter for use with existing Burkert fitting body DN32 or bigger, Stainless steel/FKM, EPD

ACCESSORIES

440015	Buffer solution, 500 ml, 5 μ S
440016	Buffer solution, 500 ml, 15 μ S
440017	Buffer solution, 500 ml, 100 μ S
440018	Buffer solution, 500 ml, 706 μ S
440019	Buffer solution, 500 ml, 1413 μ S