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STs2000 series

submersible ORP (redox) transmitter

features

- isolated 4-20 ma output -- operates down to 7 volts
- 316SS and PVDF construction -- titanium optional
- patented connector system -- allows for 'two-turn' cable and sensor assembly
- 'true' 2-wire operation
- auto-polarity correction
- optional, independent temperature output (0 to 50 °C)
- small, 19 mm (3/4") diameter -- ideal for wells
- comes with 10 meter cable (33 feet) -- polyurethane jacketed, Kevlar reinforced, and water-blocked

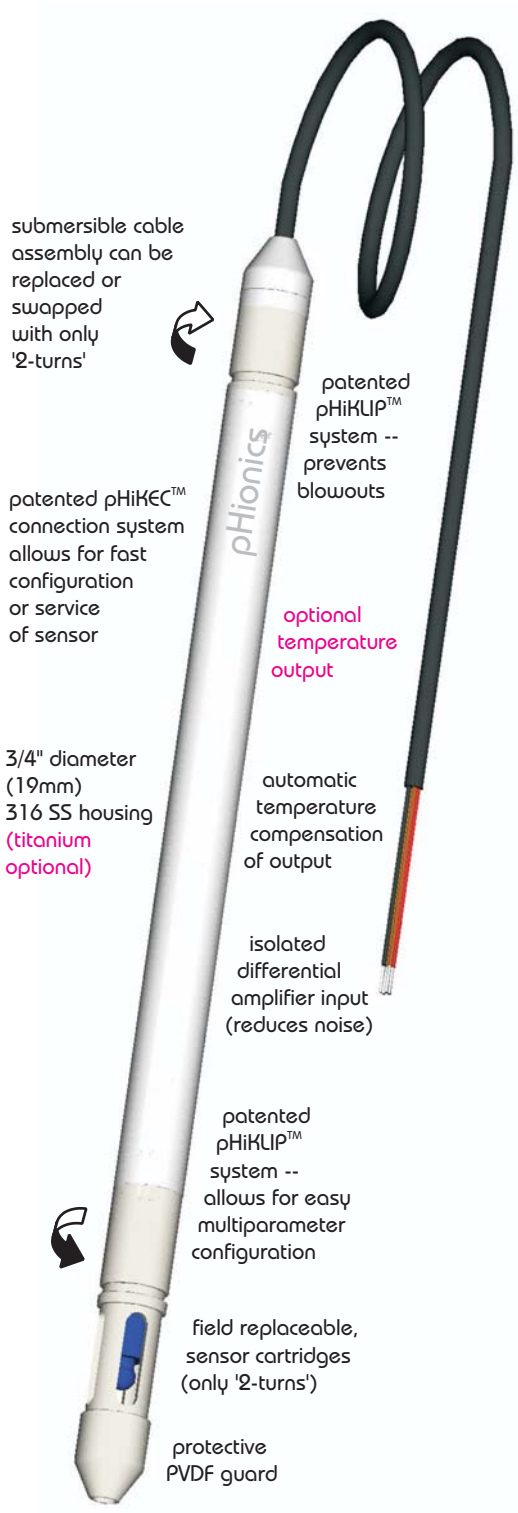
description

The STs series of submersible water quality transmitters have an integrated preamp and an isolated 'true 2-wire', 4-20 ma transmitter. Two independent channels can simultaneously transmit an ORP (redox) and temperature signal -- two wires for ORP and two wires for temperature. The compact design afforded by the patented pHiKEC™ keyless connection system -- and the 316SS (titanium optional) and PVDF construction -- make the rugged sensor/transmitter ideal for applications such as process control, data acquisition, wastewater treatment, and, groundwater monitoring, The units can be submersed to 200 feet (approximately 100 psi). Individual units can be combined to make redundant or multiparameter modules using the pHionics' patented pHiKLIP™ array system. The pHiKLIP™ system also allows for the units to be used in in-line (insertion) applications without fear of blow-out. As with all pHionics' designs, the sensor/transmitters are designed with 'ease of service' as a primary goal.

operation

The 'true 2-wire', 4-20 ma STs series sensor/transmitters send a current proportional to the paramater being measured on the same two wires that provide the power (7 to 40 volts dc). Current transmission allows for long runs of inexpensive cable or wire (up to three miles) that is virtually noise-free without any signal loss that is common to voltage (IR drop) or digital (capacitance affecting 'rise/fall' timing). The seven volt operation allows the units to be powered by 12 volt battery systems with 5 volts of compliance, making them compatible with RTU's and solar powered applications. The units are intended for calibration via software supplied with the datalogger, PLC, or through the DCS.

The ORP signal on channel 1is not temperature compensated -- as is customary with ORP (redox) measurements. The temperature option (STs2010**T**), provides an independent, isolated, 4-20 ma output proportional to the 0 to 50 °C range on channel 2. The auto-polarity correction feature directs the applied supply voltage to allow for proper operation regardless of wire hookup. Red and Black are for channel 1-- ORP (redox), and Orange and Brown are for the optional channel 2 -- temperature.



voice:1-775-246-2711, fax: 1-775-246-2722, e-mail: sales@phionics.com

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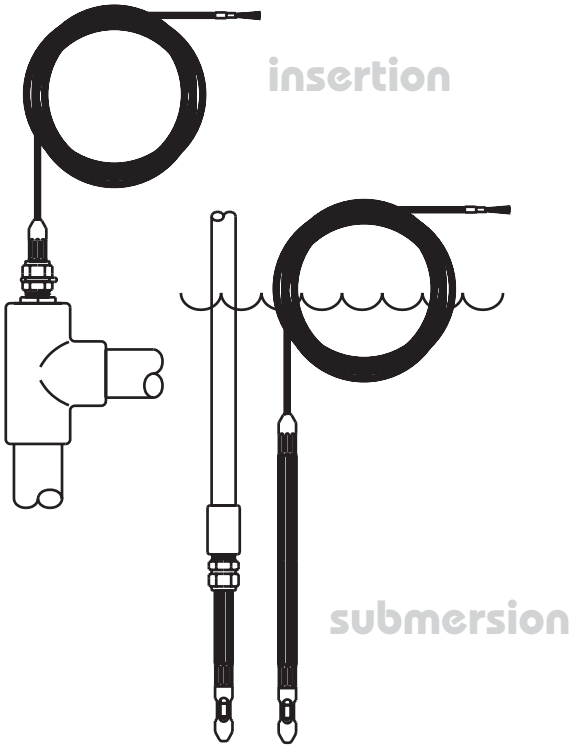

ordering information

STs _____ - _____

model

range (custom ranges available)

2001	0 to (+)1000 mv
2010	(-)1000 mv to (+)1000 mv
2101	0 to (+)1000 mv

temperature output option

T	0 to 50 degrees Celsius, output compatible with selection below

output

Ci	4 to 20 ma, **isolated**
Cn	4 to 20 ma, non-isolated

housing material

Ss	316 SS
Ti	titanium

cable length (expressed in feet)

0033	33 feet (10 meters) standard
nnnn	replace nnnn with desired feet of cable

For more information, contact your pHionics representative at:

pHionics, inc.

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1-800-964-0063

Series STs2000 and STs2000T (Channel 1), 2-wire, 4-20 ma ORP (redox) sensor/transmitters

ORP sensing range	± 1000 mv (custom ranges available 0-1000mv, etc.)
Output	4 to 20 ma
Power supply voltage	7 to 40 vdc
Loop impedance (max)	250 ohms at 12 vdc, 850 ohms at 24 vdc, 1650 ohms at 40 vdc
Isolation	600 vdc, >70 db at 50/60 hz
(the following specs apply once calibrated via software)	
Linearity	± 4 mv
Accuracy	± 4 mv
Sensitivity	± 1 mv
Stability	± 2 mv
Repeatability	± 10 mv
Electrode type	Platinum, double junction
Response time (including electrodes)	95% < 20 seconds
Temperature compensation	none
Pressure	0-100 psi
Humidity	0-100%
Wetted materials	316 ss, PVDF, Viton, glass titanium optional
Length	343 mm (13.5 in.)
Diameter	19 mm (0.750 in.) maximum
Weight (excluding cable)	< 0.22 kg (0.5 lb.)
Cable type	Shielded polyurethane, water-blocked, Kevlar reinforced, 1.36 kg/100 feet
Cable length (standard)	10 meters (33 feet)
Cable from transmitter to power supply	4 conductor, twisted pair, 3 mile maximum

Series STs2000T, 2-wire, 4-20 ma ORP (redox) sensor/transmitters with optional, independent 2-wire, 4-20 ma temperature output. The following specifications pertain to the channel 2 temperature output option.

Range	0-50 °C
Output	4 to 20 ma
Linearity	± 0.5 °C
Accuracy	± 1 °C
Power supply voltage	7 to 40 vdc
Loop impedance (max)	250 ohms at 12 vdc, 850 ohms at 24 vdc, 1650 ohms at 40 vdc
Cable from transmitter to power supply	4 conductor, twisted pair, 3 mile maximum
Isolation	600 vdc, >70 db at 50/60 hz

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