

## About The Water Quality Equipment

Updated September 2008

In-Situ, Inc. and CC Lynch Associates, Inc. recently donated a TROLL<sup>®</sup> 9500 water quality instrument to the Spring Lake Climate Station in San Marcos, Texas. Volunteers deployed the TROLL 9500 instrument, valued at \$10,000, in early June 2008. The instrument continuously monitors dissolved oxygen, turbidity, conductivity, pH, temperature, and barometric pressure. The instrument will be used to conduct long-term water quality monitoring of Spring Lake, part of the Edwards Aquifer in south-central Texas.

### GENERAL SPECIFICATIONS:

<b>Dimensions</b>	47 mm (1.85 in) OD, 57.7 cm (22.7 in) long
	with RDO <sup>®</sup> sensor: 88.4 mm (3.48 in) OD, 57.7 cm (22.7 in) long
	RDO <sup>®</sup> sensor adapter only: 88.4mm (3.5 in) OD, 20.3 cm (8.0 in) long
<b>Weight</b>	1.9 Kg (4.2 lbs)
<b>Wetted materials</b>	PVC, 316L stainless steel, Acetal, Viton <sup>®</sup> , nylon, FEP* or polyurethane (cable)
<b>Water tightness rating</b>	Housing (not including sensors): up to 2500 psi (1200m / 1600 ft) / Battery compartment: IP67 without the battery cover or cable attached!
<b>Output options</b>	SDI-12 (optional with SDI-12 adapter), ASCII streaming mode or binary command
<b>Internal Power</b>	2 internal user-replaceable D batteries (alkaline or high-power lithium)
	RDO <sup>®</sup> requires 2 lithium batteries or external power
<b>External Power</b>	9-12V DC

### SENSOR SPECIFICATIONS:

Parameter	Unit	Method	Accuracy	Precision	Resolution	Range	MDL
Temperature	° C	Platinum resistance thermometer	+/- 0.1 degrees C	+/- 0.1 degrees C	0.01 degrees C	-5 to 50 degrees C	0.0
Turbidity	NTU	Nephelometer	+/- 5% or 2 NTU (whichever is >)	$\pm 5$ NTU if less than 1 NTU or 20% RPD if more than 1 NTU	0.1 NTU	0-2000 NTU	5
Conductivity	$\mu$ S/cm	Toroidal	Low Range Sensor= +/- 0.5% or 2 $\mu$ S/cm (whichever is >) between 5 & 20,000 $\mu$ S/cm	Low $\pm 0.5\%$ or 2 $\mu$ S/cm. High $\pm 0.5\% + 2 \mu$ S/cm.	Range-dependent	Low Range Sensor = 3uS/cm-50,000 $\mu$ S/cm	5
pH	pH/ unit	Glass sensing bulb	+/- 0.09 pH units	$\pm 0.2$	0.01 pH units	0-12 pH units	NA
Rugged Dissolved Oxygen	mg/L	Optical LED	+/- 0.1 mg/L @ 0-10 mg/L +/- 0.2 mg/L @ 10-20 mg/L	<0.5 difference between dups.	0.01 mg/L	0-20 mg/L, 0-200% saturation	0.0