ChemScan MPX4 Multiparameter Sonde

The ChemScan MPX4 is a cost-effective multiprobe that integrates with online plant controls for long-term installation using a local controller, direct connection and wireless telemetry. The probe can also be used for spot checking using Bluetooth data collection. With interchangeable sensors, the probe replaces multiple instruments, reducing overall monitoring costs. And highly stable sensors require minimal maintenace and calibration.

BENEFITS

- **Reduces monitoring costs:** With ultra-stable sensors that minimize calibration and maintenance needs, the multiprobe reduces total cost of ownership.
- **Saves hours on fieldwork:** The VuSitu mobile app records data directly from the probe for spot checks. The Partech 7300w^2 monitor can interface with the probe, providing local display and connection to plant control system. Telemetry integration with HydroVu platform provides real-time access to remote monitoring data.
- **Delivers higher-quality data:** Drift-resistant sensors with simplified calibration provide accurate, reliable data - no messy field notebooks required. The intuitive handheld app allows for quick and easy operations. Rugged design with optional antifouling wiper ensures performance in harsh environments for longer deployments.
- **Ease of use:** Streamlined data collection and automatic environmental compensation mean zero-processing, while our mobile app lets you tag sites and track GPS coordinates.

FEATURES

- Interchangeable sensors with wet-mate connectors
- Optional 2" antifouling wiper for higher-quality data in long-term deployment
- Wireless mobile Bluetooth® connection for iOS/Android (VuSitu app)
- Site tagging and GPS coordinate functions available via app
- LCD display gives snapshot of instruments health and connectivity
- Wide sensor range for performance in a variety of applications
- Barometric environmental compensation - no data post-processing
- Easy integration with PLC/SCADA control systems, data loggers, and telemetry - no adaptors or confusing communication protocols
- Innovative pH and ISE reference for 3X sensor stability
- Corrosion-resistant housing and abrasion-resistant RDO sensor

PARAMETERS

- Temperature/Conductivity
- Pressure
- Level
- Salinity
- pH/ORP
- Nitrate (NO3-)
- Fluorescent Dissolved Organic Matter (FDOM)
- Ammonium (NH4+)
- Chloride (Cl-)
- Turbidity
- Total Suspended Solids
- Dissolved Oxygen (RDO)
- Blue Green Algae-Phycocyanin
- Chlorophyll

Applications:

- **LONG-TERM DRINKING WATER AND WASTEWATER PROCESS MONITORING**
- **REMOTE MONITORING VIA TELEMETRY**
- **SPOT SAMPLING**

GENERAL	CHEMSCAN MPX4 MULTIPARAMETER SONDE		
OPERATING TEMP. (NON-FREEZING)	23 to 122°F (-5 to 50°C) ISE: Ammonium and Nitrate 32-104°F (0 - 40°C), Chloride 32-122°F (0 - 50°C)	EXTERNAL POWER VOLTAGE EXTERNAL POWER CURRENT[1]	8-36 VDC; Required for normal operation Sleep: < 0.2 mA typical; Measurement: 40 mA typical, 75 mA Max
STORAGE TEMP.	Components Without Fluid -40°F (-40°C) to + 149°F (65°C)(Non Freezing Water) pH/ORP Sensors 23°F (-5°C) to +149°F (65°C) Ammonium/Nitrate: 32°F - 104°F (0 - 40°C), Chloride: 32°F - 122°F (0 - 50°C)	INTERNAL MEMORY AND DATA LOGGING	16 MB; 8+ GB micro SD card included, user replaceable 7300w² Monitor or telemetry
DIMENSIONS	Length: 18.11" (46 cm) (includes connector). With bail: 23.23" (59 cm), Diameter: 1.85" (4.7 cm)	READING RATES	1 reading every 2 seconds
WEIGHT	2.16 lbs. (0.978 kg) (includes instrument, sensors, restrictor and bumpers)	COMMUNICATION DEVICE	Wireless TROLL Com, 7300w² Monitor , Vu-Link
WETTED MATERIALS (SONDE AND SENSORS)	PC, PC alloy, Delrin, Santoprene, Inconel, Viton, Titanium, Platinum, Ceramic, Nylon, PVC, Graphite, PPSU	CABLE OPTIONS	3.28' (1m), 16.40' (5m), 32.80' (10m), 65.62' (20m), 98.43' (30m)
SENSOR HEX SCREW DRIVER	0.05 in.	LCD DISPLAY	Integrated display shows status of sonde, sensor ports, power voltage and connectivity, enable/disable BT.
ENVIRONMENTAL RATING	IP68 with all sensors and cable attached IP67 without the sensors or cable attached	SOFTWARE	Android: VuSitu through Google Play Windows: Win-Situ 5 Data Services: HydroVu
MAX PRESSURE RATING	Up to 150 PSI (1034 kPa) Ammonium/Nitrate up to 30PSI	INTERFACE	Android 4.4, requires BlueTooth 2.0
OUTPUT OPTIONS	RS-485/MODBUS, SDI-12, Bluetooth, 4-20 mA, 7300w² Monitor	CERTIFICATIONS	CE, FCC, WEEE, RoHS Compliant

ACCESSORIES

Wireless Troll Com

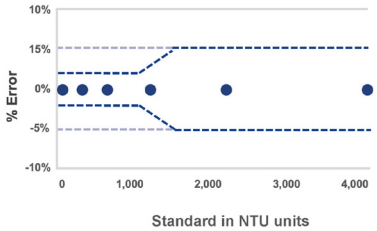
7300w² Monitor

VuLink

FEATURES

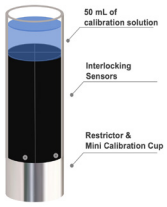
3-D Factory Calibration

In-Situ performs a multi-point factory calibration on every sensor. This calibration ensures that the sensor is linear across its full range and reduces calibration complexity for user.



Mini Calibration Cup

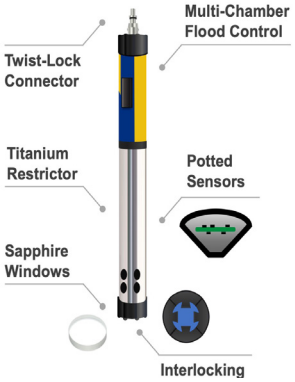
The ChemScan MPX4 uses only 50 mL of calibration solution for both rinsing and calibration. This feature reduces the calibration cost by 5x over traditional methods.



Enhanced Reliability

In-Situ equipment is designed to withstand use in the harshest environments. Features designed to prevent breakage or failure include:

- Interlocking sensors for greater stability
- Titanium restrictor
- Fully potted sensors
- Redundant SD card storage
- Multi-chamber design



STANDARD SENSORS	ACCURACY	RANGE	RESOLUTION /PRECISION	RESPONSE TIME	UNITS OF MEASURE	METHODOLOGY
TEMPERATURE[2]	+/- 1.8°F (0.1°C)	23 to 122°F (-5 to 50°C)	0.18°F (0.01°C)	T63<2s, T90<15s, T95<30s	Celsius or Fahrenheit	EPA 170.1
pH[3]	±0.1 pH unit or better	0-14 pH	0.01 pH	T63<3s, T90<15s, T95<30s	pH, mV	Std. Methods 4500-H+, EPA 150.2
ORP[4]	+/- 5 mV	±1400 mV	0.1 mV	T63<3s, T90<15s, T95<30s	mV	Std. Methods 2580
CONDUCTIVITY[5] -TDS (TOTAL DISSOLVED SOLIDS) -SALINITY	±0.5% of reading plus 1 µS/cm from 0 to 100,000 µS/cm; ±1.0% of reading from 100,000 to 200,000 µS/cm; ±2.0% of reading from 200,000 to 350,000 µS/cm	0 to 350,000 µS/cm 0-350 ppt 0-350 PSU	0.1 µS/cm 0.1 ppt 0.1 PSU	T63<1s, T90<3s, T95<5s	Actual conductivity (µS/cm, mS/cm); Specific conductivity (µS/cm, mS/cm); Salinity (PSU, ppt); Total dissolved solids (ppt, ppm); Resistivity (Ohms-cm); Density (g/cm3)	Std. Methods 2510, EPA 120.1 Std. Methods 2520A
RUGGED DISSOLVED OXYGEN (RDO) WITH RDO-X OR FAST CAP[6]	±0.1mg/L +/-2% of reading	0 to 20 mg/L 20 to 60 mg/L	0.01 mg/L	RDO-X: T63<15s, T90<45s, T95<60s Fast Cap: T63<1s, T90<15s, T95<30s	mg/L, %saturation, ppm	EPA-approved In-Situ Methods: 1002-8-2009, 1003-8-2009, 1004-8-2009
TURBIDITY - TSS (TOTAL SUSPENDED SOLIDS)[7]	+/-2% of reading or +/-2 NTU, FNU, w.i.g. [12]	0 – 4,000 NTU 0-1,500 mg/L	0.01 NTU (0-1,000); 0.1 NTU (1,000-4,000) 0.1 mg/L	T63<1s, T90<1s, T95<1s	NTU, FNU ppt, mg/L FTU - only available when connected to the ControlPoint2.0/7300w² Monitor	ISO 7027
AMMONIUM ($NH4+$ - N)[8,9] RATED TO 25 M DEPTH -Unionized Ammonia, Total Ammonia (requires salinity, temperature and pH)	±10% or ± 2 mg/L, w.i.g. [12]	0-10,000 mg/L as N	0.01 mg/L	T63<1s, T90<10s, T95<30s	mg/L, ppm, mV	N/A
NITRATE (NO_3 - - N)[8] RATED TO 25 m DEPTH	±10% or ± 2 mg/L, w.i.g.[12]	0-40,000 mg/L as N	0.01 mg/L	T63<1s, T90<1s, T95<1s	mg/L, ppm, mV	Std. Methods 4500-NO3 D
CHLORIDE ($CL-$ -)[8]	±10% or ± 2 mg/L, w.i.g.[12]	0-150,000 mg/L	0.01 mg/L	T63<1s, T90<10s, T95<30s	mg/L, ppm, mV	Std. Methods 4500-Cl- D
PRESSURE[10]	±0.1% FS from 23 to 122°F (-5 to 50°C)	Non-Vented 100' (30 m) - Burst: 130' (40 m)	0.01% full scale	T63<1s, T90<1s, T95<1s	Pressure: psi, kPa, bar, mbar, inHg, mmHg; Level: in, ft., mm, cm, m; Level: in, ft., mm, cm, m	Piezoresistive; Ceramic
WARRANTY[11]	**2 year - Sonde, RDO and sensor cap, temperature/conductivity, temperature only, turbidity (excluding pH/ORP); 1 year - pH/ORP, chloride ISE, accessories; 90 Days - Nitrate and Ammonium ISE sensors; See warranty policy (www.in-situ.com/warranty).**					
NOTES	1. External power current dependent on display and wiping. 2. Typical system response with instrument, sensors and restrictor when changing approximately 27°F (15°C) in moderate flow. 3. pH sensor - Response time at thermal equilibrium. 4. ORP sensor - Accuracy from calibration standard @ 77°F (25C), response-at thermal equilibrium immediately following calibration in ZoBell's measuring from air to +400 mV. 5. Conductivity - Accuracy at calibration points. 6. RDO sensor - Full range 0-50mg/L, 0-500% sat. EPA-approved under the Alternate Test Procedure process. 7. TSS - User defined reference. 8. ISE between 2 calibration points immediately following proper conditioning and calibration. Varies on-site conditions and environmental interferents. See sensor summary sheet for potential interferences. 9. Ammonia - Average response, can be longer with increasing concentrations of ammonium. 10. Pressure - Typical performance across full temperature and pressure calibrated range. 11. Warranty - Extended warranty option for sonde only (1-3 year extension for up to 5 years total). 12. Whichever is greater.						

SENSOR	LINEARITY	INSTRUMENT DETECTION LIMIT	RANGE	DISPLAY RESOLUTION	RESPONSE TIME	DEFAULT UNIT(S)	DERIVED PARAMETERS
Chlorophyll a	R2>0.999 for serial dilutions of Chl a in MeOH across full range	0.1 µg/L Chl a in MeOH	0-100 RFU 0-1000 µg/L	0.001 RFU	T63<1s, T90<1s, T95<1s	RFU	Chlorophyll a concentration Chlorophyll a cell count
Phycocyanin (BGA-PC)	R2>0.999 for serial dilutions of PC standard across full range	1.0 µg/L PC standard	0-100 RFU 0-1000 µg/L	0.001 RFU	T63<1s, T90<1s, T95<1s	RFU	Phycocyanin Concentration
FDOM	R2>0.999 for serial dilutions of Quinine Sulfate across full range	0.5 µg/L Quinine Sulfate	0-100 RFU 0-3000 µg/L	0.001 RFU	T63<1s, T90<1s, T95<1s	RFU	FDOM Concentration CDOM Concentration