

MX2001-04-SS-S • MX2001-01-SS-S • MX2001-02-SS-S • MX2001-03-SS-S •
MX2001-04-TI-S • MX2001-01-TI-S



Water Level Sensor

For use with HOBO MX2001 loggers, MicroRX Water Level Stations, RX3000 stations, and the HOBOnet Remote Water Level Monitoring System, for water pressure, temperature, and water level measurements.

Supported Measurements

Barometric Pressure, Remote Water Level Monitoring, Water Level, Water Pressure, Water Temperature

Features

- Non-vented design reduces maintenance
- Durable, ceramic sensor
- 3-point NIST-traceable calibration certificate

What's in the box

- HOBO MX2001-S water level sensor
- Protective cap

Contact Us

Sales (8am to 5pm ET, Monday through Friday)

- Email sales@onsetcomp.com
- Call 1-508-759-9500
- In U.S. toll free 1-800-564-4377
- Fax 1-508-759-9100

Technical Support (8am to 5pm ET, Monday through Friday)

- Contact Product Support www.onsetcomp.com/support/contact
- Call 1-508-759-9500
- In U.S. toll free 1-877-564-4377

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Bourne, MA 02532

Water Level Sensor (MX2001-S) Specifications

Pressure (Absolute) and Water Level Measurements MX2001-01-SS-S and MX2001-01-Ti-S

Operation Range	0 to 207 kPa (0 to 30 psia); approximately 0 to 9 m (0 to 30 ft) of water depth at sea level, or 0 to 12 m (0 to 40 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 207 kPa (10 to 30 psia), 0 to 40C (32 to 104F)
Burst Pressure	310 kPa (45 psia) or 18 m (60 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 0.5 cm (0.015 ft) water Maximum error: 0.1% FS, 1.0 cm (0.03 ft) water
Raw Pressure Accuracy**	0.3% FS, 0.62 kPa (0.09 psi) maximum error
Resolution	<0.02 kPa (0.003 psi), 0.21 cm (0.007 ft) water
Pressure Response Time (90%)*	<1 second at a stable temperature
Dimensions	2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length
Weight	Stainless sensor (MX2001-0x-SS-S): Approximately 141.4 g (4.99 oz) in air; approximately 53.9 g (1.9 oz) in fresh water Titanium sensor (MX2001-0x-Ti-S): Approximately 80 g (2.83 oz) in air; approximately 37 g (1.3 oz) in fresh water
Wetted Materials	Stainless sensor (MX2001-0x-SS-S): Stainless steel housing; Viton and Buna-N O-rings; ceramic sensor in stainless steel end cap Titanium sensor (MX2001-0x-Ti-S): Acetal housing, PVC end cap; Viton and Buna-N O-rings; ceramic sensor in Titanium end cap Cable: Polycarbonate top end connector, PVC end cap (sensor connection), nylon collar nut(s), Viton O-rings, polyurethane jacket
Environmental Rating	IP68

Pressure (Absolute) and Water Level Measurements MX2001-02-SS-S

Operation Range	0 to 400 kPa (0 to 58 psia); approximately 0 to 30.6 m (0 to 100 ft) of water depth at sea level, or 0 to 33.6 m (0 to 111 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 400 kPa (10 to 58 psia), 0 to 40C (32 to 104F)
Burst Pressure	500 kPa (72.5 psia) or 40.8 m (134 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 1.5 cm (0.05 ft) water Maximum error: 0.1% FS, 3.0 cm (0.1 ft) water
Raw Pressure Accuracy**	0.3% FS, 1.20 kPa (0.17 psi) maximum error
Resolution	<0.04 kPa (0.006 psi), 0.41 cm (0.013 ft) water
Pressure Response Time (90%)*	<1 second at a stable temperature
Dimensions	2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length
Weight	Approximately 141.4 g (4.99 oz) in air; approximately 53.9 g (1.9 oz) in fresh water
Wetted Materials	Stainless steel housing; Viton and Buna-N O-rings; ceramic sensor in stainless steel end cap Cable: Polycarbonate top end connector, PVC end cap (sensor connection), nylon collar nut(s), Viton O-rings, polyurethane jacket
Environmental Rating	IP68

Pressure (Absolute) and Water Level Measurements MX2001-03-SS-S

Operation Range	0 to 850 kPa (0 to 123.3 psia); approximately 0 to 76.5 m (0 to 251 ft) of water depth at sea level, or 0 to 79.5 m (0 to 262 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 850 kPa (10 to 123.3 psia), 0 to 40C (32 to 104F)
Burst Pressure	1,200 kPa (174 psia) or 112 m (368 ft) depth
Water Level Accuracy*	Typical error: 0.05% FS, 3.8 cm (0.125 ft) water Maximum error: 0.1% FS, 7.6 cm (0.25 ft) water
Raw Pressure Accuracy**	0.3% FS, 2.55 kPa (0.37 psi) maximum error
Resolution	<0.085 kPa (0.012 psi), 0.87 cm (0.028 ft) water
Pressure Response Time (90%***)	<1 second at a stable temperature
Dimensions	2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length
Weight	Approximately 141.4 g (4.99 oz) in air; approximately 53.9 g (1.9 oz) in fresh water
Wetted Materials	Stainless steel housing; Viton and Buna-N O-rings; ceramic sensor in stainless steel end cap Cable: Polycarbonate top end connector, PVC end cap (sensor connection), nylon collar nut(s), Viton O-rings, polyurethane jacket
Environmental Rating	IP68

Pressure (Absolute) and Water Level Measurements MX2001-04-SS-S and MX2001-04-Ti-S

Operation Range	0 to 145 kPa (0 to 21 psia); approximately 0 to 4 m (0 to 13 ft) of water depth at sea level, or 0 to 7 m (0 to 23 ft) of water at 3,000 m (10,000 ft) of altitude
Factory Calibrated Range	69 to 145 kPa (10 to 21 psia), 0 to 40C (32 to 104F)
Burst Pressure	310 kPa (45 psia) or 18 m (60 ft) depth
Water Level Accuracy*	Typical error: 0.075% FS, 0.3 cm (0.01 ft) water Maximum error: 0.15% FS, 0.6 cm (0.02 ft) water
Raw Pressure Accuracy**	0.3% FS, 0.43 kPa (0.063 psi) maximum error
Resolution	<0.014 kPa (0.002 psi), 0.14 cm (0.005 ft) water
Pressure Response Time (90%***)	<1 second at a stable temperature
Dimensions	2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length
Weight	Stainless sensor (MX2001-0x-SS-S): Approximately 141.4 g (4.99 oz) in air; approximately 53.9 g (1.9 oz) in fresh water Titanium sensor (MX2001-0x-Ti-S): Approximately 80 g (2.83 oz) in air; approximately 37 g (1.3 oz) in fresh water
Wetted Materials	Stainless sensor (MX2001-0x-SS-S): Stainless steel housing; Viton and Buna-N O-rings; ceramic sensor in stainless steel end cap Titanium sensor (MX2001-0x-Ti-S): Acetal housing; Viton and Buna-N O-rings; ceramic sensor in Titanium end cap Cable: Polycarbonate top end connector, PVC end cap (sensor connection), nylon collar nut(s), Viton O-rings, polyurethane jacket
Environmental Rating	IP68

Temperature (Water Level Sensors MX2001-0x-SS-S and MX2001-0x-Ti-S)

Operation Range	-20 to 50C (-4 to 122F)
Accuracy	0.44C from 0 to 50C (0.79F from 32 to 122F), see Plot A
Resolution	0.1C at 25C (0.18F at 77F), see Plot A

Response Time (90%)	5 minutes in water (typical)
Stability (Drift)	0.1C (0.18F) per year
Dimensions	2.54 cm (1.0 inches) diameter, 9.91 cm (3.9 inches) length
Weight	Stainless sensor (MX2001-0x-SS-S): Approximately 141.4 g (4.99 oz) in air; approximately 53.9 g (1.9 oz) in fresh water Titanium sensor (MX2001-0x-Ti-S): Approximately 80 g (2.83 oz) in air; approximately 37 g (1.3 oz) in fresh water
Wetted Materials	Stainless sensor (MX2001-0x-SS-S): Stainless steel housing; Viton and Buna-N O-rings; ceramic sensor in stainless steel end cap Titanium sensor (MX2001-0x-Ti-S): Acetal housing; Viton and Buna-N O-rings; ceramic sensor in Titanium end cap Cable: Polycarbonate top end connector, PVC end cap (sensor connection), nylon collar nut(s), Viton O-rings, polyurethane jacket
Environmental Rating	IP68

* Water Level Accuracy: With accurate reference water level measurement, known water density, and a stable temperature environment. System Water Level Accuracy equals the sum of the Barometric Water Level Accuracy plus the selected sensor Water Level Accuracy.

** Raw Pressure Accuracy: Absolute pressure sensor accuracy includes all sensor drift, temperature, and hysteresis-induced errors.

*** Changes in Temperature: Allow 20 minutes in water to achieve full temperature compensation of the pressure sensor. There can be up to 0.5% of additional error due to rapid temperature changes. Measurement accuracy also depends on temperature response time.

Typical error: 0.05% FS, 0.5 cm (0.015 ft) water

Maximum error: 0.1% FS, 1.0 cm (0.03 ft) water