

M300 Process: Versatile and User-Friendly For a Wide Range of Applications and Industries



The multi-parameter M300 Process transmitter line for pH/ORP, dissolved oxygen and conductivity measurements offers exceptional measurement performance as well as excellent user ergonomics.

The high contrast black and white touchscreen together with the harmonized menu structure for all parameters, facilitates navigation and ensures easy and user friendly operation.

On-line diagnostics information allows you to schedule sensor maintenance or replacement. The clearly visible diagnostic information lets you know when it's time to do maintenance or calibration of sensors equipped with Intelligent Sensor Management (ISM) technology.

The integrated USB interface allows you to use it for data logging or to store the configuration on a USB stick.

Specifications

| | |
|----------------------------|---|
| Power supply | 100 to 240 VAC, or 20 to 30 VDC, 10 VA |
| Frequency for AC | 50 to 60 Hz |
| Current output | 2 × 0/4 to 20 mA (4× for dual channel), 22 mA alarm (according to Namur NE43) |
| Display | 4.0" b/w touchscreen, 320 × 240 pixel |
| Languages | 10 (English, German, French, Italian, Spanish, Portuguese, Russian, Japanese, Korean and Chinese) |
| Ambient temperature | -10 to 50 °C (14 to 122 °F) |
| Relative humidity | 0 to 95% non-condensing |
| Rating | ¼ DIN: IP65 (front) ½ DIN: IP65 |
| PID controller | Yes |
| Control input (Hold) | 1 or 2 (dual channel version) |
| Relays | 2 × SPDT, 2 × reed |
| Approvals and certificates | cULus |
| USB interface | 1 × USB Host: Data logging and configuration storage on USB stick 1 × USB Device: Software update interface |

Features Overview

- 4.0" touchscreen
- Multi-parameter transmitter for pH/ORP, O₂ and cond
- Available as single-channel or dual-channel version
- PID controller with pulse length, pulse frequency or analog control
- User management available

Other Highlights

- Mixed-mode functionality allows the connection of analog or digital ISM sensors
- Full ISM diagnostics available
- 4-wire installation
- Also communicates with EasyClean systems for automatic sensor cleaning

► www.mt.com/M300

Parameter Specifications

pH Performance

| | |
|-----------------------------|--|
| Measurement parameters | pH, mV, and temperature |
| pH, ORP input range* | -1500 to 1500 mV |
| pH display range | -2 to 16 pH |
| pH resolution | Auto/0.01/0.1/1 (can be selected) |
| Relative accuracy** | ± 0.02 pH; ± 1 mV |
| Temperature input* | Pt1000 (Pt100 with adapter) |
| Temperature measuring range | -30 to 130 °C (-22 to 266 °F) |
| Temperature accuracy** | ± 0.25 °C (± 0.45 °F) |
| Sensor maximum distance | Analog: 10 to 20 m (33 to 65 ft) ISM: 80 m (260 ft) |
| Calibration | 1 or 2 point, process |

* not required for ISM sensors ** for analog input signal (ISM signal causes no additional error)

DO Performance

| | |
|-----------------------------|--|
| Measurement parameters | DO saturation or concentration and temperature |
| Measuring current range | 0 to 900 nA |
| DO concentration range | 0.00 to 50.00 ppm (mg/L) |
| DO accuracy | ± 0.5% of full scale reading |
| DO resolution | Auto/0.001/0.01/0.1/1 (can be selected) |
| Temperature input* | NTC 22 |
| Temperature measuring range | -10 to 80 °C (14 to 176 °F) |
| Temperature accuracy** | ± 0.25 °C (± 0.45 °F) |
| Sensor maximum distance | Analog: 20 m (65 ft). ISM: 80 m (260 ft) |
| Calibration | 1 – point (slope or offset), process (slope or offset) |

* not required for ISM sensors ** for analog input signal (ISM signal causes no additional error)

Conductivity Performance

| | |
|---------------------------------|--|
| Measurement parameters | Conductivity, and temperature |
| Conductivity/resistivity ranges | 2-electrode sensor display range: 0 to 40,000 mS/cm (25 Ω × cm to 100 MΩ × cm) 4-electrode sensor display range: 0.01 to 650 mS/cm (1.54 Ω × cm to 0.1 MΩ × cm) |
| Temperature input* | Pt1000 |
| Temperature measuring range | -40 to 200 °C (-40 to 392 °F) |
| Sensor maximum distance | Analog 2-e: 61 m (200 ft); analog 4-e: 15 m (50 ft) ISM 2-e: 90 m (300 ft); ISM 4-e: 80 m (260 ft) |
| Cond/Res accuracy** | ± 0.5% of reading or 0.25 Ω, whichever is greater |
| Cond/Res repeatability | ± 0.25% of reading or 0.25 Ω, whichever is greater |
| Cond/Res resolution | Auto/0.001/0.01/0.1/1 (can be selected) |
| Temperature resolution | Auto/0.001/0.01/0.1/1 °C (°F) (can be selected) |
| Temperature accuracy** | ± 0.25 °C (± 0.45 °F) |
| Temperature repeatability** | ± 0.13 °C (± 0.23 °F) |

* not required for ISM sensors ** for analog input signal (ISM signal causes no additional error)

Ordering Information

For Analog Sensors

| | Order Number |
|--|--------------|
| M300 Process, ¼ DIN, single-channel, multi-parameter | 30 280 770 |
| M300 Process, ½ DIN, single-channel, multi-parameter | 30 280 771 |
| M300 Process, ¼ DIN, dual-channel, multi-parameter | 30 280 772 |
| M300 Process, ½ DIN, dual-channel, multi-parameter | 30 280 773 |

Installation Accessories for ½ DIN Version

| | Order Number |
|-----------------------------|--------------|
| Pipe mount kit for ½ DIN | 30 300 480 |
| Panel mount kit for ½ DIN | 30 300 481 |
| Wall mounting kit for ½ DIN | 30 300 482 |
| Protective hood | 30 077 328 |