

Transmitter Series

INGOLD

Leading Process Analytics



M400 / M300 transmitters

Extended ISM functions

Easy handling

Intuitive user interface

Multi-parameter

ISM



Versatile Transmitter Series For Intelligent Measurement Solutions

METTLER TOLEDO

M300: Reliable & Easy to Use

For Basic Process Applications

The M300 transmitter series for pH/ORP, oxygen, and conductivity measurements combines robustness with ease of use. High versatility and reliability make this instrument the ideal choice for your basic process applications. With the ISM (Intelligent Sensor Management) option, configuration and commissioning become substantially easier.

The M300 is available as a single- or dual-channel unit. The dual-channel version multi-parameter solution offering your choice of pH/ORP, oxygen, or conductivity.

Simplified operation

- A user-friendly “Quick Setup” routine guides you through the installation settings
- Intuitive user interface for easy operation without extensive training

Easy navigation

- Harmonized menu structure for all parameters facilitates navigation
- Large, dual-value display with four text lines allows reading also under weak light conditions

Fast commissioning

- Simplified sensor handling and maintenance with Plug and Measure™ functionality
- Pre-calibrated ISM® sensors can be swiftly exchanged in the field

Better connectivity

- USB service interface available as standard
- Use the PC-based configuration tool for comfortable access to all settings



System fabricators



Light industrial applications



Wastewater industry



Dual-channel for Versatility

With the dual-channel option, both channels are user-definable, making the transmitter ideal for a wide range of applications for the following parameters:

DO

- More accurate measurements through salinity and pressure correction
- High DO measurement range
- Units: mg/l, % saturation, ppm

pH/ORP

- Sensor monitoring through diagnostic features
- Easy calibration based on auto buffer recognition and process calibration
- ORP measurement available with simultaneous pH measurement

Conductivity

- Wide application coverage thanks to compatibility with 2- and 4-electrode cells
- Selection of chemical curves for % concentration measurement



1/4 DIN version

Key technical data for the M300 transmitter series (single- and dual-channel)

Parameters	pH/ORP, DO, Conductivity
Power	AC (100–240 V) or DC (20–30 V)
Enclosure	IP 65 (NEMA 4X)
Approvals	CE, UL (cULus)
Relays	Single-channel: 4; dual-channel: 6
Digital input (hold)	Single-channel: 1; dual-channel: 2
Multi-level password protection	Yes
User interface	2 values + 2-lines, 24 characters, backlit display
Isolated current outputs	Single-channel: 2; dual-channel: 4
Service interface	USB port
ISM technology	Plug and Measure™



Easy wiring, 1/2 DIN version

M400: Versatile & Intelligent For Advanced Process Control

The M400 transmitter series features advanced ISM technology and covers pH/ORP, oxygen and conductivity measurements. Thanks to the mixed-mode input functionality, the M400 accepts any conventional (analog) or ISM sensor of your choice. Combined with its multi-parameter capabilities, the M400 is the state-of-the-art transmitter for your most demanding applications.

The M400 is a single-channel, multi-parameter unit. The same unit can handle different parameters such as pH/ORP, oxygen or conductivity, depending on the type you choose.

Key benefits at a glance:

- More flexibility
- Versatility
- Higher reliability
- Minimized Maintenance Costs

Multi-parameter for more flexibility

Keep your inventory complexity low with the versatile M400:

- Each model can be used for several input parameters
- 3 types are available to suit your process needs

Versatility thanks to mixed-mode input

The benchmark in today's advanced process analytics:

- The M400 can input either any analog or innovative ISM sensor. You decide which sensor type is best suited for each application

Advanced ISM for low cost of ownership and higher reliability

Keep your process under control with real-time status information from the sensor for true predictive maintenance.

- The dynamic lifetime indicator (DLI) tells you when the sensor needs to be replaced
- Only calibrate when necessary: The Adaptive Calibration Timer (ACT) monitors the time to next calibration
- Traceability support thanks to built-in CIP/SIP counter and calibration history

Minimized maintenance costs

The Plug and Measure™ feature allows the system to be ready for measurement within seconds.

- Simplified commissioning minimizes risk of installation troubles
- ISM sensors carry their own up-to-date calibration data

ISM

Intelligent Sensor Management



Pharmaceutical industry

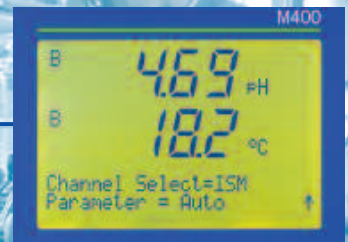


Food and beverage

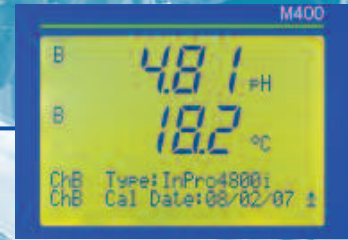


Chemical industry

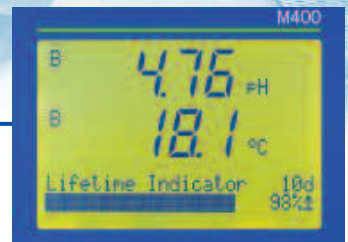
M400 Transmitter Series



Mixed-mode input



Plug and Measure™



Advanced diagnostics

ISM One step ahead of maintenance

The innovative METTLER TOLEDO "Intelligent Sensor Management"™ technology makes it decidedly easier to operate process analytical systems from initial installation to maintenance right through to sensor replacement. ISM is available on all key analytical measurement parameters.

iSense™ Asset Suite

The iSense™ Asset Suite offers you a unique means to optimize the performance of pH and DO sensors for enhanced reliability and process safety. Simply connect your ISM sensor via USB port to your PC and get access to various intuitive analysis, calibration and documentation applications.

Each unit accepts either ISM or conventional sensors



iSense
ISM Asset Suite

M400 parameter guide

Parameter	Type 1		Type 2		Type 3	
	Analog	ISM	Analog	ISM	Analog	ISM
pH/ORP	•	•	•	•	•	•
Conductivity	•	•*	•	•*	•	•*
Oxygen ppm/ppb/traces	–	–	•/–/–	•/–/–	•/•/–	•/•/•

* Available as of Q4/2008

Key technical data for the M400 transmitter series

ISM features	Plug and Measure™, Advanced diagnostics
Power	AC (100–240 V) or DC (20–30 V)
Enclosure	IP 65 (NEMA 4X)
Approvals	CE, ATEX Zone 2 (pending), FM cFmus, Cl. 1 Div. 2 (pending)
Relays	6
Digital input (hold)	2
Multi-level password protection	yes
User interface	2 values + 2-lines, 24 characters, backlit display
Isolated current outputs	4
Interface	USB port

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Mettler-Toledo AG

Process Analytics
CH - 8902 Urdorf, Switzerland
Phone +41 44 729 62 11
Fax +41 44 729 66 36

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