

RMS WIRELESS MINI LOGGER

COMPACT, VERSATILE & FLEXIBLE

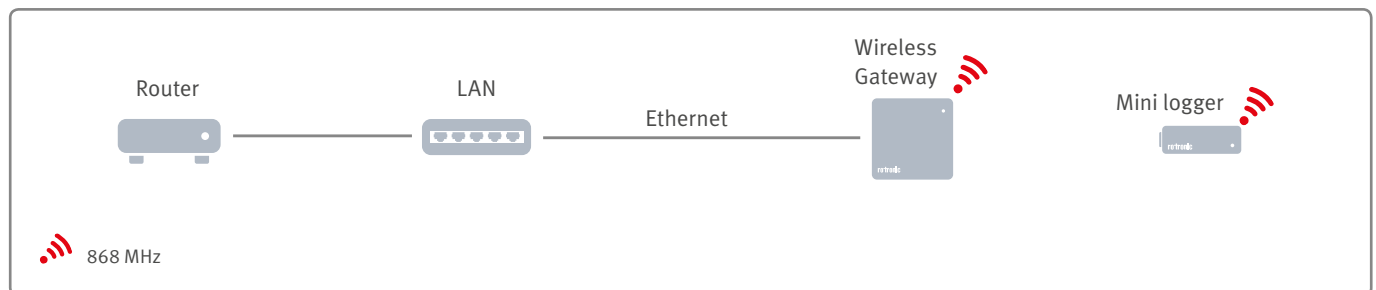
- Various models to measure and log humidity, temperature, lux and electrical values
- Stores up to 10'000 values
- Fail safe, due to internal battery and battery monitoring
- Battery life up to 3 years
- Conforms to FDA 21 CFR Part 11 / GAMP5
- 868 MHz ISM Band
- Signal LED



PRODUCT OVERVIEW

Applications

The wireless mini logger is the inexpensive data logger in the Rotronic monitoring system. Its compact housing and wireless interface make it a highly flexible data logger for all applications. The mini logger is available in several sensor models: Temperature & Humidity, Internal temperature sensor, external temperature sensor (NTC), lux, voltage measurement, current measurement, or digital switch contact. With this versatility, it can monitor climatic chambers, refrigerators and incubators, areas and applications of all types and third party analog devices.

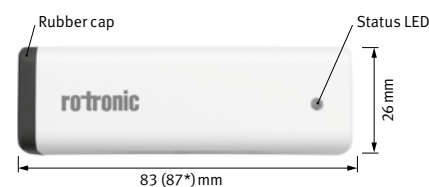


General Specifications	
Device type	RMS Wireless Mini Logger
Memory size	10'000 measured values
Range of application (electronics)	-30..85 °C / 0..100 %RH
Storage conditions	-30...30 °C / 0...95 %RH
Electrical Supply Battery	RMS-BAT
Battery Life	3 years (at 23 °C and 1 minute interval) 2,7 years (for RMS- MLOG-B)
Measurement interval	10 s to 15 min (software dependant)
Interface Wireless	868 MHz
Wireless range	30 m indoor

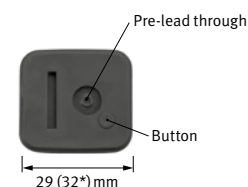
Conformity with Standards	
FDA / GAMP directives	FDA 21 CFR Part 11 / GAMP5
Housing / Mechanical parts	
Housing material	ABS
Dimensions	83 x 29 x 29 mm
IP protection class	IP65, except RMS-MLOG-B-868 = IP30

Dimensions / Connections

Top view

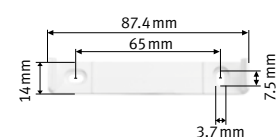


Rubber cap (front view)




















* with wall bracket

Wall bracket



TECHNICAL INFORMATION

	Type	Range / Accuracy					
Temperature & Humidity 	RMS-MLOG-B-868 	-30...85°C (±0.5°C @23° C) / 0...100% RH (±3% RH @23° C)					
Temperature 	RMS-MLOG-T-868 	-30...85 °C (±0.4°C @23° C) Accuracy: see page 4					
Temperature with external (NTC) probe  Other NTC probes available in various lengths. Please contact Rotronic.	RMS-MLOG-T10-868 	Accessories	Item no	T10-0001	T10-0002	T10-0003	T10-0004
							
			Application	Cryogenic	Freezers, dry ice...	Standard	Duct monitoring
			Probe operating range	-196...-90 °C	-80...200 °C	-50...200 °C	-50...200 °C
			NTC accuracy range	-196...-90 °C	-80...150 °C	-50...120 °C	-50...120 °C
			Dimension / Housing	Ø 6 x 50 mm / stainless steel			
		Cable length	2 m				
Current / Voltage input 	RMS-MADC-868-V (0...10V) RMS-MADC-868-A (0...20mA) 	0...10 VDC (±0.1V @ 23 °C) 0...20 mA or 4...20 mA (Shunt 110 Ohm) ±0.2mA					
Digital input 	RMS-MDI-868 	Accessories	Item no	DC-0001			
							
			Application	Door contact / magnetic trigger			
			Switch	Normally openend			
			Cable length	30 cm			
			Mounting	M3 screws			
		IP	IP65				
Illumination 	RMS-MLOG-LGT-868 	0.05...3000 lux -3.5...10lux @ 10lux					

RMS-MLOG-T & T10 ACCURACY OVERVIEW

TEMPERATURE ACCURACY

The RMS-MLOG-T10-868 allows each user to implement their own NTC. It is possible to add the NTC nominal value and B constant within the RMS software. For the Rotronic NTC's, simply choose the NTC from the drop down list (as of Software V1.2)

The RMS-MLOG-T10-868 can be calibrated and adjusted (2 points) via the RMS software.

When using external NTC's please account for the accuracy of the RMS-MLOG electronics

Accuracy overview

T10-0001*	
Accuracy between -196...-90°C	±2.5°C
T10-0002*	
Accuracy at 25°C	±0.2°C
Accuracy between -80...-30°C	±1°C
Accuracy between -30...40°C	±0.5°C
Accuracy between 40...70°C	±1°C
Accuracy between 70...200°C	±3°C
T10-0003* and T10-0004*	
Accuracy at 25°C	±0.4°C
Accuracy between -50...0°C	±1°C
Accuracy between 0...30°C	±0.5°C
Accuracy between 30...60°C	±1°C
Accuracy between 60...90°C	±1.5°C
Accuracy between 90...200°C	±3.2°C
RMS-MLOG-T-868	
Accuracy at 25°C	±0.4°C
Accuracy between -30...0°C	±1.3°C
Accuracy between 0...40°C	±1°C
Accuracy between 40...85°C	±1.5°C
RMS-MLOG-T10-868 electronic measurement accuracy	
Accuracy at 25°C	±0.1°C
Accuracy between -200...-40°C	±0.4°C
Accuracy between -40...150°C	±0.3°C
Accuracy between 150...200°C	±0.6°C
RMS-MLOG-T10-868 electronic temperature accuracy	
Accuracy at 25°C	±0.0°C
Accuracy between -30...85°C	±0.3°C

Examples at various temperatures

Using the T10-0002 at 25°C and the RMS-MLOG-T10-868 at 25°C	
T10-0002 accuracy at 25°C	±0.2°C
RMS-MLOG-T10-868 electronic measurement accuracy at 25°C	±0.1°C
RMS-MLOG-T10-868 electronic temperature accuracy at 25°C	±0.0°C
Total accuracy at 25°C	±0.3°C
Using the T10-0001 at -196°C and the RMS-MLOG-T10-868 at 25°C	
T10-0001 accuracy at -196°C	±2.5°C
RMS-MLOG-T10-868 electronic measurement accuracy at -196°C	±0.4°C
RMS-MLOG-T10-868 electronic temperature accuracy at 25°C	±0.0°C
Total accuracy at with the sensor at -196°C and the logger at 25°C	±2.9°C
Using the T10-0003 at 35°C and the RMS-MLOG-T10-868 at 35°C	
T10-0003 accuracy at 35°C	±1°C
RMS-MLOG-T10-868 electronic measurement accuracy at 35°C	±0.3°C
RMS-MLOG-T10-868 electronic temperature, accuracy at 35°C	±0.3°C
Total accuracy at 35°C	±1.6°C

Improve the accuracy:

When using the data logger with the internal NTC or any of the NTC's provided by Rotronic, it is possible to carry out a 1 or 2 point adjustment in order to improve the measurement accuracy.

1 point adjustment:

- Adjustment range: -25...125 °C
- Accuracy: ±0.3 °C
- Range of accuracy: adjustment point ±10 °C

2 point adjustment:

- Adjustment range: -25...125 °C
- Accuracy: ±0.3 °C
- Maximum span of the 2 adjustment points: 80 °C

In order to calculate the total accuracy of the RMS-MLOG-T10-868 it is necessary to add all variables together:

* NTC accuracy

MONITORING SOFTWARE

The RMS Server Software fulfills all requirements for server-based monitoring. The software is linked to a database that stores all the measured data and actions of the system. The data can be accessed from anywhere in the world via all common platforms as long as an internet connection is available.

Data History Always Available

The database allows access to all historical data at any time, thereby ensuring traceability according to FDA and GMP. This data can be put together into a complete PDF report quickly and easily.

- Chart
- Table
- Layout
- Dashboard
- Events (Audit Trail)
- Tools
- Reporting (PDF & CSV)

Alarms

Whether by voice call, email, SMS or switching of an alarm relay: The RMS offers clear alarm functions and records all events such as error messages, warnings or system messages in the database.

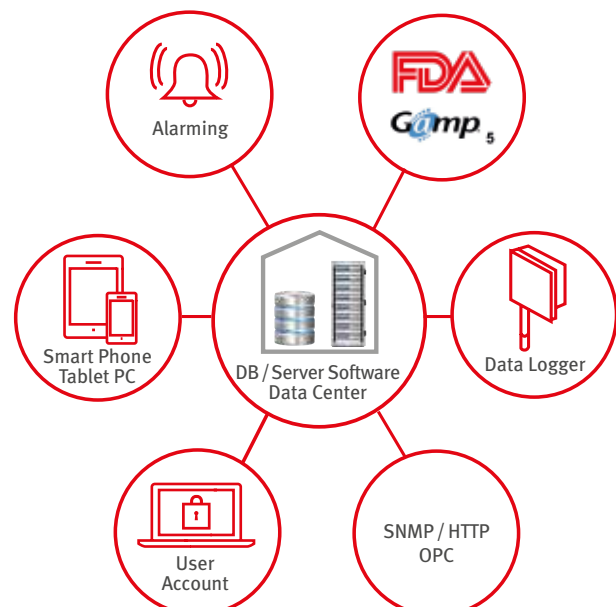
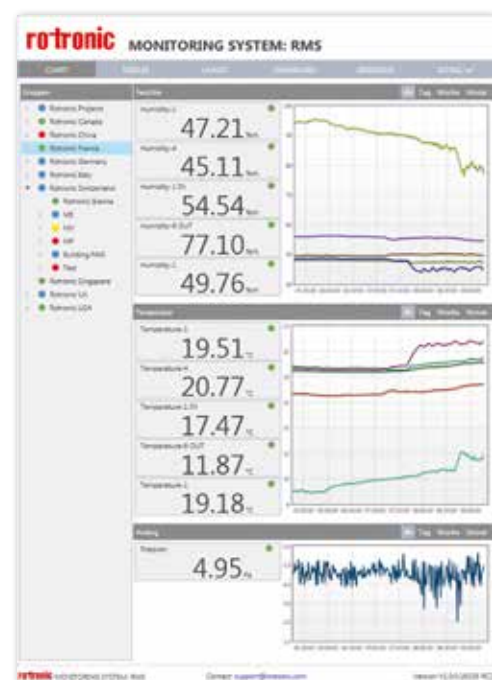
Easy User Management

The intelligent user management function makes it possible to assign different rights to every user on the basis of data groups. For example, the same user can have only read rights in data group A, while he also has write rights in data group B.

Data Analysis

In order to analyze data, reports can be generated via the software based upon your requirements.

- Graphic and table views (PDF or CSV)
- Statistical data (minimum, maximal, average and standard deviation values)
- MKT: Mean Kinetic Temperature
- Audit trail
- Alarm-Mail optional SMS & Phone
- Battery-Alarm
- Arithmetic Functions out of Multiple Measurement Points
- Event-Tracking & Audit Trail
- Dew-Point Measuring
- Individual User-Rights



PRODUCT OVERVIEW

		Housing IP65	DIN Rail Housing IP20	Ext. Power Supply 24 V	Power over Ethernet (PoE)	Battery	Data Memory (Points)	Wireless Interface	LAN Interface	Parameters Output Parameters
Data logger RMS-LOG-L RMS-LOG-868		✓	✓	✓	✓	✓	40'000	✓	✓	%RH & °C, CO ₂ , diff. P
Display module RMS-D-L		✓		✓	✓				✓	Display
Temperature & humidity mini data logger RMS-MLOG-B-868		✓				✓	10'000	✓		%RH & °C
Temperature mini data logger RMS-MLOG-T-868		✓				✓	10'000	✓		°C
Digital mini logger RMS-MDI-868		✓				✓	10'000	✓		Open / Closed
Analog mini logger RMS-MADC-868-V RMS-MADC-868-A		✓				✓	10'000	✓		mA / V
Light mini logger RMS-MLOG-LGT-868		✓				✓	10'000	✓		Lux
Digital input module RMS-DI-L-R		✓	✓	✓	✓	✓	75'000		✓	On-Off
Relay module RMS-DO-L-R		✓	✓	✓	✓				✓	On-Off

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Would you like more information? You will find a complete, up-to-date overview of our probes on the Internet at www.rottronic.com/rms

ROTRONIC AG, Grindelstrasse 6, CH-8303 Bassersdorf, Tel. +41 44 838 11 44, www.rottronic.ch

ROTRONIC Instrument Corp, 135 Engineers Road, Hauppauge, NY 11788, USA, Phone, +1 631 427-3898, www.rottronic-usa.com

ROTRONIC Instruments (UK) Ltd, Crompton Fields, Crompton Way, Crawley, West Sussex, RH10 9EE, UK, Phone +44 (0)1293 571000, www.rottronic.co.uk

ROTRONIC Canada Inc., 236 Pritchard Rd, Unit 204, Hamilton, ON, Canada, L8W 3P7, Phone +1 905-754-5164, www.rottronic.ca

ROTRONIC Instruments Pte. Ltd., 1003 Bukit Merah Central, 06-31 Inno Centre, Singapore 159836, Phone +65 6376 2107, www.rottronic.sg

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