BENEFITS

- Saves up to 44,000 data points
- 2 x PT100 sensor connections
- 2-, 3- or 4-wire connection
- ±0.1 ºC accuracy in measurement range
- Conforms to FDA CFR 21 Part 11 / GAMP 5

APPLICATIONS

- Climate cabinets
- Pharmaceutical industry
- Clean rooms

RMS

TECHNICAL INFORMATION

The RMS-LOG-T30 is a data logger with two integrated analog-to-digital converters, to which two PT100 sensors can be connected for high-precision temperature measurement. The measurement accuracy of the data logger with PT100 can be improved by a 1- or 2-point adjustment. The data logger stores 44,000 pairs of measured values and sends them to the RMS database via LAN or wireless interface.

Compatible with:

- RMS-GW   RMS Gateway
- RMS-WEB   On-Premise Software ≥ V1.3.0
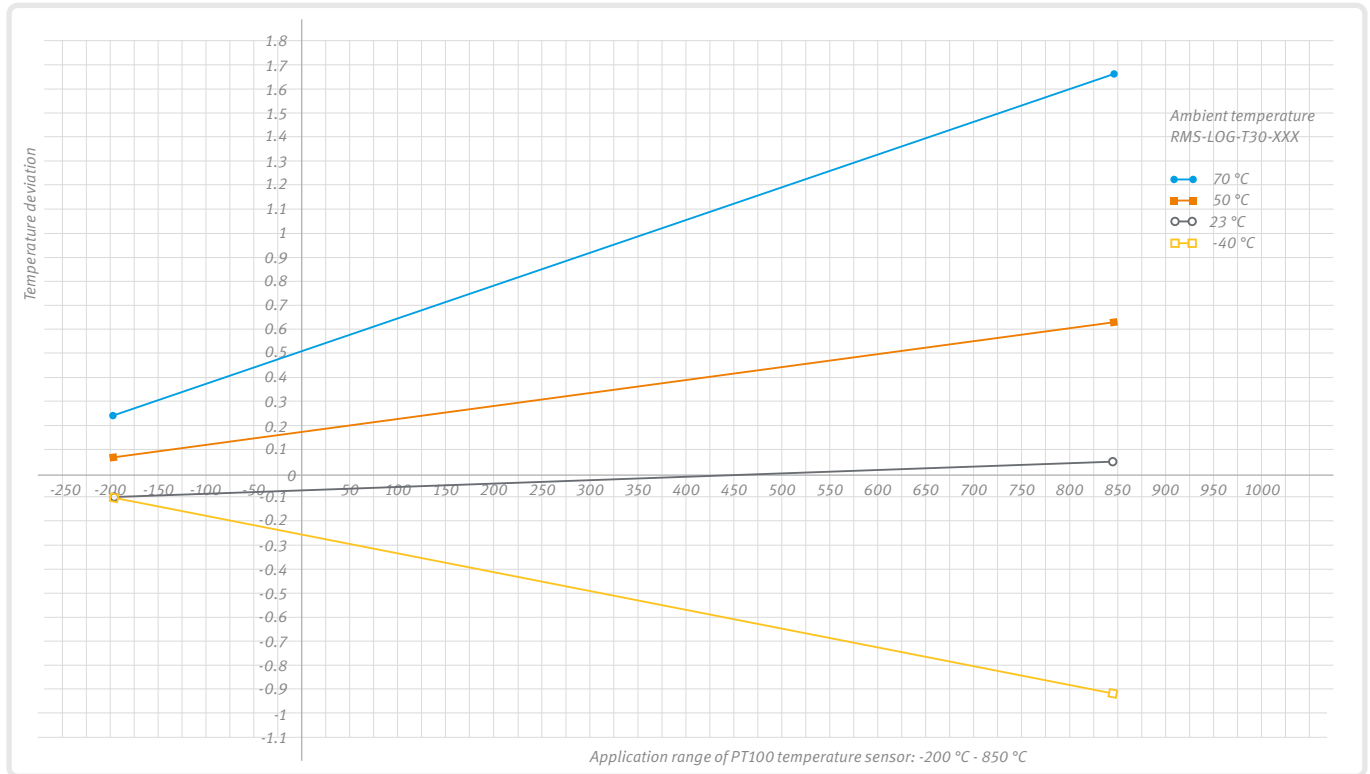- RMS-CLD   SaaS solutions ≥ V1.3.0
- T30-000X   PT100 Probe

Dimensions

113 mm
105 mm
38 mm
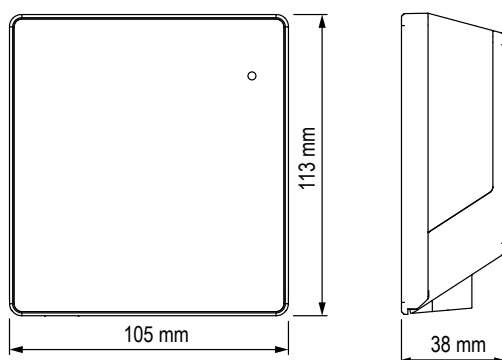
General specifications			
Measured parameter	2-, 3- and 4-wire RTD measurement		
Number of measuring points	2 x PT100 probes		
Accuracy[1] (@23 °C, without PT100)	±0.1 °C (-100 °C to 200 °C)		
	±0.2 °C (-200 °C to 850 °C)		
Application range	-40...70 °C / 0...100 %RH, non-condensing		
Storage conditions	-20...30 °C / 0...95 %RH		
Power supply	24 VDC ±10 % / ‹100 mA / PoE: 802.3 af-2003, Class 1		
AC adapter requirements	24 VDC ±10 % / ›4 W / power-limited		
Device data			
Measurement interval	10 s to 15 min		
Order code RMS-LOG-T30-xxx	T30-L	T30-868	T30-915
Battery life (23 °C, 60 s interval)	3 years	2.4 years	2.4 years
Interfaces	Ethernet	ISM 868 MHz	ISM 915 MHz
Max. indoor wireless range	-	20...50 m	15...25 m
Compatibility with RMS-GW-xxx firmware	-	V2.1	V2.1
Software compatibility	≥ V1.3.0		
Protocols	HTTP / MODBUS TCP (T30-L)		
Ethernet cable requirement	Min. Cat 5, SFTP, max. 30 m		
Conformity with standards			
FDA / GAMP directives	FDA CFR21 Part 11 / GAMP 5		
Housing / Mechanics			
Enclosure material	PC, ABS		
Fire protection class	UL94-V2		
Dimensions	105 x 113 x 38 mm		
IP protection class	IP65		
Weight	240 g		

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MEASUREMENT SOLUTIONS

PRECISION

Typical temperature dependence (logger)

Application range of PT100 temperature sensor: -200 °C - 850 °C

Accuracy overview of the measurement system

Sensor: T30-0001, T30-0003, T30-0006 (PT100)[1]	
Accuracy at -200 °C	±0.43 °C
Accuracy at -100 °C	±0.27 °C
Accuracy at 0 °C	±0.10 °C
Accuracy at 100 °C	±0.27 °C
Accuracy between 100...600 °C	±0.10 K + 0.00167 x t
Logger: RMS-LOG-T30-L/868/915	
Electronic measurement accuracy at 23 °C[2]	±0.10 °C (-100 °C to 200 °C[4])
	±0.20 °C (-200 °C to 850 °C[4])
Electronic measurement accuracy at 50 °C[2]	±0.20 °C (-200 °C to 850 °C[4])
Electronic measurement accuracy at 70 °C[2]	±0.55 °C (-200 °C to 850 °C[4])
Electronic measurement accuracy at -40 °C[2]	±0.28 °C (-200 °C to 850 °C[4])

Examples at various temperatures

Use of the T30-0003 at 0 °C and the RMS-LOG-T30-XXX at 23 °C	
T30-0003 accuracy at 0 °C	±0.10 °C
RMS-LOG-T30-XXX electronic measurement accuracy at 23 °C[3]	±0.10 °C
Total accuracy at 23 °C	±0.20 °C[2]
Use of the T30-0003 at 100 °C and the RMS-LOG-T30-XXX at 50 °C	
T30-0003 accuracy at 100 °C	±0.27 °C
RMS-LOG-T30-XXX electronic measurement accuracy at 50 °C[3]	±0.23 °C
Total accuracy at 50 °C	±0.50 °C[2]
Use of the T30-0003 at 0 °C and the RMS-LOG-T30-XXX at 70 °C	
T30-0003 accuracy at 0 °C	±0.10 °C
RMS-LOG-T30-XXX electronic measurement accuracy at 70 °C[3]	±0.50 °C
Total accuracy at 70 °C	±0.6 °C[2]
Use of the T30-0003 at -100 °C and the RMS-LOG-T30-XXX at -40 °C	
T30-0003 accuracy at -100 °C	±0.27 °C
RMS-LOG-T30-XXX electronic measurement accuracy at -40 °C[3]	±0.23 °C
Total accuracy at -40 °C	±0.50 °C[2]
Use of the T30-0003 at 600 °C and the RMS-LOG-T30-XXX at 50 °C	
T30-0003 accuracy at 600 °C	±1.10 °C
RMS-LOG-T30-XXX electronic measurement accuracy at 50 °C[3]	±0.50 °C
Total accuracy at 50 °C	±1.60 °C[2]

[1] To improve the measurement accuracy of the data logger and PT100, it is possible to carry out a 1- or 2-point adjustment.
[2] To calculate the total accuracy of the RMS-LOG-T30, all variables must be added.
[3] Typical temperature dependence from the diagram.
[4] Measurement range of PT100 sensor

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