

EUROPEAN UNION RECOGNISED ORGANISATION (EU RO) MUTUAL RECOGNITION TYPE APPROVAL CERTIFICATE

Certificate No:
MRA000002F

In accordance with Article 10.1 of EU Regulation 391/2009

This Certificate is issued to

SIKA Dr. Siebert & Kühn GmbH & Co. KG
Kaufungen, Hessen, Germany

for

Temperature Gauges/Sensors/Transmitters

with type designation(s)

SolarTemp850

The product is found to comply with

EU RO Mutual Recognition Technical Requirements for Temperature Gauges and Transmitters

Intended service

Applicable for a ship as defined in Mutual Recognition provisions Article 10 Regulation on Common Rules and Standards For Ship Inspection and Survey Organizations.

Temperature [°C]: 5°C ~ 70°C

Vibration: ± 1.6mm/± 4.0g at 2-25Hz/25-100Hz (See also Other Conditions)

EMC: Not for bridge or open deck

IP Code: See product description

This is to certify:

that the Product referred to herein has been inspected for the Manufacturer, pursuant to the relevant requirements of the European Union Recognised Organisation Mutual Recognition procedure, required by Article 10.1 of EU Regulation 391/2009, and has been found in accordance with those requirements.

This Certificate is valid until **2024-12-19**.

Issued at **Hamburg** on **2019-12-20**

DNV GL local station: **Essen**

for **DNV GL**

Approval Engineer: **Didier Girardin**

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Joannis Papanuskas
Head of Section

When a product is presented with this EU RO MR Type Approval Certificate for given application, its acceptability with regards to the limitations stated in the certificate conditions defined in 1b, 1c and 1d of the applied Technical Requirement will be evaluated by the EU RO in charge of classing the ship or being in charge of the unit/system certification.

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Product description

The electronic digital thermometer SolarTemp850 is a local temperature measuring instrument designed for measuring and local displaying temperatures by provides a 4-20 mA output analogue signal to ensures a constant monitoring of the process.

SolarTemp850		
Local temperature measurements and gauging in combination with a transmitter signal output		
Drawing ED- 0364, Rev. d)		
Type: 850	P/N 85065P53360 (with transmitter signal output)	
Type: 850	P/N 85065P54 (without transmitter signal output)	
Software	2K61.0X	2F61.0X
For PT1000 ¹⁾	4-20 mA /0 ... + 600°C	4-20 mA /0 ... + 300°C
Sensor connection ²⁾	1: (-)/3: (+)	Sensor line shielded

¹⁾ Note: not part of present certificate

²⁾ Note: suitability according Operation manual (© SIKA • Ba_SolarTemp850 • 11/2018)

Manufactured by

SIKA Dr. Siebert & Kühn GmbH & Co. KG

Application/Limitation

The Type Approval covers hardware listed under type designation.

When the hardware is used in applications subject to class approval, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case.

Each delivery to be provided with installation manual

Applicable for a ship as defined in Mutual Recognition Provisions Article 10 Regulation on Common Rules and Standards for Ship Inspection and Survey Organizations.

Type Approval documentation

EU RO Type Approval - Type Testing Plan for SolarTemp850	-	12.12.2019
Operation Manual © SIKA • Ba_SolarTemp850 • 11/2018	-	11/2018
ED0364 SolarTemp850 with Transmitter	Rev. d	06.05. 2008
ED0363 SolarTemp850 without Transmitter	Rev. c	08.05. 2008
Layout drawing ED0364	Rev. d	06.05. 2008
Layout drawing ED0363	Rev. c	08.05. 2008
Schematic Diagram 400/20 207 51	Rev. 0	17.03. 2008

Test Reports ³⁾:

Doc Ref.		
Doc-ID: 19-11911A	Rev. 0	30.10.2019
Doc-ID : 19-11911B	Rev. 0	30.10.2019
Doc-ID: 19-11911C	Rev. 0	30.10.2019
Doc-ID: 072361 140 19	Rev. 1.0	29.08.2019
Doc-ID: 19-12629	Rev. 0	12.12.2019
Doc-ID: "Additional Performance Test EURO MR"	Rev. 0	28.02.2019

³⁾ Note: tests described and performed according test plan SIKA (EU RO Type Approval - Type Testing Plan for SolarTemp850).

Marking of product

The products to be marked with:

- manufacturer name
- model name: **SIKA-Art.Nr.**
- unique serial number

Other Conditions

SolarTemp850 local temperature measurements and gauging with transmitter has been verified for compliance with EU Mutual Recognition Technical Requirements for Temperature gauges and transmitters version 0.1, dated 2016-04-01

Environmental test parameters:

			DNV GL location classes.
Temperature	IEC 60068-2-1/ -2-2	5°C ~ +70°C	B
Vibration	IEC 60068-2-6 Test Fc,	± 1,6mm/± 4.0g at 5-25Hz/25-100Hz	B
Humidity	IEC 60068-2-30 test D b	93% to 98%RH, +55°C, 48 h	B
EMC:	IACS UR E10 - Rev. 7		A
Enclosure	IEC 60529	IP65	B

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed annually and at renewal of this certificate.

END OF CERTIFICATE