ZERTIFIKAT ◆ CERTIFICATE ◆ 認證證書 ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

(1) # EU-Type Examination Certificate

Product Service

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

TPS 13 ATEX 38892 003 X *Rev. 01*

(4) Equipment: Humidity / Temperature Sensor
Type: EE300Ex with connection cable HA011068

(5) Manufacturer: E+E Elektronik GmbH

(6) Address: Langwiesen 7
4209 Engerwitzdorf
Austria

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service GmbH, notified body No. 0123 in accordance with Article 17 of the Council Directive 2014/34/EU of the European Parliament and of the Council dated 26 February 2014, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive.
The examination and test results are recorded in the confidential reports 71386133, 713030081, 713031470 and 713156472.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 1127-1:2011 **EN 60079-0:2012+A11:2013** **EN 60079-11:2012**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and the construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacturer and supply of this equipment.

(12) The marking of the equipment shall include the following:

Model without display: Ex II 1G Ex ia IIC T4 Ga Ex II 1D Ex ia IIIC T 80°C Da

Model with display: Ex II 2G Ex ia IIC T4 Gb Ex II 1G Ex ia IIB T4 Ga

Remote probe: Ex II 1G Ex ia IIC T6-T1 Ga Ex II 1D Ex ia IIIC T 80°C…220°C Da

Certification body
Ridlerstraße 65, 80339 München

München, 30.09.2019

Dipl.-Phys. Andreas Pfeil

Product Service

(13) **Schedule**

(14) **EU-Type Examination Certificate TPS 13 ATEX 38892 003 X** *Rev. 01*

(15) Description of equipment:

The intrinsically safe devices EE300Ex-M1 (for the measurement of relative humidity (RH) and temperature (T)) and EE300Ex-M3 (temperature measurement only) are dedicated for the use in hazardous gas areas up to Zone 0 and hazardous dust areas up to Zone 20. With the EE300Ex-M1, the physical values dew point temperature (Td), frost point temperature (Tf), etc. can also be determined. Devices of this series can be operated as wall mount with fixed probe or with a remote probe, connected with a fixed cable.

The Humidity / Temperature Sensor EE300Ex may only be supplied by an associated apparatus with intrinsically safe connectors. The intrinsically safe power supply and data output is carried out on an isolated 2-wire 4..20 mA interface. The device contains two galvanic isolated 2-wire channels, whereas channel 2 can only be operated together with channel 1.

Outside the hazardous area the configuration and adjustment of the EE300Ex can be performed with the associated HA011068 connection cable, a configuration device and a PC.

Technical data:

Humidity / Temperature Sensor EE300Ex	
Input voltage (Ui)	28 V
Input power (Pi)	700 mW (per channel, with linear source)
Input current (Ii)	100 mA
Input capacitance (Ci)	2,2 nF
Input inductance (Li)	negligible small
Ambient temperature electronics	$-40 \leq T_{amb} \leq +60°C$
Ambient temperature of combined humidity and temperature probe	$-40 \leq T_{amb} \leq +180°C$
Ambient temperature of temperature probe	$-70 \leq T_{amb} \leq +200°C$
Protection class	IP65

Connection cable HA011068	
Maximum voltage (Um)	250 VAC
Supply voltage	5 VDC (USB)
Communication	USB or RS232
Ambient temperature	$-40 \leq T_{amb} \leq +40°C$
Protection class	IP20

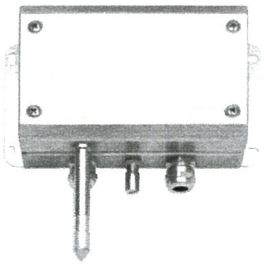
TÜV SÜD Product Service GmbH • Zertifizierstelle • Ridlerstraße 65 • 80339 München • Deutschland

Application temperature of the probes:

Specification of the temperature class "TKG" for use in gas explosion hazardous areas and the temperature "TKD" for use in dust explosion hazardous areas depending on the ambient temperature "T_{amb}" with respect to the temperature and humidity probe.

TKG	TKD	Humidity and Temperature Probe	TKG	TKD	Temperature Probe
T6	80°C	-40°C ≤ T_{amb} ≤ +60°C	T6	80°C	-70°C ≤ T_{amb} ≤ +60°C
T5	95°C	-40°C ≤ T_{amb} ≤ +75°C	T5	95°C	-70°C ≤ T_{amb} ≤ +75°C
T4	130°C	-40°C ≤ T_{amb} ≤ +110°C	T4	130°C	-70°C ≤ T_{amb} ≤ +110°C
T3	195°C	-40°C ≤ T_{amb} ≤ +175°C	T3	195°C	-70°C ≤ T_{amb} ≤ +175°C
T2	200°C	-40°C ≤ T_{amb} ≤ +180°C	T2	220°C	-70°C ≤ T_{amb} ≤ +200°C
T1	200°C	-40°C ≤ T_{amb} ≤ +180°C	T1	220°C	-70°C ≤ T_{amb} ≤ +200°C

Models:

Model	
EE300Ex-M1: Measurement of relative humidity (RH) and temperature (T) EE300Ex-M3: Temperature measurement only	
T1 Wall mount with fixed probe	**T7, T9, T10, T15, T22, T24** Remote probe with fixed cable The code number after the T stands for the probe type.
	
D0: without display D1: with display	D0: without display D1: with display
Type of connection (measuring channels): E13: Conduit Adapter (metal) E32: M12-Plug (plastic) E2, E15, E17, E18, E19, E20, E21, E22: cable gland (metal)	*Type of connection (measuring channels):* E13: Conduit Adapter (metal) E32: M12-Plug (plastic) E2, E15, E17, E18, E19, E20, E21, E22: cable gland (metal)
K0	Kx: cable length [m]: 0,2 m to 10 m
Lx: probe length [mm]: 50 mm / 70 mm	Lx: probe length [mm]: 65 mm to 1000 mm

(16) Test report: 71386133, 713030081, 713031470 and 713156472

TÜV SÜD Product Service GmbH • Zertifizierstelle • Ridlerstraße 65 • 80339 München • Deutschland

Product Service

(17) Special conditions for safe use:

- In dust explosive areas (IIIA, IIIB, IIIC) and in gas explosive areas (IIC) with Zone 0 the models with display and the models with M12 connections must not be used.
- The plastic filter caps must not be used in gas explosive areas of group IIC in Zone 0.
- The sensor element must be covered with one of the provided filter caps.
- The sensor pipe of the remote probe is not electrically conductively connected with the housing of the main unit and must therefore be grounded separately. In addition, in potentially explosive areas of Zone 0, the cable to the remote sensor must be installed in a metallic and earthed conduit.
- The configuration and adjustment of the EE300Ex is only permitted with the associated HA011068 connection cable outside the hazardous area. When the HA011068 is connected to the EE300Ex, CH1 and CH2 must not be connected.
- In case of optional use of the second measuring channel, both channels must be galvanically isolated from each other.

(18) Essential health and safety requirements:

met by standards

According to article 41 of Directive 2014/34/EU, EC-type examination certificates which have been issued according to Directive 94/9/EC prior to the date of coming into force of Directive 2014/34/EU (April 20, 2016) may be considered as if they have been issued already in compliance with Directive 2014/34/EU. By permission of the European Commission supplements to such EC-type examination certificates and new issues of such certificates may continue to hold the original certificate number issued before April 20, 2016.

This EU-type examination certificate according to Directive 2014/34/EU is a new issue of the EC-type examination certificate according to Directive 94/9/EC dated from 2013-03-05, including the 1st supplement dated from 2014-04-16 and todays additional changes. Details are recorded in the confidential report 713156472.

Certification body
Ridlerstraße 65, 80339 München

München, 30.09.2019

Dipl.-Phys. Andreas Pfeil