(1) EU-TYPE EXAMINATION CERTIFICATE

(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number

TÜV 21 ATEX 8708 Issue: 00

(4) Equipment: **Analog Sensors and temperature probe**
xPSxx pH and ORP-Sensors, xTS1 temperature probe

(5) Manufacturer: **Endress+Hauser Conducta GmbH+Co. KG**

(6) Address: **Dieselstrasse 24**
70839 Gerlingen, Germany

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

(8) The TÜV Rheinland Zertifizierungsstelle für Explosionsschutz of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 21 of the Council Directive 2014/34/EU of 26th February 2014, certifies this product which 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 atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex8708.00/21

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN IEC 60079-0: 2018 **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 specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

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

II 1 G Ex ia IIC T6...T3 Ga

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz Cologne, 2021-08-06

Dipl.-Ing. Christian Mehnhoff

This EU-Type Examination Certificate without signature and stamp shall not be valid.
This EU-Type Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Industrie Service GmbH TÜV Rheinland Group Am Grauen Stein 51105 Köln
Tel. +49 (0) 221 806-0 Fax. + 49 (0) 221 806 114

(13) Annex

(14) **EU Type Examination Certificate**

TÜV 21 ATEX 8708 Issue: 00

(15) Description of equipment

15.1 Equipment and type:

Analog Sensors and temperature probe
xPSxx pH and ORP-Sensors
xTS1 temperature probe
xx: see type designation

15.2 Description

General product information
The xPS## family is basically divided into sensors for pH and ORP measurements. Furthermore the sensor constructions and materials are designed to suit different industries and applications. Combined pH- and Reference-electrodes in one housing is also called pH combination electrode or pH-Sensor. Combined ORP- and Reference-electrodes in one housing is also called ORP combination electrode or ORP-Sensor.
xTS1 is an exception, as it is a pure temperature probe.
The sensors can be operated in explosive gas atmospheres of up to zone 0.

Type code:
pH/ORP/Reference-Electrodes:

xPS##-abbcddd+e	
x	C, O (not ex relevant)
##	Sensor type 11, 12, 13, 21, 31, 41, 42, 43, 71, 72, 91 or 92
a	Electrode Type 0,1 = without temperature sensor 2 = with Pt 100 3 = with Pt 1000
bb	Application range (no ex-relevance; 2 or 3 characters)
c	Shaft length (no ex-relevance)
ddd	Head ESA or ESS or LAB = Plug-head TOP68 version, 4-pole; without and with temperature sensor GSA or SSA or LAC = Plug-head coax version, 2-pole; only without temperature sensor
e	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Temperature Sensor:

xTS1-abccc+d	
x	C, O (not ex relevant)
a	Version: A = Single Pt100
b	Shaft length (no ex-relevance)
ccc	Head ESA = Process Pg13.5; plug-head TOP68 version
d	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations

Technical Data

Type designation:

Type	Description
xPS11	pH combination electrode. For standard applications in process and environmental technology, with dirt-repellent PTFE diaphragm. Built-in temperature sensor (optional).
xPS12	ORP combination electrode. For standard applications in process and environmental technology, with dirt-repellent PTFE diaphragm. Without temperature sensor.
xPS13	Single reference electrode used in combination with single pH electrode. Without temperature sensor.
xPS21	pH combination electrode. For wastewater processing with open ring junction. Built-in temperature sensor (optional).
xPS31	pH combination electrode. For applications in drinking water and swimming pools. Without temperature sensor.
xPS41	pH combination electrode. For harsh chemical applications and media with low conductivity or a considerable content of organic solvents, built-in temperature sensor (optional)
xPS42	ORP combination electrode. For harsh chemical applications and media with very low conductivities or a considerable amount of organic solvents. Without temperature sensor.
xPS43	Single reference electrode used in combination with single pH electrode. For harsh chemical applications and media with very low conductivities or a considerable amount of organic solvents. Without temperature sensor.
xPS71	pH combination electrode. For chemical process, hygienic and sterile applications with an ion trap for poison-resistant reference. Built-in temperature sensor (optional)
xPS72	ORP combination electrode. For chemical process, hygienic and sterile applications with an ion trap for poison-resistant reference. Without temperature sensor.
xPS91	pH combination electrode. With open junction for contaminated media. Built-in temperature sensor (optional)
xPS92	ORP combination electrode. With open junction for contaminated media. Without temperature sensor.
xTS1	Temperature probe for all areas of application; especially for temperature measurements in combination with pH- or ORP-electrodes without integrated temperature sensor.

Electrical Data:

Power Input P_i	≤ 200mW
Voltage Input U_i	≤ 17V
Current Input I_i	≤ 130mA
C_i	≤ 1nF/m – only cable
L_i	≤ 6µH/m – only cable

Ambient Temperature:

xPS	11-	1	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	11-	2 or 3	bb	c	ddd	≤ 50°C(T6) / ≤ 100°C(T4) / ≤ 135°C(T3)
xPS	12-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	13-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	21-	1	bb	c	ddd	≤ 80°C(T6)
xPS	21-	2	bb	c	ddd	≤ 50°C(T6) / ≤ 80°C(T4)
xPS	31-	1	bb	c	ddd	≤ 80°C(T6)
xPS	31-	2	bb	c	ddd	≤ 50°C(T6) / ≤ 80°C(T4)
xPS	41-	1	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	41-	2 or 3	bb	c	ddd	≤ 50°C(T6) / ≤ 100°C(T4) / ≤ 135°C(T3)
xPS	42-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	43-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	71-	1	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	71-	2 or 3	bb	c	ddd	≤ 50°C(T6) / ≤ 100°C(T4) / ≤ 135°C(T3)
xPS	72-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)
xPS	91-	1	bb	c	ddd	≤ 80°C(T6) / ≤ 110°C(T4)
xPS	91-	2 or 3	bb	c	ddd	≤ 50°C(T6) / ≤ 100°C(T4) ≤ 110°C(T3)
xPS	92-	0	bb	c	ddd	≤ 80°C(T6) / ≤ 110°C(T4)
xTS	1-	A		b	ccc	≤ 75°C(T6) / ≤ 130°C(T4) / ≤ 135°C(T3)

(16) Test-Report No. 557/Ex8708.00/21

(17) Special Conditions for safe use

None

(18) Basic Safety and Health Requirements

Covered by afore mentioned standard

TÜV Rheinland Zertifizierungsstelle für Explosionsschutz Cologne, 2021-08-06

Dipl.-Ing. Christian Mehrhoff