

UK Type Examination Certificate CML 21UKEX21249 Issue 0

United Kingdom Conformity Assessment

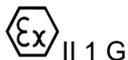
- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Analog Sensors and temperature probe xPSxx pH and ORP-Sensors, xTS1 temperature probe**
- 3 Manufacturer **Endress+Hauser Conducta GmbH+Co. KG**
- 4 Address **Dieselstrasse 24
70839 Gerlingen, Germany**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018

EN 60079-11:2012

- 10 The equipment shall be marked with the following:



Ex ia IIC T6...T3 Ga



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11 Description

Equipment and type:

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

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 UAE = Plug-head TOP68 version, 4-pole; without and with temperature sensor
e	Optional = one or more characters determining optional features (no ex-relevance) e.g. test or other certificates/ declarations



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Temperature sensor:

xTS1-abccc+d	
x	C, O (not ex relevant)
a	Version: A = Single Pt100
b	Shaft length (no ex-relevance)
ccc	Head UAE = 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)



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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	$\leq 200\text{mW}$
Voltage Input U_i	$\leq 17\text{V}$
Current Input I_i	$\leq 130\text{mA}$
C_i	$\leq 1\text{nF/m}$ – only cable
L_i	$\leq 6\mu\text{H/m}$ – only cable

Ambient temperature:

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



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12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	18 Nov 2021	R14639A/00	Issue of the prime certificate. TÜV 21 ATEX 8708, Issue 0 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed in the Annex.

13 Conditions of Manufacture

For conditions of manufacture, refer to attached certificate TÜV 21 ATEX 8708, Issue 0.

Any routine tests/verifications required by the ATEX certification shall be conducted.

14 Specific Conditions of Use

For specific conditions of use, refer to attached certificate TÜV 21 ATEX 8708, Issue 0.

Certificate Annex

Certificate Number CML 21UKEX21249
Equipment Analog Sensors and temperature probe xPSxx pH and
ORP-Sensors, xTS1 temperature probe
Manufacturer Endress+Hauser Conducta GmbH+Co. KG



The following documents describe the equipment defined in this certificate:

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Drawing No	Sheets	Rev	Approved date	Title
139319-0006	1 to 2	D	18 Nov 2021	Nameplate 1 pH ATEX / UKCA Ex