XA02588C/07/EN/02.21
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Safety Instructions
Memosens pH/ORP sensors

pH and ORP measurement

Supplement to BA01988C, BA02142C
Safety instructions for electrical apparatus in explosion-hazardous areas
UK Ex II 1 G Ex ia IIC T3/T4/T6 Ga
UK Ex II 1G Ex ia IIC T4/T6 Ga

Endress+Hauser
People for Process Automation

UK-Declaration of Conformity

Endress+Hauser
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UKCA
2503

Company **Endress+Hauser Conducta GmbH+Co. KG**
Dieselstraße 24, 70839 Gerlingen, Germany
declares as manufacturer under sole responsibility, that the product

Product Memosens pH/ORP sensors
CPSxxE-UA * * ** * * +** xx = 11, 12, 16, 31, 41, 42, 61, 62, 71, 72, 76, 91, 92, 96**

Regulations conforms to following UK statutory requirements:

The Electromagnetic Compatibility Regulations	SI 2016 No. 1091
The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations	SI 2016 No. 1107
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations	SI 2012 No. 3032

Standards applied designated standards:

EN 61326-1	(2013)	EN IEC 60079-0	(2018)
EN 61326-2-3	(2013)	EN 60079-11	(2012)
EN IEC 63000	(2018)		

Certification

UK Type Examination Certificate No.	CML 21UKEX2129X
Issued by Approved Body	Eurofins E&E CML Limited-UK (2503)
Quality assurance	Eurofins E&E CML Limited-UK (2503)

Gerlingen, 19 October 2021
Endress+Hauser Conducta GmbH+Co. KG

i.V. Jörg-Martin Müller
Technology

i.V. Marco Rottmann
Technology Certifications and Approvals

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Memosens pH/ORP sensors

pH and ORP measurement

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Associated documentation

This document is an integral part of Operating Instructions BA01988C, BA02142C.

Additional documentation

Competence Brochure CP00021Z
- Explosion Protection: Guidelines and General Principles
- www.endress.com

Certificates

The certificates and declarations of conformity are available in the Downloads area of the Endress+Hauser website:

www.endress.com/download

UK Declaration of Conformity

Identification

The nameplate provides you with the following information on your device:
- Manufacturer identification
- Order code
- Extended order code
- Serial number
- Safety information and warnings
- Ex marking on hazardous area versions

▶ Compare the information on the nameplate with the order.

Type code

UK Ex

Item type	Version							
xPS11E xPS12E xPS16E xPS41E xPS42E xPS61E xPS62E xPS71E xPS72E xPS76E	UA	*	*	**	*	***	+*	
x = C, OC No Ex relevance	UK Ex II 1G Ex ia IIC T3/T4/T6 Ga	No Ex relevance						

Item type	Version						
xPS31E xPS91E xPS92E xPS96E	UA	*	*	**	*	***	+*
x = C, OC No Ex relevance	UK Ex II 1G Ex ia IIC T4/T6 Ga	No Ex relevance					

Certificates and approvals

Declaration of Conformity

With this declaration of conformity, the manufacturer guarantees that the product conforms to UK statutory requirements:
- The Electromagnetic Compatibility Regulations SI 2016 No. 1091
- The Equipment and Protective Systems Intended for use in Potentially Explosive Atmosphere Regulations SI 2016 No. 1107
- The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations SI 2012 No. 3032

Compliance is verified by adherence to the standards listed in the Declaration of Conformity.

Ex approvals

xPS11E / xPS12E / xPS16E / xPS41E / xPS42E / xPS61E / xPS62E / xPS71E / xPS72E / xPS76E:

Ex UK Ex II 1G Ex ia IIC T3/T4/T6 Ga

xPS31E / xPS91E / xPS92E / xPS96E:

Ex UK Ex II 1G Ex ia IIC T4/T6 Ga

Approved Body

Eurofins E&E CML Limited (UK)

Safety Instructions

The inductive Memosens pH/ORP sensors CPS11E, CPS12E, CPS16E, CPS31E, CPS41E, CPS42E, CPS61E, CPS62E, CPS71E, CPS72E, CPS76E, CPS91E, CPS92E, CPS96E are suitable for use in hazardous areas in accordance with:
UK type-examination certificate CML 21UKEX2129X

The corresponding UK Declaration of Conformity is an integral part of this document.

- It is not permitted to operate the sensor under electrostatically critical process conditions. Significant vapor and dust clouds, which have a direct impact on the Memosens sensor head, must be avoided.
- Ex-protected digital sensors with Memosens technology are identified by an orange-red ring on the plug-in head.
- When using devices and sensors, observe the regulations for electrical systems in hazardous areas (EN 60079-14).
- The procedures for electrical connection described in the Operating Instructions must be followed.
- This device was developed and manufactured in accordance with SI 2016 No. 1107 dated 2016 and also complies with the following standards:
  - EN IEC 60079-0 :2018 Electrical apparatus for explosive gas atmospheres
  - EN 60079-11:2012 Explosive atmospheres. Equipment protection by intrinsic safety "i"

Temperature tables

Sensor	Temperature class	Process temperature T_p	Ambient temperature T_a
xPS11E xPS12E xPS16E xPS41E xPS42E xPS72E	T3	−15 °C (5 °F)≤ T_p ≤ 135 °C (275 °F)	−15 °C (5 °F) ≤ T_a ≤ 70 °C (158 °F)
	T4	−15 °C (5 °F) ≤ T_p ≤ 120 °C (248 °F)	−15 °C (5 °F) ≤ T_a ≤ 75 °C (167 °F)
		−15 °C (5 °F) ≤ T_p ≤ 110 °C (230 °F)	−15 °C (5 °F) ≤ T_a ≤ 80 °C (176 °F)
		−15 °C (5 °F) ≤ T_p ≤ 100 °C (212 °F)	−15 °C (5 °F) ≤ T_a ≤ 85 °C (185 °F)
		−15 °C (5 °F) ≤ T_p ≤ 90 °C (194 °F)	−15 °C (5 °F) ≤ T_a ≤ 90 °C (194 °F)
	T6	−15 °C (5 °F) ≤ T_p ≤ 70 °C (158 °F)	−15 °C (5 °F) ≤ T_a ≤ 70 °C (158 °F)
xPS61E xPS62E xPS71E xPS76E	T3	0 °C (32 °F) ≤ T_p ≤ 140 °C (284 °F)	0 °C (32 °F) ≤ T_a ≤ 70 °C (158 °F)
	T4	0 °C (32 °F) ≤ T_p ≤ 120 °C (248 °F)	0 °C (32 °F) ≤ T_a ≤ 75 °C (167 °F)
		0 °C (32 °F) ≤ T_p ≤ 110 °C (230 °F)	0 °C (32 °F) ≤ T_a ≤ 80 °C (176 °F)
		0 °C (32 °F) ≤ T_p ≤ 100 °C (212 °F)	0 °C (32 °F) ≤ T_a ≤ 85 °C (185 °F)
		0 °C (32 °F) ≤ T_p ≤ 90 °C (194 °F)	0 °C (32 °F) ≤ T_a ≤ 90 °C (194 °F)
	T6	0 °C (32 °F) ≤ T_p ≤ 70 °C (158 °F)	0 °C (32 °F) ≤ T_a ≤ 70 °C (158 °F)

Sensor	Temperature class	Process temperature T_p	Ambient temperature T_a
xPS31E	T4	0 °C (32 °F) ≤ T_p ≤ 80 °C (176 °F)	0 °C (32 °F) ≤ T_a ≤ 90 °C (194 °F)
	T6	0 °C (32 °F) ≤ T_p ≤ 70 °C (158 °F)	0 °C (32 °F) ≤ T_a ≤ 70 °C (158 °F)
xPS91E xPS92E xPS96E	T4	0 °C (32 °F) ≤ T_p ≤ 110 °C (230 °F)	0 °C (32 °F) ≤ T_a ≤ 80 °C (176 °F)
		0 °C (32 °F) ≤ T_p ≤ 100 °C (212 °F)	0 °C (32 °F) ≤ T_a ≤ 85 °C (185 °F)
		0 °C (32 °F) ≤ T_p ≤ 90 °C (194 °F)	0 °C (32 °F) ≤ T_a ≤ 90 °C (194 °F)
	T6	0 °C (32 °F) ≤ T_p ≤ 70 °C (158 °F)	0 °C (32 °F) ≤ T_a ≤ 70 °C (158 °F)

The temperature table above applies only under the following installation conditions, which are described in the following graphic → 📄 8. If the installation conditions cannot be met, the maximum process temperature T_p must not exceed the maximum ambient temperature T_a.

Connection

Ex specification

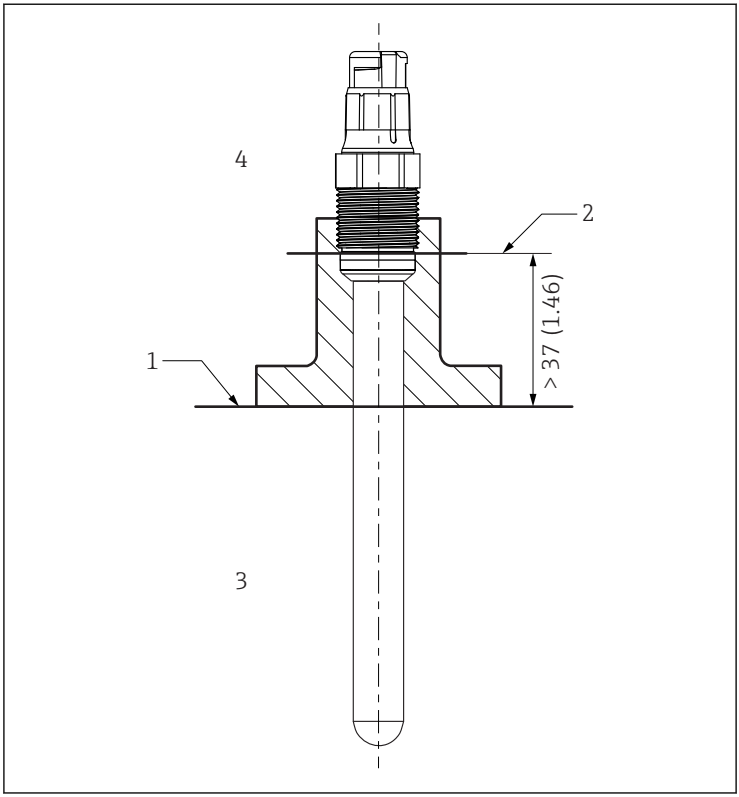
- The pH/ORP sensors of the series xPSxxE are approved in accordance with UK type-examination certificate CML 21UKEX2129X and are suitable for use in hazardous environments. The corresponding UK Declaration of Conformity is an integral part of this document.
- The approved digital pH/ORP sensors of the model series xPSxxE feature an intrinsically safe input with the following parameter set:

Parameters	Value
P_i	180 mW

The approved xPSxxE digital pH/ORP sensors must be connected to a Memosens measuring cable with an intrinsically safe output with the following parameter:

Parameters	Value
P_o	Maximum 180 mW

Installation conditions



1 Installation conditions

1 Limit
2 Distance between plug-in head (lower edge) and process medium, without ring and thrust collar
3 Process temperature T_p
4 Ambient temperature T_a

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