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Safety Instructions
Memosens pH/ORP sensors

pH and ORP measurement

EAC Ex 0Ex ia IIC T3/T4/T6 Ga X
EAC Ex 0Ex ia IIC T4/T6 Ga X

Endress+Hauser
People for Process Automation

Memosens pH/ORP sensors

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Table of contents

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 and Declarations

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

www.endress.com/download

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

Item type	Version						
xPS11E xPS12E xPS16E xPS41E xPS42E xPS61E xPS62E xPS71E xPS72E xPS76E	GA	*	*	**	*	***	+*
x = C, OC No Ex relevance	EAC Ex 0Ex ia IIC T6/T4/T3 Ga X	No Ex relevance					

Item type	Version						
xPS31E xPS91E xPS92E xPS96E	GA	*	*	**	*	***	+*
x = C, OC No Ex relevance	EAC Ex 0Ex ia IIC T6/T4 Ga X	No Ex relevance					

Certificates and approvals

Ex approvals

The product has been certified in accordance with Directive TR CU 012/2011 valid within the Eurasian Economic Area (EAEU). The EAC conformity mark has been affixed to the product.

Sensor	Certificate number	Ex marking
xPS11E xPS12E xPS16E xPS41E xPS42E xPS61E xPS62E xPS71E xPS72E xPS76E	ЕАЭС KZ 7500525.01.01.01955	0Ex ia IIC T6/T4/T3 Ga X
xPS31E xPS91E xPS92E xPS96E		0Ex ia IIC T6/T4 Ga X

Certification Body

ТОО/ЖШС "Т-Стандарт"

Safety Instructions

- The sensors may not be operated in electrostatically critical processing conditions. Intense vapour or dust flows directly impacting on the connection system must be avoided.
- Ex-protected digital sensors with Memosens technology are identified by an orange-red ring on the plug-in head.
- The procedures for electrical connection described in the Operating Instructions must be followed.
- If an assembly is used, there can be higher temperatures as allowed. The maximum temperature at the sensor head shall be ≤ 90 °C (194 °F).

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)
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

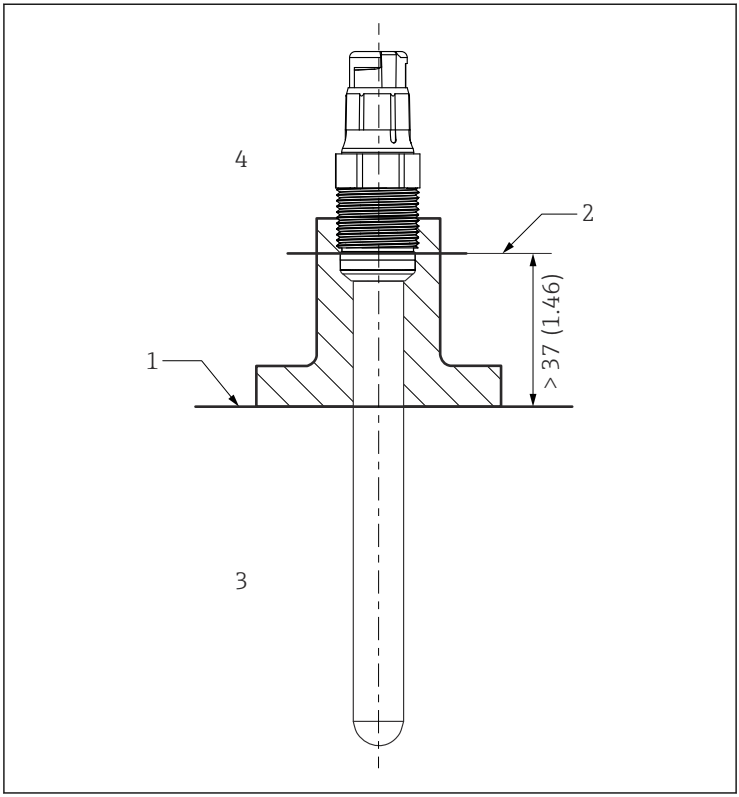
- The pH/ORP sensors of the series xPSxxE and xPF8xE are approved in accordance with EAC Ex certificate and are suitable for use in hazardous environments.
- The approved digital pH/ORP sensors of the model series xPSxxE and xPF8xE feature an intrinsically safe input with the following parameter set:

Parameters	Value
P_i	180 mW

The approved digital pH/ORP sensors of the model series xPSxxE and xPF8xE must be connected to a Memosens measuring cable or cable transmitter 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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