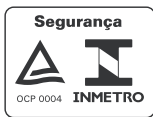


Safety Instructions

Memosens pH/ORP sensors

pH and ORP measurement

Safety instructions for electrical apparatus in explosion-hazardous areas



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

INMETRO

The number of the INMETRO certificate that applies to the product can be found on the nameplate. And the according standards can be found on the certificate.

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

Type	Version	*	*	**	*	***	+*
xPS11E xPS12E xPS16E xPS41E xPS42E xPS61E xPS62E xPS71E xPS72E xPS76E	MA						
x = C, OC No Ex relevance	INMETRO Ex ia IIC T3/T4/T6 Ga	No Ex relevance					

Type	Version	*	*	**	*	***	+*
xPS31E xPS91E xPS92E xPS96E	MA						
x = C, OC No Ex relevance	INMETRO Ex ia IIC T4/T6 Ga	No Ex relevance					

Certificates and approvals

Ex approvals


Item type	Version	
xPS11E, xPS41E, xPS61E, xPS71E xPS12E, xPS42E, xPS62E, xPS72E xPS16E, xPS76E	Ex ia IIC T3/T4/T6	Ga
xPS31E, xPS91E xPS92E xPS96E	Ex ia IIC T4/T6	Ga

Safety Instructions

- 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 (ABNT NBR IEC 60079-14).
- The procedures for electrical connection described in the Operating Instructions must be followed.

Temperature tables

Sensor	Temperature class	Process temperature T_p	Ambient temperature T_a
xPS11E xPS12E xPS16E xPS41E xPS42E xPS72E	T3	$-15\text{ °C (5 °F)} \leq T_p \leq 135\text{ °C (275 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
	T4	$-15\text{ °C (5 °F)} \leq T_p \leq 120\text{ °C (248 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 75\text{ °C (167 °F)}$
		$-15\text{ °C (5 °F)} \leq T_p \leq 110\text{ °C (230 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 80\text{ °C (176 °F)}$
		$-15\text{ °C (5 °F)} \leq T_p \leq 100\text{ °C (212 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 85\text{ °C (185 °F)}$
		$-15\text{ °C (5 °F)} \leq T_p \leq 90\text{ °C (194 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 90\text{ °C (194 °F)}$
	T6	$-15\text{ °C (5 °F)} \leq T_p \leq 70\text{ °C (158 °F)}$	$-15\text{ °C (5 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
xPS61E xPS62E xPS71E xPS76E	T3	$0\text{ °C (32 °F)} \leq T_p \leq 140\text{ °C (284 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
	T4	$0\text{ °C (32 °F)} \leq T_p \leq 120\text{ °C (248 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 75\text{ °C (167 °F)}$
		$0\text{ °C (32 °F)} \leq T_p \leq 110\text{ °C (230 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 80\text{ °C (176 °F)}$
		$0\text{ °C (32 °F)} \leq T_p \leq 100\text{ °C (212 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 85\text{ °C (185 °F)}$
		$0\text{ °C (32 °F)} \leq T_p \leq 90\text{ °C (194 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 90\text{ °C (194 °F)}$
	T6	$0\text{ °C (32 °F)} \leq T_p \leq 70\text{ °C (158 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
xPS31E	T4	$0\text{ °C (32 °F)} \leq T_p \leq 80\text{ °C (176 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 90\text{ °C (194 °F)}$
	T6	$0\text{ °C (32 °F)} \leq T_p \leq 70\text{ °C (158 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$
xPS91E xPS92E xPS96E	T4	$0\text{ °C (32 °F)} \leq T_p \leq 110\text{ °C (230 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 80\text{ °C (176 °F)}$
		$0\text{ °C (32 °F)} \leq T_p \leq 100\text{ °C (212 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 85\text{ °C (185 °F)}$
		$0\text{ °C (32 °F)} \leq T_p \leq 90\text{ °C (194 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 90\text{ °C (194 °F)}$
	T6	$0\text{ °C (32 °F)} \leq T_p \leq 70\text{ °C (158 °F)}$	$0\text{ °C (32 °F)} \leq T_a \leq 70\text{ °C (158 °F)}$

The temperature table above applies only under the following installation conditions, which are described in the following graphic →  6. 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

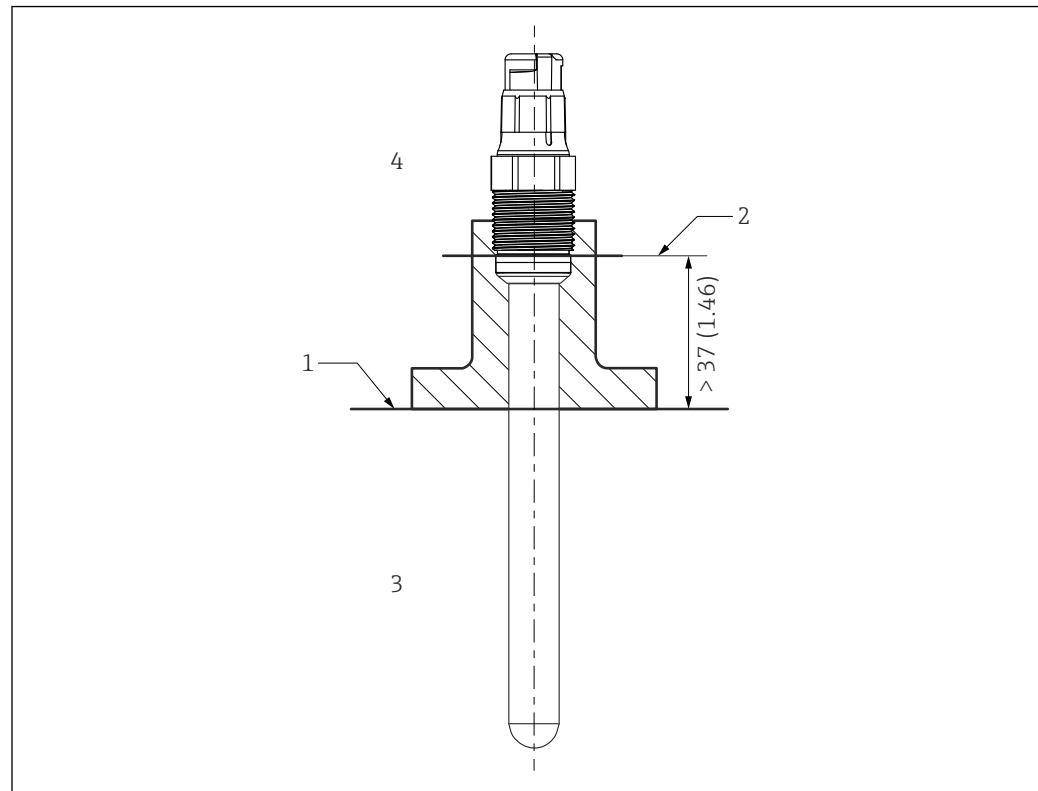
- The pH/ORP sensors of the series xPSxxE are suitable for use in hazardous environments.
- The approved digital pH/ORP sensors of the model series xPSxxE feature an intrinsically safe input with the following parameter set:

Parameters	Value
P_i	180 mW

The approved digital pH/ORP sensors of the model series xPSxxE 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



A0041281

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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