

Safety Instructions

Analog 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



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Associated documentation This document is an integral part of Operating Instructions BA01572C and BA02056C.

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
- Certificate information

► Compare the information on the nameplate with the order.

Type code

ph/ORP sensors

xPS##abbcdde	
x	C, O (not Ex-relevant)
##	Sensor type: 11, 12, 41, 71, 72, 91
a	Electrode type: 0, 1 = without temperature sensor 2 = with Pt100 3 = with Pt1000
bb	Application (not Ex-relevant; 2 or 3 characters)
c	Shaft lenght (not Ex-relevant)
ddd	Head: UAE = plug-in head version TOP68, 4-pin; with and without temperature sensor
e	Optional = one or more characters that determine optional features (not Ex-relevant), e.g. tests or other certificates/declarations

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
CPS11, 12, 71, 72-***ESK	EA3C KZ 7500525.01.01.02089	0Ex ia IIC T6 Ga X; 0Ex ia IIC T4 Ga X; 0Ex ia IIC T3 Ga X
CPS41-***ESK		0Ex ia IIC T6 Ga X; 0Ex ia IIC T4 Ga X; 0Ex ia IIC T3 Ga X
CPS91-***ESK		0Ex ia IIC T6 Ga X; 0Ex ia IIC T4 Ga X

Certification Body

ТОО/ЖШС "Т-Стандарт"

Safety Instructions

- The sensors have been developed and manufactured in compliance with applicable standards and guidelines and are suitable for use in hazardous areas for the equipment group indicated.
- The procedures for electrical connection described in the Operating Instructions must be followed.
- The electrical connection for the sensors must be made according to the wiring diagram (→ 6).
- Compliance with the specified ambient temperature range and with the permitted electrical connection values of the relevant transmitter is a prerequisite for safe use.
- The sensors may only be operated on suitable intrinsically safe circuits. Make sure that the maximum permitted inductance and capacitance values are not exceeded in these circuits.
- Full compliance with regulations for electrical systems in explosive atmospheres (e.g. EN/IEC 60079-14) is mandatory when using the devices and sensors.
- The sensors and connection system should not be damaged.
- Ensure that the device is installed correctly to guarantee IP68 protection.
- Check that the seals of the O-rings are free from damage. If you need to replace the seals, use original seals only.

Temperature tables

Sensor	Process temperature T _a for temperature class		
	T3	T4	T6
CPS11-1/4**ESK	≤ 135 °C (275 °F)	≤ 130 °C (266 °F)	≤ 80 °C (176 °F)
CPS12-***ESK			
CPS41-1/4**ESK			
CPS71-1**ESK			
CPS72-***ESK			
CPS41-2/3**ESK			≤ 70 °C (158 °F)
CPS11-2/3**ESK			≤ 50 °C (122 °F)
CPS71-2/3**ESK			
CPS91-1**ESK	Not approved	≤ 110 °C (230 °F)	≤ 80 °C (176 °F)
CPS91-2/3**ESK			≤ 50 °C (122 °F)

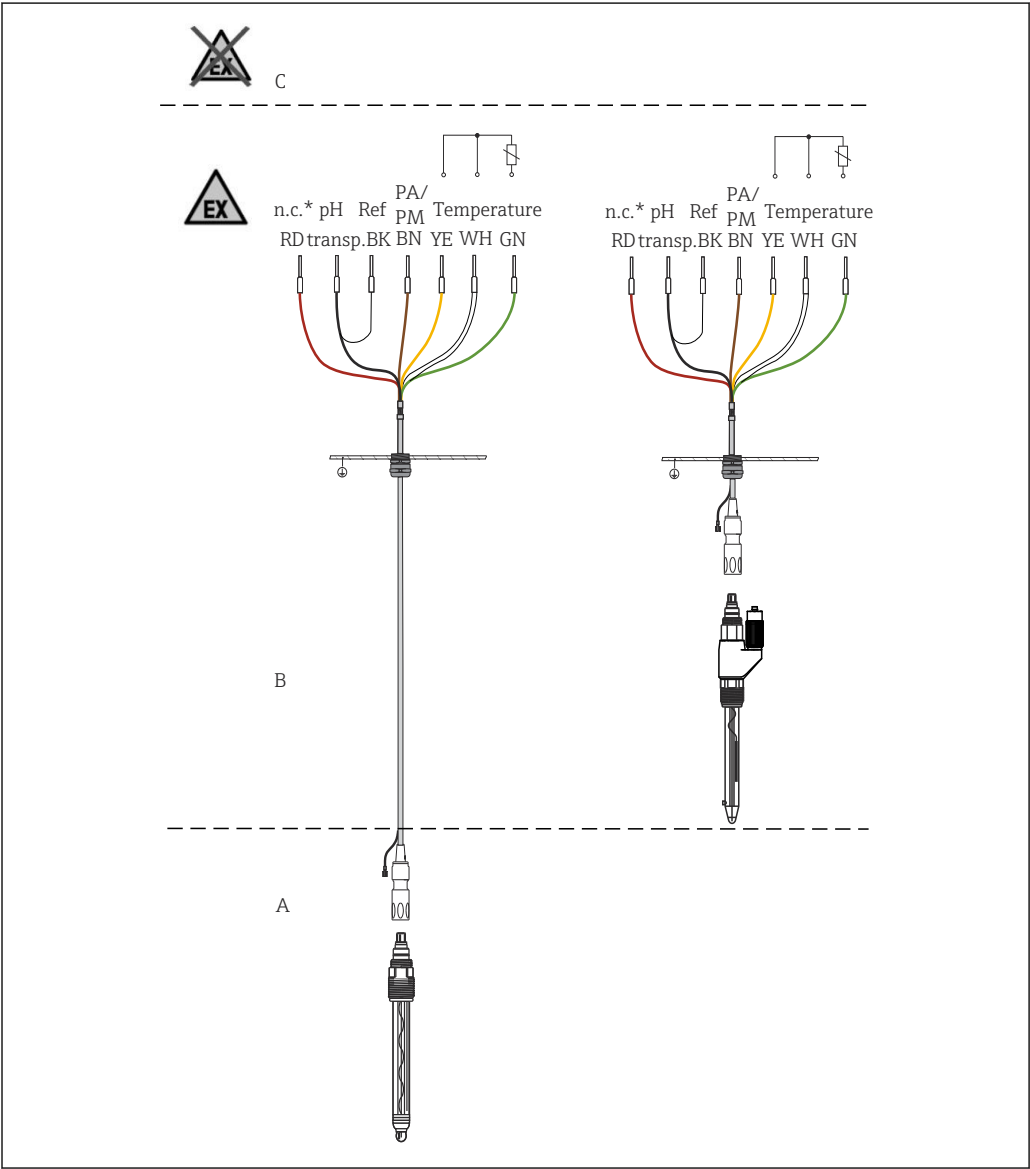
The temperature table above applies only under the following installation conditions, which are described in the graphic below → 6.

Connection

Ex specification

Characteristic	Connection data	Circuit
Power supply circuit		ia
Maximum input voltage U_i	17 V	
Maximum input current I_i	130 mA	
Maximum input power P_i	200 mW	
Maximum internal capacitance C_i	1 nF/m (CPK9, CPK12)	
Maximum internal inductance L_i	6 μ H/m (CPK9, CPK12)	

Installation conditions



A0046767

1 Electrical connection

- * Does not apply to CPK9
- A Explosive atmosphere Zone 0
- B Explosive atmosphere Zone 1
- C Non-explosive atmosphere



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