

# Safety Instructions

## **Memosens disinfection sensors**

NI Class I Div 2 Groups A, B, C, D T6

Ex ic IIC T6 Gc

Class I Zone 2 AEx ic IIC T6 Gc

Safety instructions for electrical apparatus in explosion-hazardous areas





# Memosens disinfection sensors

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<b>Associated documentation</b>	<p>This document is an integral part of the Memosens CCS50E Operating Instructions BA02313C.</p> <p>This document is an integral part of the Memosens CCS51E Operating Instructions BA02314C.</p> <p>This document is an integral part of the Memosens CCS53E Operating Instructions BA02351C.</p> <p>This document is an integral part of the Memosens CCS55E Operating Instructions BA02315C.</p> <p>This document is an integral part of the Memosens CCS58E Operating Instructions BA02316C.</p>
<b>Supplementary documentation</b>	<p> Competence Brochure CP00021Z</p> <ul style="list-style-type: none"> <li>▪ Explosion Protection: Guidelines and General Principles</li> <li>▪ <a href="http://www.endress.com">www.endress.com</a></li> </ul>
<b>Certificates</b>	<p>The certificates and declarations of conformity are available in the Downloads area of the Endress +Hauser website:</p> <p><a href="http://www.endress.com/download">www.endress.com/download</a></p> <p>CSA C/US certificate, certificate number: CSA20CA80021490X</p>
<b>Identification</b>	<p>The nameplate provides you with the following information on your device:</p> <ul style="list-style-type: none"> <li>▪ Manufacturer identification</li> <li>▪ Order code</li> <li>▪ Extended order code</li> <li>▪ Serial number</li> <li>▪ Safety information and warnings</li> <li>▪ Ex marking on hazardous area versions</li> </ul> <p>► Compare the information on the nameplate with the order.</p>
<b>Ex-approval</b>	<p><b>CSA Ex</b></p> <p>NI Class I Div 2 Groups A, B, C, D T6</p> <p>Ex ic IIC T6 Gc</p> <p>Class I Zone 2 AEx ic IIC T6 Gc</p> <p>The product meets the requirements of:</p> <ul style="list-style-type: none"> <li>▪ CLASS - 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations</li> <li>▪ CLASS - 2258 83 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations - Certified to US Standards</li> </ul> <p>This is verified by compliance with the following standards:</p> <ul style="list-style-type: none"> <li>▪ CAN/CSA-C22.2 No. 60079-0:19</li> <li>▪ CAN/CSA-C22.2 No. 60079-11:14</li> <li>▪ ANSI/UL 60079-0:19</li> <li>▪ ANSI/UL 60079-11:13</li> <li>▪ CAN/CSA-C22.2 No. 61010-1-12 (May 2012)</li> <li>▪ UL Std. No. 61010-1 (3rd Edition)</li> <li>▪ CAN/CSA-C22.2 No. 213-17 (R2022) Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (Classified) Locations</li> <li>▪ ANSI/UL 121201:2021 Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Division 1 and 2 Hazardous (Classified) Locations</li> </ul>
<b>Notified body</b>	CSA Group
<b>Safety instructions</b>	<p>The amperometric sensors Memosens types CCS50E, CCS51E, CCS53E, CCS55E and CCS58E are suitable for use in hazardous areas in accordance with: CSA type-examination certificate 80021490</p>

- A maximum ambient temperature of 90 °C (194 °F) must not be exceeded at the sensor head.
- The plastic housing may only be cleaned with a damp cloth.
- The sensor may not be operated in electrostatically critical processing conditions, in which an electrostatic loading of the sensor and the connecting system is to be counted. Significant steam and dust clouds acting directly on the Memosens sensor head must be strictly avoided.
- The maximum permitted cable length between the sensor and transmitter is 100 m (330 ft).
- When using devices and sensors, observe the regulations for electrical systems in hazardous areas (EN/IEC 60079-14).
- The procedures for electrical connection described in the Operating Instructions must be followed.
- Install the device according to the National Electrical Code (NFPA70) or the Canadian Electrical Code, Part 1 (C22.1), where applicable.

**Type code**

<b>Memosens</b>	CCS50E-aabbccdd+g CCS51E-aabbccdd+g CCS53E-aabbccdd+g CCS55E-aabbccdd+g CCS58E-aabbccdd+g	
	aa	Approval  CD CSA C/ US NI Cl. 1, Div. 2 GP A-D T6
	bb	Application (no ex-relevance)
	cc	Measuring range (no ex-relevance)
	dd	Adapter mounted (no ex-relevance)
	g	Optional = one or more characters determining optional features (no ex-relevance), e.g. test or other certificates/declarations

**Temperature table**

Sensor	Process temperature $T_p$	Ambient temperature $T_a$
CCS50E	$0\text{ °C (32 °F)} \leq T_p \leq 55\text{ °C (131 °F)}$ (T6)	$-20\text{ °C (-4 °F)} \leq T_a \leq 60\text{ °C (140 °F)}$ (T6)
CCS51E	$0\text{ °C (32 °F)} \leq T_p \leq 55\text{ °C (131 °F)}$ (T6)	$-20\text{ °C (-4 °F)} \leq T_a \leq 60\text{ °C (140 °F)}$ (T6)
CCS53E	$0\text{ °C (32 °F)} \leq T_p \leq 55\text{ °C (131 °F)}$ (T6)	$-20\text{ °C (-4 °F)} \leq T_a \leq 60\text{ °C (140 °F)}$ (T6)
CCS55E	$0\text{ °C (32 °F)} \leq T_p \leq 55\text{ °C (131 °F)}$ (T6)	$-20\text{ °C (-4 °F)} \leq T_a \leq 60\text{ °C (140 °F)}$ (T6)
CCS58E	$0\text{ °C (32 °F)} \leq T_p \leq 45\text{ °C (113 °F)}$ (T6)	$-20\text{ °C (-4 °F)} \leq T_a \leq 55\text{ °C (131 °F)}$ (T6)

The above temperature table applies only under the following installation conditions, which are described in the following graphic . 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 amperometric sensors Memosens types CCS50E, CCS51E, CCS53E, CCS55E and CCS58E have an intrinsically safe input with the following parameter set:

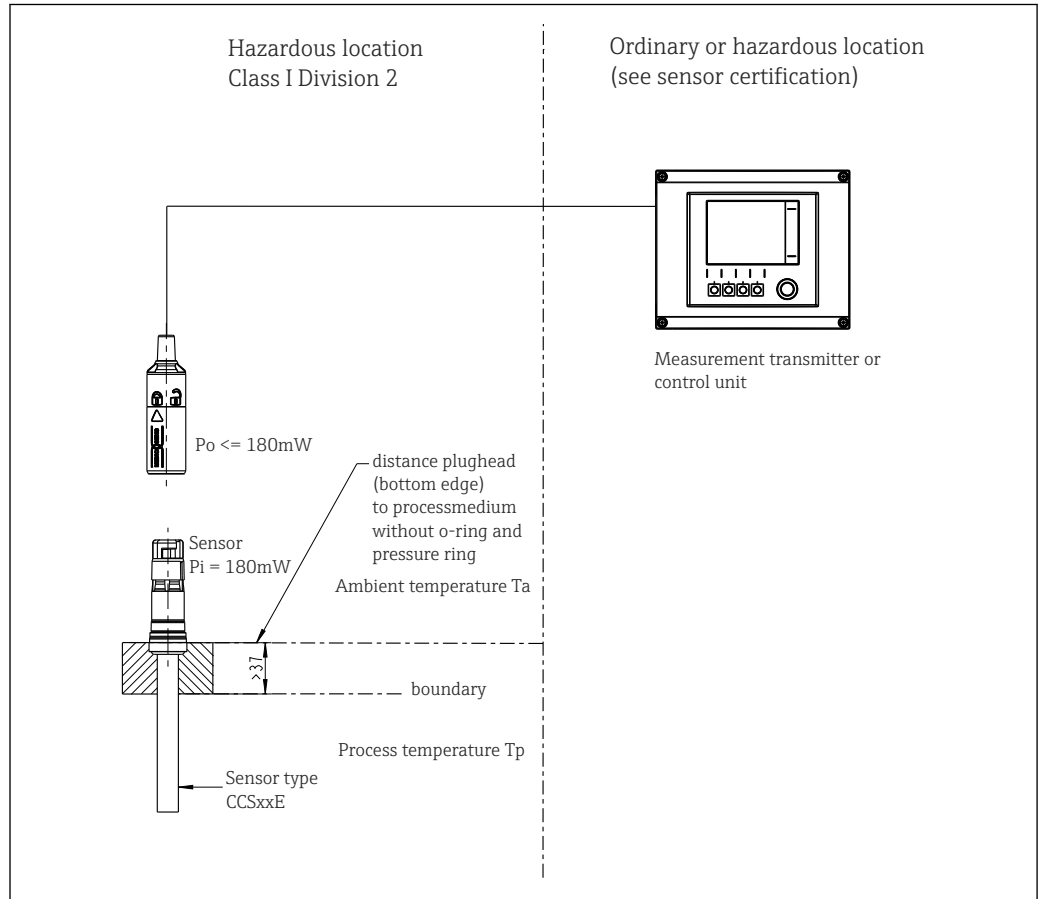
Parameter	Value
$P_1$	180 mW

The amperometric sensors Memosens types CCS50E, CCS51E, CCS53E, CCS55E and CCS58E must be connected to a Memosens cable or cable transmitter with intrinsically safe output with the following parameter:

Parameter	Value
$P_o$	max. 180 mW

For installation connection see control drawing 961005034.

**Installation conditions**



A0056176

1 Installation in hazardous location

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