

Safety Instructions

Memosens CLS15E, CLS16E, CLS21E, CLS82E

Supplement to: BA02018C, BA02019C, BA02020C and
BA02027C

Safety instructions for electrical apparatus in explosion-
hazardous areas



EU-Konformitätserklärung
EU-Declaration of Conformity
Déclaration UE de Conformité

Endress+Hauser 
 People for Process Automation



Company **Endress+Hauser Conducta GmbH+Co. KG**
Dieselstraße 24, 70839 Gerlingen, Germany
 erklärt als Hersteller in alleiniger Verantwortung, dass das Produkt
 declares as manufacturer under sole responsibility, that the product
 déclare sous sa seule responsabilité en qualité de fabricant que le produit

Product Memosens
CLS15E-BA**a****+*** **a= A or B**
CLS16E-BA***+***
CLS21E-BA***+***
CLS82E-BA***+***


Regulations den folgenden Europäischen Richtlinien entspricht:
 conforms to following European Directives:
 est conforme aux prescription des Directives Européennes suivantes :

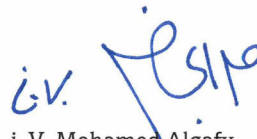
EMC 2014/30/EU (L96/79)
 ATEX 2014/34/EU (L96/309)
 RoHS 2011/65/EU (L174/88)

Standards angewandte harmonisierte Normen oder normative Dokumente:
 applied harmonized standards or normative documents:
 normes harmonisées ou documents normatifs appliqués :

EN 61326-1 (2013) EN IEC 60079-0 (2018)
 EN 61326-2-3 (2013) EN 60079-11 (2012)
 EN 50581 (2012)

Certification EG-Baumusterprüfbescheinigung Nr. TÜV 19 ATEX 8377 X
 EC-Type Examination Certificate No.
 Numéro de l'attestation d'examen CE de type
 Ausgestellt von/issued by/délivré par TÜV Rheinland Industrie Service
 GmbH (0035)
 Qualitätssicherung/Quality assurance/Système d'assurance DEKRA EXAM GmbH (0158)
 qualité
 Gerlingen, 19.11.2020
 Endress+Hauser Conducta GmbH+Co. KG


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 Technology






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 Technology Certifications and Approvals

Memosens CLS15E, CLS16E, CLS21E, CLS82E


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- Associated documentation** This document is an integral part of
-  Operating Instructions Memosens CLS21E, BA02020C
 -  Operating Instructions Memosens CLS15E, BA02018C
 -  Operating Instructions Memosens CLS16E, BA02019C
 -  Operating Instructions Memosens CLS82E, BA02027C

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

- Manufacturer's certificates** **EU Declaration of Conformity**
→  2

- Identification** The nameplate provides you with the following information on your device:
- Manufacturer identification
 - Order code
 - Serial number
 - Safety information and warnings
 - Cell constant (nominal value)
 - Ex labeling on hazardous area versions
- Compare the information on the nameplate with the order.

Type code

ATEX

Type	Version					
xLS15E ¹⁾	- BA	**	**	a ²⁾	***	+*
xLS16E ¹⁾	- BA	**	**	***	+*	
xLS21E ¹⁾	- BA	**	**	***	+*	
xLS82E ¹⁾	- BA	**	**	***	+*	
	II 1 G Ex ia IIC T3/T4/T6 Ga	No Ex relevance				

1) x=C, O, OC

2) a = A, B

IECEX

Type	Version					
xLS15E ¹⁾	- IA	**	**	a ²⁾	***	+*
xLS16E ¹⁾	- IA	**	**	***	+*	
xLS21E ¹⁾	- IA	**	**	***	+*	
xLS82E ¹⁾	- IA	**	**	***	+*	
	Ex ia IIC T3/T4/T6 Ga	No Ex relevance				

1) x=C, O, OC

2) a = A, B

Certificates and approvals

Declaration of Conformity

ATEX

With this declaration of conformity, the manufacturer guarantees that the product conforms to the regulations of European EMC Directive 2014/30/EU and ATEX Directive 2014/34/EU. Compliance is verified by adherence to the standards listed in the Declaration of Conformity.

IECEX

The product meets the requirements of the "IEC Certification Scheme for Explosive Atmospheres". This is verified by compliance with the standards listed in the IECEX certificate. The IECEX certificate can be viewed on the following website: www.iecex.com.

Hazardous area approvals

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

- EAC Ex, 0Ex ia IIC T3/T4/T6 Ga X
- Zone 0
- Certificate number: TC RU C-DE.AA87.B.00088
- The product has been certified in accordance with Directive TR CU 012/2011 which applies in the European Economic Area (EEA). The EAC conformity mark has been affixed to the product.

Ex ia IIC T3/T4/T6 Ga

Ex-inspection body

TÜV Rheinland Industrie Service GmbH
Am Grauen Stein, 51105 Cologne, Germany

Safety Instructions


The CLSxxE-type conductivity sensors are suitable for use in explosion-hazardous areas according to:

- IECEX certificate IECEX TUR 19.0030X including amendments
- EU type-examination certificate TÜV 19 ATEX 8377 X
The corresponding EU Declaration of Conformity is part of this document.
- It is not permitted to operate the sensor under electrostatically critical process conditions. Considerable steam and dust clouds that act directly on the Memosens sensor head must be avoided at all times.
- Ex-protected digital sensors with Memosens technology are identified by an orange-red ring on the terminal head.
- When using devices and sensors, the regulations for electrical systems in explosion-hazardous areas must be observed (EN/IEC 60079-14).
- The electrical connection information provided in the Operating Instructions must be adhered to.
- This device has been developed and manufactured according to Directive 2014/34/EU and also complies with the following standards:
 - EN IEC 60079-0:2018 / IEC 60079-0:2017, Explosive Atmospheres Part 0: General Requirements
 - EN 60079-11:2012 / IEC 60079-11:2011, Explosive Atmospheres Part 11: Equipment Protection by Intrinsic Safety "I"
- The CLS15E-type sensors with non-metal process connections and the CLS21E-type sensors may only be employed for measurement in liquids with a minimum conductivity of 10 nS/cm.

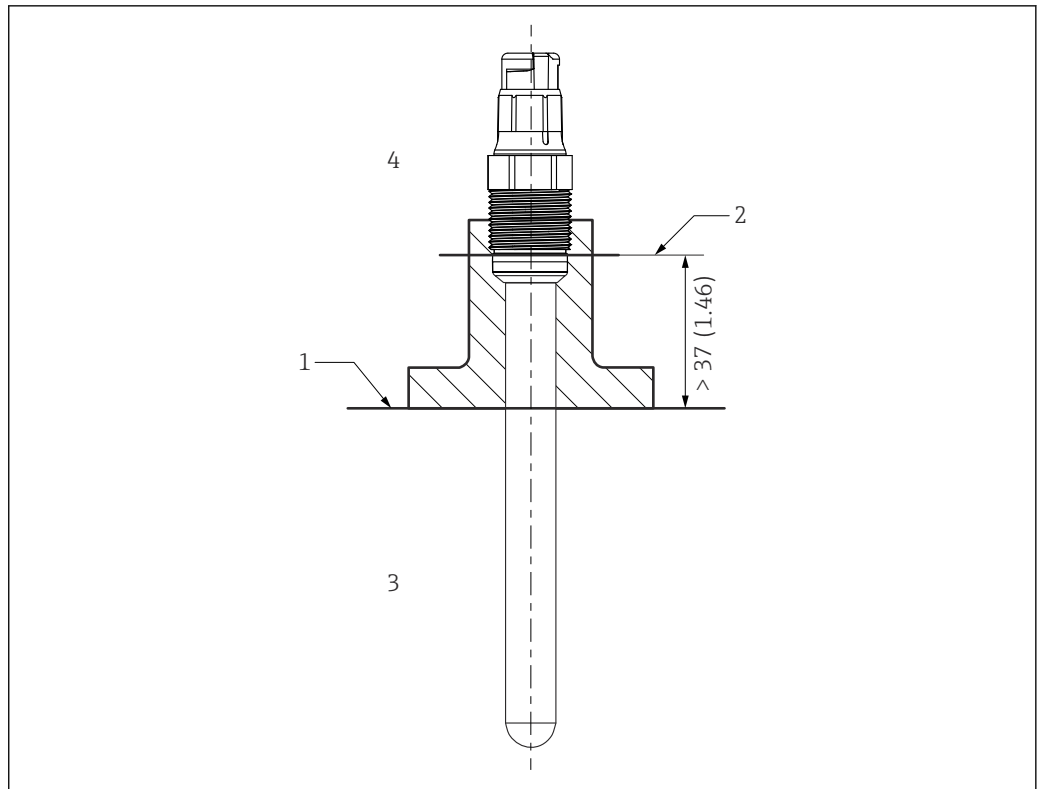
Temperature tables

Sensor	Temperature class	Process temperature T _p	Ambient temperature T _a
CLS15E-*****B****+*	T3	-20 °C ≤ T _p ≤ +135 °C	-20 °C ≤ T _a ≤ +70 °C
		-20 °C ≤ T _p ≤ +120 °C	-20 °C ≤ T _a ≤ +75 °C
	T4	-20 °C ≤ T _p ≤ +110 °C	-20 °C ≤ T _a ≤ +80 °C
		-20 °C ≤ T _p ≤ +100 °C	-20 °C ≤ T _a ≤ +85 °C
		-20 °C ≤ T _p ≤ +90 °C	-20 °C ≤ T _a ≤ +90 °C
	T6	-20 °C ≤ T _p ≤ +60 °C	-20 °C ≤ T _a ≤ +60 °C

Sensor	Temperature class	Process temperature T_p	Ambient temperature T_a
CLS15E-*****A***+* CLS21E-*****+*	T3	$-20\text{ °C} \leq T_p \leq +140\text{ °C}$	$-20\text{ °C} \leq T_a \leq +70\text{ °C}$
	T4	$-20\text{ °C} \leq T_p \leq +120\text{ °C}$	$-20\text{ °C} \leq T_a \leq +75\text{ °C}$
		$-20\text{ °C} \leq T_p \leq +110\text{ °C}$	$-20\text{ °C} \leq T_a \leq +80\text{ °C}$
		$-20\text{ °C} \leq T_p \leq +100\text{ °C}$	$-20\text{ °C} \leq T_a \leq +85\text{ °C}$
		$-20\text{ °C} \leq T_p \leq +90\text{ °C}$	$-20\text{ °C} \leq T_a \leq +90\text{ °C}$
T6	$-20\text{ °C} \leq T_p \leq +70\text{ °C}$	$-20\text{ °C} \leq T_a \leq +70\text{ °C}$	
CLS16E-*****+*	T3	$-5\text{ °C} \leq T_p \leq +135\text{ °C}$ $-5\text{ °C} \leq T_p \leq +120\text{ °C}$	$-5\text{ °C} \leq T_a \leq +70\text{ °C}$ $-5\text{ °C} \leq T_a \leq +75\text{ °C}$
	T4	$-5\text{ °C} \leq T_p \leq +115\text{ °C}$ $-5\text{ °C} \leq T_p \leq +110\text{ °C}$ $-5\text{ °C} \leq T_p \leq +100\text{ °C}$ $-5\text{ °C} \leq T_p \leq +90\text{ °C}$	$-5\text{ °C} \leq T_a \leq +75\text{ °C}$ $-5\text{ °C} \leq T_a \leq +80\text{ °C}$ $-5\text{ °C} \leq T_a \leq +85\text{ °C}$ $-5\text{ °C} \leq T_a \leq +90\text{ °C}$
	T6	$-5\text{ °C} \leq T_p \leq +65\text{ °C}$	$-5\text{ °C} \leq T_p \leq +65\text{ °C}$
CLS82E-*****+*	T3	$-20\text{ °C} \leq T_p \leq +140\text{ °C}$ $-20\text{ °C} \leq T_p \leq +135\text{ °C}$ $-20\text{ °C} \leq T_p \leq +125\text{ °C}$	$-20\text{ °C} \leq T_p \leq +65\text{ °C}$ $-20\text{ °C} \leq T_p \leq +70\text{ °C}$ $-20\text{ °C} \leq T_p \leq +75\text{ °C}$
	T4	$-20\text{ °C} \leq T_p \leq +120\text{ °C}$ $-20\text{ °C} \leq T_p \leq +110\text{ °C}$ $-20\text{ °C} \leq T_p \leq +100\text{ °C}$ $-20\text{ °C} \leq T_p \leq +90\text{ °C}$	$-20\text{ °C} \leq T_p \leq +75\text{ °C}$ $-20\text{ °C} \leq T_p \leq +80\text{ °C}$ $-20\text{ °C} \leq T_p \leq +85\text{ °C}$ $-20\text{ °C} \leq T_p \leq +90\text{ °C}$
	T6	$-20\text{ °C} \leq T_p \leq +70\text{ °C}$	$-20\text{ °C} \leq T_p \leq +70\text{ °C}$

The above temperature table applies only under the following installation conditions, which are described in the following graphic →  1. If the installation conditions cannot be met, the maximum process temperature T_p must not exceed the maximum ambient temperature T_a .

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

Connection

Ex specification

The CLSxxE-type conductivity sensors are approved according to EU type-examination certificate TÜV 19 ATEX 8377 X and are suitable for use in explosion-hazardous environments. The corresponding EU Declaration of Conformity is an integral part of this document.

- The approved CLSxxE-type digital conductivity sensors have an intrinsically safe input with the following parameter set:
 $P_i = 180 \text{ mW}$
- The approved CLSxxE-type digital conductivity sensors may only be connected to a Memosens cable or a compact transmitter with an intrinsically safe output with the following parameter set:
 $P_o \text{ max. } 180 \text{ mW}$



71495768

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