XA02850C/07/EN/01.22-00
71563913
2022-03-18

Safety Instructions
Memosens CYK10

ATEX/NEPSI Ex ic IIC T3/T4/T6 Gc

Safety instructions for electrical equipment in explosive atmospheres

Endress+Hauser
People for Process Automation

Memosens CYK10

ATEX/NEPSI Ex ic IIC T3/T4/T6 Gc

Table of contents

Associated documentation

This document is an integral part of Operating Instructions BA00118C.

Documentation

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

Certificates

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

www.endress.com/download

EU declaration of conformity

EC_00830

EU type-examination certificate

BVS 04 ATEX E 121 X

NEPSI certificate

The number of the NEPSI certificate that applies to the product can be found on the nameplate.

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 labeling on hazardous area versions

▶ Compare the information on the nameplate with the order.

Type code

ATEX/NEPSI

Type	Version			
CYK10	V	**	*	***
	II 3G Ex ic IIC T3/T4/T6 Gc	No Ex relevance		

Certificates and approvals

Declaration of conformity

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.

Ex approval

CYK10:

ATEX/NEPSI II 3G Ex ic IIC T3/T4/T6 Gc

Safety instructions

The Memosens inductive sensor cable connection system, consisting of:
- Approved sensors
- Measuring cable CYK10

is approved for measuring applications in explosive atmospheres.

- The sensors and cables must not be operated under electrostatically critical process conditions. Avoid strong steam or dust currents that act directly on the connection system.
- The Memosens measuring cable CYK10 and its plug-in head must be protected against electrostatic charges if they pass through Ex zone 2.
- Ex versions of the Memosens cable are identified by a blue ring.
- The maximum permitted cable length is 100 m (328.1 ft).
- To ensure that the explosion protection of the device is maintained/ guaranteed, the operator is not permitted to change the configuration. Any change could compromise the safety of the device.
- Overvoltage category specification: I (power supply via limited energy circuit)
- Compliance with the regulations for electrical installations in hazardous areas (including EN/IEC 60079-14) is mandatory when using devices and sensors.

Pay attention to the ex-related safety instructions of the transmitter and sensors when cabling.

ATEX

This device was developed and manufactured in accordance with Directive 2014/34/EU dated February 26, 2014 and also complies with the following standards:
- EN IEC 60079-0:2018 / IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
- EN 60079-11:2012 / IEC 60079-11:2011 + Corrigendum:2012 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

NEPSI

This device has been certified by the National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation (NEPSI). It also meets the following standards:

- GB 3836.1-2010 Explosive Atmospheres-Part 1: Equipment-General requirements
- GB 3836.4-2010 Explosive Atmospheres-Part 4: Equipment protection by intrinsic safety “i”

When installing, using and maintaining the sensor, the operator must observe the following standards in addition to the Operating Instructions:

- GB 50257-2014 "Code for construction and acceptance of electric equipment on fire and explosion hazard electrical equipment installation engineering"
- GB 3836.13-2013 "Explosive atmospheres - Part 13: Equipment repair, overhaul and reclamation"
- GB/T 3836.15-2017 "Explosive atmospheres - Part 15: Electrical installations design, selection and erection"
- GB/ T 3836.16-2017 "Explosive atmospheres - Part 16: Electrical installations inspection and maintenance"
- GB/T 3836.18-2017 "Explosive atmospheres - Part 18: Intrinsically safe electrical systems"

Temperature tables

Cables	Ambient temperature range T_a		
	T3	T4	T6
CYK10	−15 °C (5 °F) ≤ Ta ≤ 135 °C (275 °F)	−15 °C (5 °F) ≤ Ta ≤ 120 °C (248 °F)	−15 °C (5 °F) ≤ Ta ≤ 70 °C (158 °F)

If ambient temperatures do not fall outside the ambient temperatures shown above, no invalid temperatures for the particular temperature class will occur at the cable.

Connection

Ex specification

The approved CYK10 cable is used to connect to the intrinsically safe sensor output circuits of the Liquiline CM42 (e.g. with sensor module FSDG1) or Liquiline CM44 (e.g. with communication module 2DS Ex-i) transmitter. The cable may alternatively be used with devices that are certified with the relevant Ex approval. These must have an intrinsically safe Memosens sensor output specified with the following maximum values. In particular, the certified intrinsically safe sensor output may

not exceed the effective inner inductance and capacitance of the values indicated below:

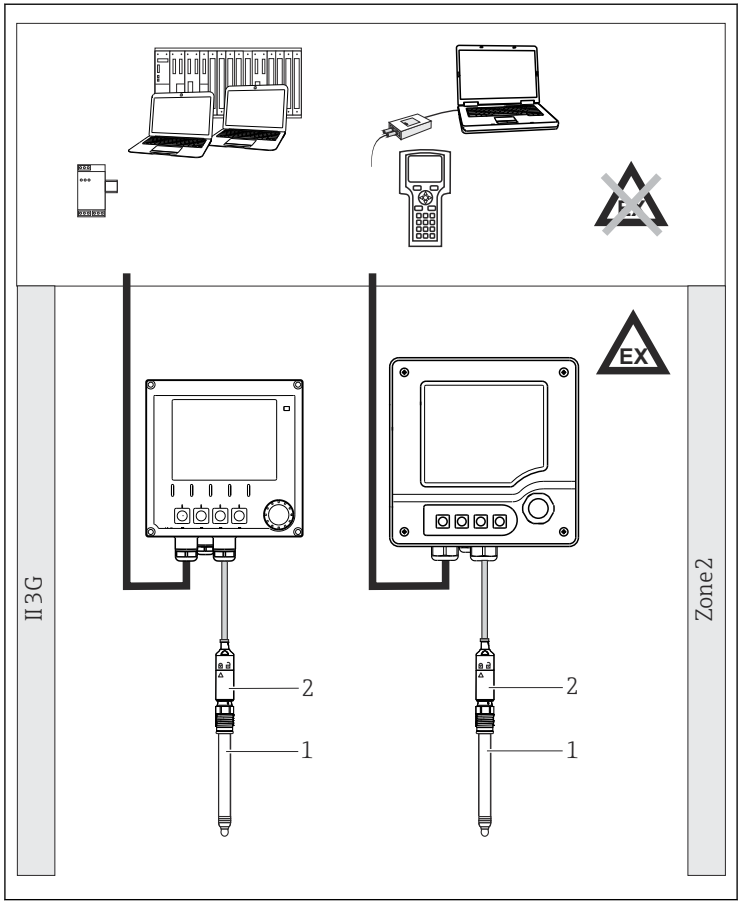
1. Entity parameter set	2. Entity parameter set
U_0 = 5.1 V	U_0 = 5.04 V
I_0 = 130 mA	I_0 = 80 mA
P_0 = 166 mW (linear output curve)	P_0 = 112 mW (trapezoid output curve)
C_i = 15 µF	C_i = 14.1 µF
L_i = 95 µH	L_i = 237.2 µH

The connection of energy-limited Memosens sensors (with a defined P_i) to the energy-limited Memosens data cable CYK1 by means of inductive coupling is permitted, taking into consideration the following value:

Maximum output power P_0	178 mW

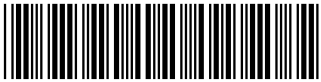
The electrical connection must be performed in accordance with the Operating Instructions.

Installation conditions



1 Memosens data cable in Zone 2

1 Memosens sensor
2 CYK10



www.addresses.endress.com

Endress+Hauser

People for Process Automation