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Safety Instructions
Liquiline M CM42

NEPSI Ex ib [ia Ga] IIC T4/T6 Gb

Safety instructions for electrical apparatus in explosion-hazardous areas

Endress+Hauser
People for Process Automation

Liquiline M CM42

NEPSI Ex ib [ia Ga] IIC T4/T6 Gb

Table of contents

Associated documentation

This document is an integral part of Operating Instructions BA00381C and BA00382C.

Supplementary documentation

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

Certificate

The number of the Nepsi certificate valid for the product can be found on its nameplate.

Identification

The nameplate provides you with the following information on your device:
- Manufacturer identification
- 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								
CM42 -	* 1)	J	* 2)	* 3)	* 4)	* 5)	** 6)	* 7)	* 8)	* 9)
	No Ex relevance	NEPSI Ex ib [ia Ga] IIC T4/T6 Gb	No Ex relevance							

1) Sensor input; C = Conductivity (analog sensor, conductively measuring), I = Conductivity (analog sensor, inductively measuring), K = Conductivity (digital sensor, conductively measuring), L = Conductivity (digital sensor, inductively measuring), M = Memosens pH sensor, N = Memosens ISFET sensor, O = Memosens oxygen sensor (amperometric or optical), P = Analog pH or ORP sensor
2) Certificate; A = not selected, B = EN 10204-3.1, C = EN 10204-3.1 including factory calibration
3) Output; 0 = 1x4-20mA, HART, 1 = 2x4-20mA, 1xHART, 5 = PROFIBUS PA, Revision 2, 6 = FOUNDATION Fieldbus, Revision 2
4) Housing; 0 = Plastic, 1 = Stainless steel
5) Cable glands; 0 = M20x1.5, 1 = NPT1/2", 2 = G1/2
6) Firmware; EA = Standard version, EB = Advanced version, EH = Advanced functions
7) Firmware languages (Optional language + English); Selection from different language combinations
8) Documentation; 0 = Commissiong + Operation
9) Additional equipment; 0 = Basic version, 1 = SystemDAT CY42-S1

Certificates and approvals

Ex approval

The CM42 type transmitter has been certified by the National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation (NEPSI).

Ex ib [ia Ga] IIC T4/T6 Gb

Safety instructions

The transmitter meets the requirements of the Chinese explosion protection standards and is suitable for use in hazardous areas.

- The transmitter is an electrical apparatus, equipment group II, equipment category (1)2G, for use in Zone 1.
- You can connect suitable intrinsically safe sensors, which may be arranged in Zone 0, to the sensor circuits. Suitable sensors are identified by a red ring.
- Please observe the information provided in the Operating Instructions on the characteristic values of the input and output circuits.
- The transmitter should only be used for fixed installations.

- Once the cables have been routed through the cable glands, the glands and the related nuts must be tightened with a torque of 2 Nm to ensure the cables are securely positioned.
- The underside of the transmitter (cable entries) should not be exposed to severe mechanical loads.
- Only genuine spare parts may be used for maintenance and repair work on the device. This work may only be carried out by service staff or specially trained and authorized personnel.

Temperature tables

	Temperature class	
	T4	**T6**
Ambient temperature T_a	–20 to +55 °C	–20 to +50 °C

If the specified process temperatures are complied with, temperatures that are not permitted for the respective temperature class will not occur on the equipment.

Connection data

Ex-specification, current output

Intrinsically safe power supply and signal circuits, passive	
Max. input voltage U_i	30 V
Max. input current I_i	100 mA
Max. input power P_i	800 mW
Max. internal inductance L_i	29 µH (output 1) 24 µH (output 2)
Max. internal capacitance C_i	1.2 nF (output 1) 0.2 nF (output 2)

Ex-specification PROFIBUS and FOUNDATION Fieldbus

Suitable for use as a field device in a FISCO system according to EN/IEC 60079-27	
Max. input voltage U_i	17.5 V
Max. input current I_i	380 mA
Max. input power P_i	5.32 W
Max. internal inductance L_i	< 10 µH
Max. internal capacitance C_i	< 5 nF

Connecting Memosens sensors

Intrinsically safe sensor circuit with type of protection: Ex ia IIC	
Max. output voltage U_o	5.04 V
Max. output current I_o	80 mA
Max. output power P_o	112 mW

Connecting analog pH/ORP sensors

Intrinsically safe sensor circuit with type of protection: Ex ia IIC		
	Glass	**ISFET**
Max. output voltage U_o	10.08 V	10.08 V
Max. output current I_o	4.1 mA	50.7 mA
Max. output power P_o	10.2 mW	128 mW
Max. external inductance L_o	1 mH	1 mH
Max. external capacitance C_o	250 nF	250 nF

Connecting analog conductivity sensors with conductive measurement of conductivity

Intrinsically safe sensor circuit with type of protection: Ex ia IIC	
Max. output voltage U_o	10.08 V
Max. output current I_o	23 mA
Max. output power P_o	57 mW
Max. external inductance L_o	300 µH
Max. external capacitance C_o	50 nF

Connecting analog conductivity sensors with inductive measurement of conductivity

Intrinsically safe sensor circuit with type of protection: Ex ia IIC	
Max. output voltage U_o	10.08 V
Max. output current I_o	64 mA
Max. output power P_o	128 mW
Max. external inductance L_o	0.1 mH
Max. external capacitance C_o	1.8 µF

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