

Safety Instructions

Liquiline CM82 and CM72

Supplement to:
BA01797C and BA01845C

Safety instructions for electrical apparatus for
explosion-hazardous areas



- BG - Правила за техниката на безопасност за електрически средства за производство във взривоопасни зони. Ако не разбирате езика на това ръководство има възможност да си поръчате при нас едно ръководство, преведено на езика на Вашата страна.
- Заявление за съответствие с EG**
Производителят Endress+Hauser декларира с това заявление за съответствие и с предявяването на сертификата CE, че този продукт отговаря на изискванията на съответните европейски директиви. Прилаганите директиви, норми и документи са указани в заявлението за съответствие.
- CS - Bezpečnostní pokyny pro elektrické přístroje v místech s nebezpečím výbuchu. Pokud nemáte možnost přečíst si tento návod, můžete si u nás objednat návod přeložený do svého jazyka.
- Prohlášení o shodě s ES**
Společnost Endress+Hauser prohlašuje prostřednictvím tohoto prohlášení a použitím značky CE, že tento výrobek vyhovuje příslušným evropským směrnicím. Zmíněné směrnice, normy a dokumenty jsou uvedeny v Prohlášení o shodě.
- DA - Sikkerhedsforskrifter for elektriske apparater certificeret til brug i eksplosionsfarlige områder. Hvis du ikke forstår denne manual, kan en oversat kopi af den på dit eget sprog bestilles fra os.
- EF-øverenstemmelseserklæring**
Med denne øverenstemmelseserklæring og tilføjjelsen af CE-mærket sikrer producenten Endress+Hauser, at produktet er i øverenstemmelse med relevante europæiske direktiver. Dokumentation for øverenstemmelsen gives i de anførte direktiver, standarder og dokumenter.
- EL - Οδηγίες ασφαλείας ηλεκτρικών συσκευών για επικίνδυνες για έκρηξη περιοχές. Σε περίπτωση που δεν μπορείτε να διαβάσετε αυτές τις οδηγίες, τότε μπορείτε να παραγγείλετε ένα αντίτυπο μεταφρασμένο στη γλώσσα σας.
- Δήλωση πιστότητας ΕΚ**
Με αυτή τη δήλωση πιστότητας και την τοποθέτηση του σήματος CE ο κατασκευαστής Endress+Hauser δηλώνει, ότι αυτό το προϊόν συμμορφώνεται με τις ευρωπαϊκές οδηγίες που πρέπει να εφαρμόστούν. Οι οδηγίες, τα πρότυπα και τα έγγραφα που εφαρμόστηκαν αναφέρονται στη δήλωση πιστότητας.
- ES - Instrucciones de seguridad de aparatos eléctricos homologados para su utilización en áreas expuestas a riesgos de deflagración. Si no entiende este manual, puede pedir un ejemplar en su idioma.
- Declaración de conformidad CE**
Por la presente declaración y la inclusión de la marca CE, el fabricante Endress+Hauser, declara que el producto cumple con las directivas europeas pertinentes. Las directivas, normas y documentos de aplicación se indican en la declaración de conformidad.
- ET - Ohutusjuhised plahvatusohtlikus keskkonnas kasutatavate elektriseadmete kohta. Kui Te ei saa käesolevast juhendist aru, võite meilt tellida Teie riigikeelde tõlgitud juhendi.
- EL vastavusdeklaratsioon**
Tootja Endress+Hauser kinnitab juurdelisat vastavusdeklaratsiooni esitamisega ja CE-märgise kandmisega tootele, et käesolev toode vastab kohaldatavate Euroopa Liidu direktiivide nõuetele. Kohaldatavad direktiivid, standardid ja dokumendid on ära toodud vastavusdeklaratsioonis.
- FI - Turvallisuusoheita sähkölaitteille, jotka on vahvistettu käytettäväksi räjähdysvaarallisilla alueilla. Jos et ymmärrä tätä käsikirjaa, voit tilata meiltä käänöksen omalla kansallisella kielelläsi.
- EU-vaatimustenmukaisuustodistus**
Valmistaja Endress+Hauser vakuuttaa täällä vaatimustenmukaisuustodistuksella ja CE-merkin kiinnittämisellä, että tämä tuote täyttää sovellettavien EU-direktiivien määräykset. Sovellettavat direktiivit, normit ja dokumentit on merkitty vaatimustenmukaisuustodistukseen.
- HR - Sigurnosni naputici za elektromaterijal u sredini u kojoj prijeti opasnost od eksplozije. Ako Vam nije moguće čitati ovaj naputak, onda imate mogućnost da kod nas naručite naputak sastavljen na Vašem materinskom jeziku.
- Izjava o usklađenosti sa normama EZ-a**
Dobavljač Endress+Hauser jamči ovom izjavom i stavljanjem oznake CE da ovaj proizvod udovoljava zahtjevima europskih direktiva koje su na snazi. U izjavi o usklađenosti se navode direktive, norme i dokumenti koji su na snazi.
- HU - Biztonsági információk robbanásveszélyes területre való elektromos eszközökhöz. Amennyiben nem tudja elolvasni ezt az útmutatót, akkor megrendelheti az Ön anyanyelvére lefordítva is.
- EK-megfelelőségi nyilatkozat**
Az Endress+Hauser mint gyártó jelen megfelelőségi nyilatkozattal és a CE-jelzés felhelyezésével kijelenti, hogy ez a termék megfelel az alkalmazandó európai irányelveknek. Az alkalmazott irányelvek, szabványok és dokumentumok a megfeleléségi nyilatkozatban fel vannak tüntetve.
- IT - Istruzioni di sicurezza per apparecchiature elettriche certificate per l'utilizzo in aree con pericolo di esplosione. Se il presente manuale non risulta comprensibile potete ordinarne una copia tradotta nella vostra lingua.
- Dichiarazione di conformità CE**
Con questa dichiarazione e con l'applicazione del marchio CE, il costruttore Endress+Hauser, assicura che il prodotto è conforme alle direttive europee vigenti. Prova della conformità è fornita dall'osservanza delle direttive, delle norme e dei documenti elencati.
- LT - Elektros įrenginio saugumo nurodymai, susiję su šproginio zonomis. Jeigu negalite perskaityti šios instrukcijos, kreipkitės į mus, kad užsisakytumėte į jūsų gimtąją kalbą išverstą instrukciją.
- EB atitikties deklaracija**
Gamintojas Endress+Hauser šia atitikties deklaracija ir CE ženkliniu patvirtina, kad gaminys atitinka taikytinas ES direktyvas. Taikomos direktyvos, normos ir dokumentai yra pateikiami atitikties deklaracijoje.
- LV - Drošības norādījumi elektrisko darba instrumentu lietošanai apgalbos, kas pakļauti sprādzienbīstāmībai. Ja Jums nav iespēju izlasīt šos norādījumus, Jūs varat pasūtīt pie mums tulkojumu Jūsu valsts valodā.
- ES atbilstības apliecinājums**
Ražotājs Endress+Hauser ar šo atbilstības apliecinājumu un CE zīmola lietojumu apstiprina, ka produkts izgatavots saskaņā ar atbilstošajām Eiropas vadlīnijām. Piemērotās vadlīnijas, normas un dokumenti atrunāti atbilstības apliecinājumā.
- NL - Veiligheidsinstructies voor elektrisch materieel in explosiegevaarlijke omgeving. Wanneer u deze handleiding niet kunt lezen, kunt u een in uw landstaal vertaalde handleiding bij ons bestellen.
- EG Conformiteitsverklaring**
De leverancier Endress+Hauser waarborgt met deze verklaring en het aanbrengen van het CE-teken, dat dit product overeenstemt met de geldende Europese richtlijnen. De geldende richtlijnen, normen en documenten zijn aangegeven in de conformiteitsverklaring.
- PL - Wskazówki dot. bezpieczeństwa dla urządzeń elektrycznych stosowanych w obszarze zagrożonym wybuchem. Jeśli niniejsza instrukcja napisana jest w języku, którym się nie posługujecie, możecie zamówić u nas przetłumaczony dokument.
- Deklaracja zgodności WE**
Producent Endress+Hauser w niniejszej deklaracji zgodności wraz z nadaniem znaku CE oświadcza, że produkt ten jest zgodny z obowiązującą Europejską Dyrektywą. Zastosowane wytyczne, normy oraz dokumenty podane są w deklaracji zgodności.
- PT - Instruções de segurança para dispositivos eléctricos certificados para utilização em áreas de risco de incêndio. Se não compreender este manual, pode encomendar-nos directamente uma cópia na sua língua.
- Declaração de conformidade CE**
Com esta declaração de conformidade e a aplicação da marca CE, o fabricante Endress+Hauser, garante que o produto obedece às directivas europeias a aplicar. As directivas, normas e documentos são apresentadas na declaração de conformidade.
- RO - Instrucțiile de siguranță pentru mijloacele de producție electrice pentru zonele periclitate de explozie. Dacă nu puteți citi aceste instrucțiuni, atunci puteți comanda la noi instrucțiunile traduse în limba țării dumneavoastră.
- Declarație de conformitate CE**
Producătorul Endress+Hauser declară prin declarația de conformitate alăturată și prin aplicarea semnului CE că acest produs corespunde directivelor europene aplicabile. Directivele, normele aplicate și documentele sunt menționate în declarația de conformitate.
- SK - Bezpečnostné pokyny pre elektrické zariadenie prevádzkované v priestoroch s nebezpečenstvom výbuchu. Ak nemáte možnosť 'prečítať' si tento návod, môžete si u nás objednať 'návod' preložený do svojho jazyka.
- Vyhlasenie o konformite s ES**
Spoločnosť Endress+Hauser vyhlasuje vzhľadom na tohto vyhlásenia o konformite a použitím značky CE, že tento výrobok vyhovuje príslušným evropským smerniciam. Zmienované smernice, normy a dokumenty sú uvedené vo Vyhlásení o konformite.
- SL - Varnostni napotki glede električne opreme, namenjene za uporabo v eksplozivnih območjih. Če teh navodil ne morete razumeti, lahko pri nas naročite prevod v vaš jekik.
- Pojasnilo glede potrdila o skladnosti EU**
Proizvajalec Endress+Hauser s to izjavo o skladnosti in navedbo oznake CE izjavlja, da je ta izdelek skladen s predpisanimi evropskimi smernicami. Upoštewane smernice, standardi in dokumenti so navedeni v izjavi o skladnosti.
- SV - Säkerhetsföreskrifter för elektrisk utrustning certifierad för användning i explosionsfarliga områden. Om du inte förstår denna manual, kan en översatt kopia på ditt eget språk beställas från oss.
- EG-försäkran om överensstämmelse**
Endress+Hauser försäkras med vidstående försäkran om överensstämmelse och med CE-märkningen att denna produkt överensstämmer med de tillämpbara europeiska riktlinjerna. De tillämpade riktlinjerna, normerna och dokumenten anges i försäkran om överensstämmelse.

Liquiline CM82 and CM72

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Associated documentation

This document is an integral part of Operating Instructions BA01797C and BA01845C

Intended use

For use in hazardous areas (explosive atmospheres).

Liquiline Compact CM82 and CM72 are loop-powered transmitters for liquid analysis in all areas of process engineering.

The devices are designed for use in the following industries:

- Life science
- Chemical industry
- Water and wastewater
- Food and beverages
- Power stations
- Other industrial applications

The use of the transmitter depends greatly on the sensor that is used.

Therefore please pay attention to the notes on "intended use" provided in the Operating Instructions of the connected sensor. If the device is used for any purpose other than that described here, this poses a threat to the safety of people and the entire measuring system, and is therefore not permitted.

The manufacturer does not accept any liability for damage caused by improper or non-designated use.

Supplementary documentation

Competence Brochure CP00021Z

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

Manufacturer's certificate**Declaration of Conformity**

With this declaration of conformity, Endress+Hauser guarantees that the product complies with the provisions of ATEX guideline 2014/34/EU. Compliance is verified by adherence to the standards listed in the Declaration of Conformity.

Identification

	NEPSI (China)
Certificate number	GYJ24.1119X
Degree of protection	1G: ia Ga 2D: ia Db

	NEPSI (China)
Marking	Ex ia IIC T6/T4 Ga Ex ia IIIC T85°C/T135°C Db
Certification body	National Supervision and Inspection Center for Explosion Protection and Safety of Instrumentation

Only the certificates indicated on the nameplate apply to the CM82 or CM72 transmitters.

Nameplate

The device is labeled on the exterior housing. The nameplate contains the following information:

- Name and address of manufacturer and manufacturer's logo
- Device type / order code
- Explosion protection marking according to the applicable standards
- serial number, year of production encoded
- Certificate No.
- Ambient temperature range

Manufacturer address

Endress+Hauser Conducta GmbH+Co. KG
Dieselstraße 24
70839 Gerlingen
Germany

Safety instructions

The transmitter meets the requirements of the Explosion Protection Directive 2014/34/EU and is suitable for use in hazardous areas.

The transmitter is an intrinsically safe electrical device which is suitable for:

- Use in Zone 0 with equipment protection level Ga.
- Use in Zone 21 with equipment protection level Db.

An intrinsically safe power supply according to Ex ia specifications is absolutely essential. Intrinsically safe Memosens sensors can be connected and can be located in Zone 0.

If installing in Zone 0/Zone 21, the CM82 and CM72 transmitters, and their plugs, must be protected against electrostatic charge.

The process temperature of the sensor depends on the sensor's temperature class and can deviate from the ambient temperature range of the CM82/CM72. Suitable measures must be taken to guarantee the decoupling of the CM82/CM72 temperature and the process temperature.

Installation, connection to the power supply, commissioning, inspection, maintenance and repair of the devices must be performed by qualified skilled staff who are appropriately trained to perform work on Ex devices in accordance with the applicable regulations, e.g. IEC 60079-14, -17, -19, or JNIOH-TR-44 for Japan, and in accordance with these Operating Instructions.

Certified CM82/CM72 transmitters have a red ring.

Only sensors that are designed for the use as specified in the Operating Instructions may be connected.

Suitable Memosens sensors that can be located in Zone 0 have a red ring.

The nominal values of the input and output circuits must be observed.

The transmitter may only be connected to a suitable power supply.

Maintenance and repair work may only be performed by service personnel or specially trained and authorized staff.

Temperature tables

The CM82 and CM72 transmitters are suitable for operation in the following ambient temperature ranges:

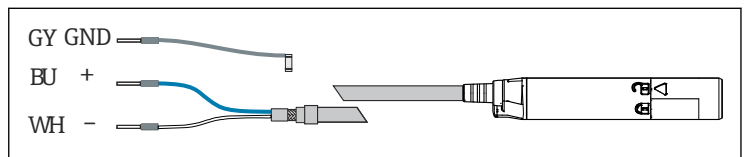
For EPL Ga:

- Temperature class T6: $-20\text{ °C} \leq T_a \leq 55\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 131\text{ °F}$)
- Temperature class T4: $-20\text{ °C} \leq T_a \leq 80\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 176\text{ °F}$)

For EPL Db:

- Temperature class T85°C: $-20\text{ °C} \leq T_a \leq 55\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 131\text{ °F}$)
- Temperature class T135°C: $-20\text{ °C} \leq T_a \leq 80\text{ °C}$ ($-4\text{ °F} \leq T_a \leq 176\text{ °F}$)

Connection values Ex-specification for current output



A0040059

Current outputs: BU+, WH- wires

Intrinsically safe power supply and signal circuit (ia circuit)	
Max. input voltage U_i	30 V
Max. input current I_i	100 mA
Max. input power P_i	750 mW

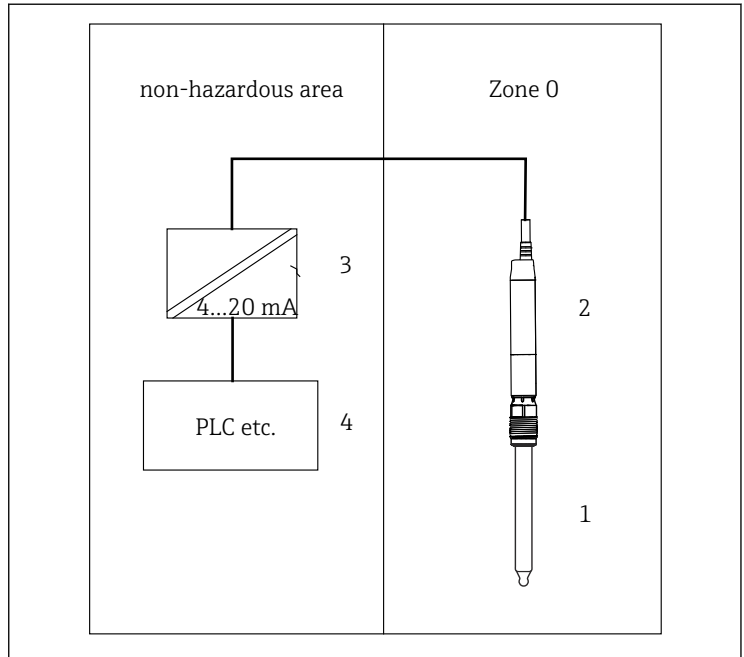
Intrinsically safe power supply and signal circuit (ia circuit)	
Max. internal capacitance C_i	7 nF (including 15 m (49 ft) cable)
Max. internal inductance L_i	20 μ H (including 15 m (49 ft) cable)

Connecting Memosens sensors


Memosens interface, intrinsically safe sensor circuit with Ex ia IIC protection	
Max. output power P_o	105 mW
For connecting to certified Memosens sensors with input parameter P_i .	

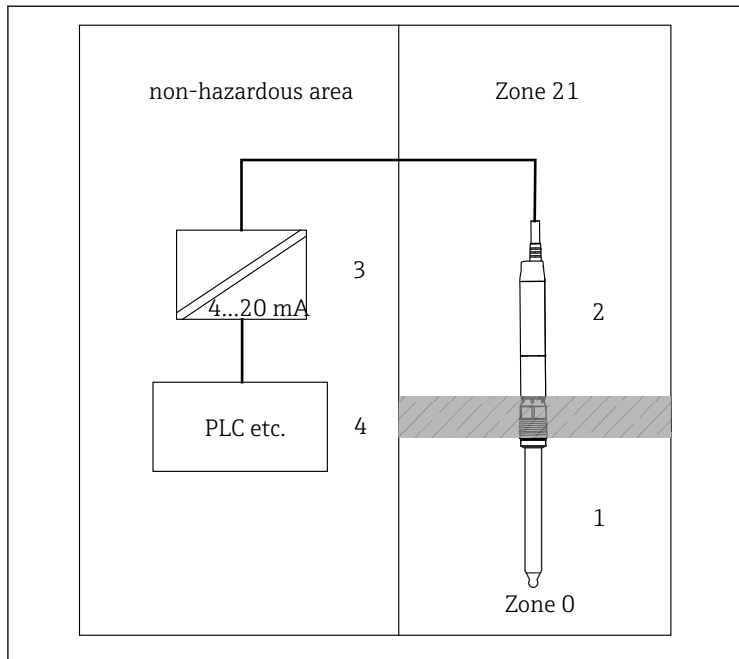
The Memosens interface makes it possible to connect to certified Memosens sensors. CM82/CM72 provides galvanic isolation in relation to Memosens sensors. The insulation voltage is 500 V_{rms}. The galvanic isolation corresponds to an infallible separation according to intrinsic safety requirements.

Connection diagram



A0040055

-  1 Installation in hazardous area: CM82/CM72 and sensor in explosive gas atmosphere
- 1 Sensor with suitable Ex protection
- 2 Transmitter Liquiline Compact CM82 or CM72
- 3 Ex ia certified power supply and signal circuit (4 to 20 mA), e.g. active barrier RN221N
- 4 Programmable logic controller etc.



A0040056

2 Installation in hazardous area: CM82/CM72 in explosive dust atmosphere (Zone 21) and sensor in explosive gas atmosphere (Zone 0)

- 1 Sensor with suitable Ex protection
- 2 Transmitter Liquiline Compact CM82 or CM72
- 3 Ex ia certified power supply and signal circuit (4 to 20 mA), e.g. active barrier RN221N
- 4 Programmable logic controller etc.



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www.addresses.endress.com
