

Instructions

Pressure Transmitter

LHCR-51

4 mA ... 20 mA HART, PROFIBUS PA

Ex ia IIC T6...T4 Ga/Gb

Ex ia IIIC T75 °C T₅₀₀ 100 °C Da/Db (HART)

Ex ia IIIC T75 °C T₅₀₀ 105 °C Da/Db (PROFIBUS PA)

IECEX DEK 13.0056



SI004800-B

Safety instructions for electrical apparatus for explosion-hazardous areas according to IEC standards



Pressure Transmitter LHCR-51

4 mA ... 20 mA HART, PROFIBUS PA

Associated Documentation	This document is an integral part of the following operating instructions: BA00382O. The operating instructions which are supplied and correspond to the device type apply.							
Supplementary Documentation	Explosion protection manual							
Designation	Explanation of the labelling and type of protection can be found in the explosion protection manual.							
	Designation according to IECEx Equipment protection level (EPL)	Ga/Gb						
	Designation of type of protection/ level of protection	Ex ia	IIC	T6...T4	Ga/Gb			
	Designation according to IECEx Equipment protection level (EPL)	Da/Db						
	Designation of type of protection/ level of protection	HART PA	Ex ia Ex ia	IIIC IIIC	T75 °C T75 °C	T₅₀₀ T₅₀₀	100 °C 105 °C	Da/Db Da/Db
Applied standards	IEC 60079-0:2011 IEC 60079-11:2011 IEC 60079-26:2006							

Safety instructions:
Installation

EN

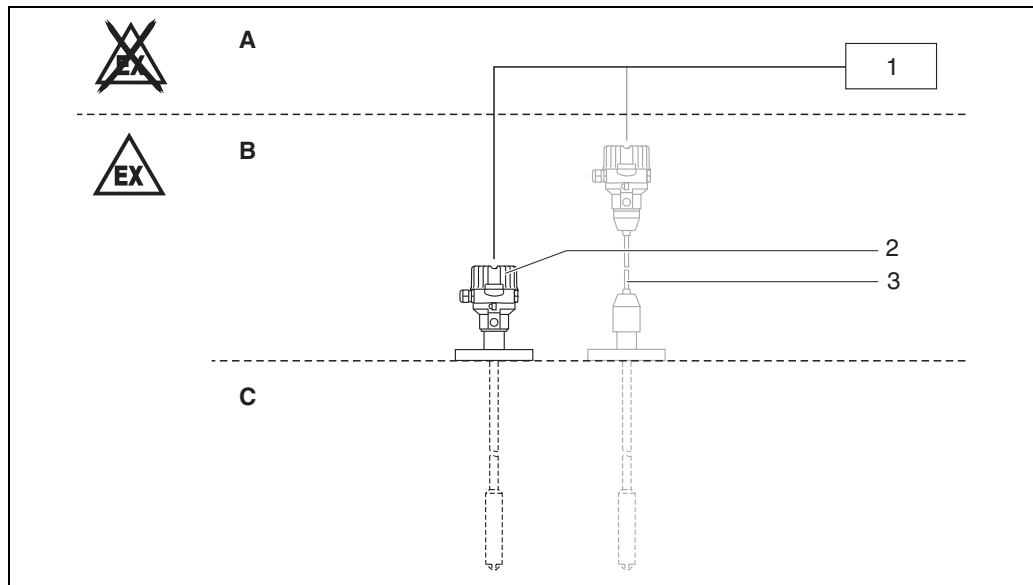


Figure 1

- A Power supply
- B Zone 1 or Zone 21, Electronic
- C Zone 0 or Zone 20, Process
- 1 Certified associated apparatus
- 2 LHCR-51
- 3 Option: Separate housing

- Comply with the installation and safety instructions in the Operating Instructions.
- Install the device according to the manufacturer's instructions and any other valid standards and regulations.
- Only install the devices in media for which the wetted materials have sufficient durability.
- The device is designed for operation in Zone 21 or Zone 1 (housing) as well as Zone 20 or Zone 0 (process connection). Its suitability in the event of potentially explosive gas-air and dust-air mixtures occurring simultaneously requires further assessment.
- When the device is connected to an intrinsically safe circuit Ex ib, the level of protection changes to Ex ib. Do not operate intrinsically safe circuits Ex ib in zone 0 or zone 20. When the device is connected to an intrinsically safe circuit Ex ic, the level of protection changes to Ex ic. Do not operate intrinsically safe circuits Ex ic in zone 0, zone 1 or zone 20, zone 21.
- The intrinsically safe input power circuit of the device is isolated from ground potential and has a dielectric strength of at least 500 V_{rms} with respect to it.
- Avoid impact or friction sparks for light metal flanges or flange faces (e. g. titanium, zirconium).
- Mechanically fix rod probes which are more than 3 m (e. g. using guy ropes).

Safety instructions:
Zone 0

- Only operate devices in potentially explosive vapour/air mixtures under atmospheric conditions:
 - $-20\text{ °C} \leq T \leq +60\text{ °C}$
 - $0.8\text{ bar} \leq p \leq 1.1\text{ bar}$
- If no potentially explosive mixtures are present, or if additional protective measures have been taken, according to EN 1127-1, the transmitters may be operated under other atmospheric conditions in accordance with the manufacturer's specifications.
- Associated apparatus with galvanic isolation between the intrinsically safe and non-intrinsically safe circuits are preferred.

Safety instructions:
Zone 0 20/21

- Seal the cable entry or piping tight (see housing ingress protection in the table).
- Only use cable glands with IECEx Ex e or dust Ex approval or metallic glands with min. IP65 ingress protection. Lay connecting cable strong.

Temperature tables

Type	Type of protection/ level of protection	Temperature class	Process temperature	Ambient temperature (housing)
4 mA ... 20 mA HART	Ex ia IIC T6...T4 Ga/Gb	T6	≤ 80 °C	-40 °C ≤ Ta ≤ +40 °C
		T4	≤ 100 °C	-40 °C ≤ Ta ≤ +70 °C
PROFIBUS PA	Ex ia IIC T6...T4 Ga/Gb	T6	≤ 80 °C	-40 °C ≤ Ta ≤ +40 °C
		T4	≤ 85 °C	-40 °C ≤ Ta ≤ +70 °C

The process temperatures refer to the temperature at the separation membrane (do not exceed the max. ambient temperature at the housing).

Electronic insert	Type of protection/ level of protection	Ingress protection of housing	Max. surface temperature at Ta max.	Ambient temperature (housing)
4 mA 20 mA HART	Ex ia IIIC T75 °C T ₅₀₀ 100 °C Da/Db	IP66/67	without immersion: +75 °C; under 500 mm immersion: +100 °C (measured at Ta = 70 °C)	-40 °C ≤ Ta ≤ +70 °C
PROFIBUS PA	Ex ia IIIC T75 °C T ₅₀₀ 105 °C Da/Db	IP66/67	without immersion: +75 °C; under 500 mm immersion: +105 °C (measured at Ta = 70 °C)	-40 °C ≤ Ta ≤ +70 °C

Connection data

Electronic insert	Electrical data
4 mA ... 20 mA HART	U _i ≤ 30 V DC I _i ≤ 300 mA P _i ≤ 1 W C _i ≤ 10 nF L _i = 0
PROFIBUS PA	U _i ≤ 24 V DC I _i ≤ 250 mA P _i ≤ 1.2 W C _i ≤ 5 nF L _i ≤ 10 µH



With regard to the supply of products, the current issue of the following document is applicable: The General Terms of Delivery for Products and Services of the Electrical Industry, published by the Central Association of the "Elektrotechnik und Elektroindustrie (ZVEI) e.V." including the supplementary clause: "Erweiterter Eigentumsvorbehalt".

PROCESS AUTOMATION – PROTECTING YOUR PROCESS



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SI00480O-B/98/EN/14.13
FM7.2

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DOCT-3155

259848
02/2014