



Level



Pressure



Flow



Temperature



Liquid  
Analysis



Registration



Systems  
Components



Services



Solutions

## Safety Instructions

# Liquiphant S FDL60, FDL61

Ex ia IIC T3...T6  
NEPSI GYJ101110



**XA528F-B** (Formerly XC011F)

**en** - Safety instructions for electrical apparatus for explosion-hazardous areas.

**zh** - 爆炸环境中电气仪表的安全指南。



# Liquiphant S FDL60, FDL61

english

**Associated  
Documentation**

This document is an integral part of the following Operating Instructions:  
BA140F/00

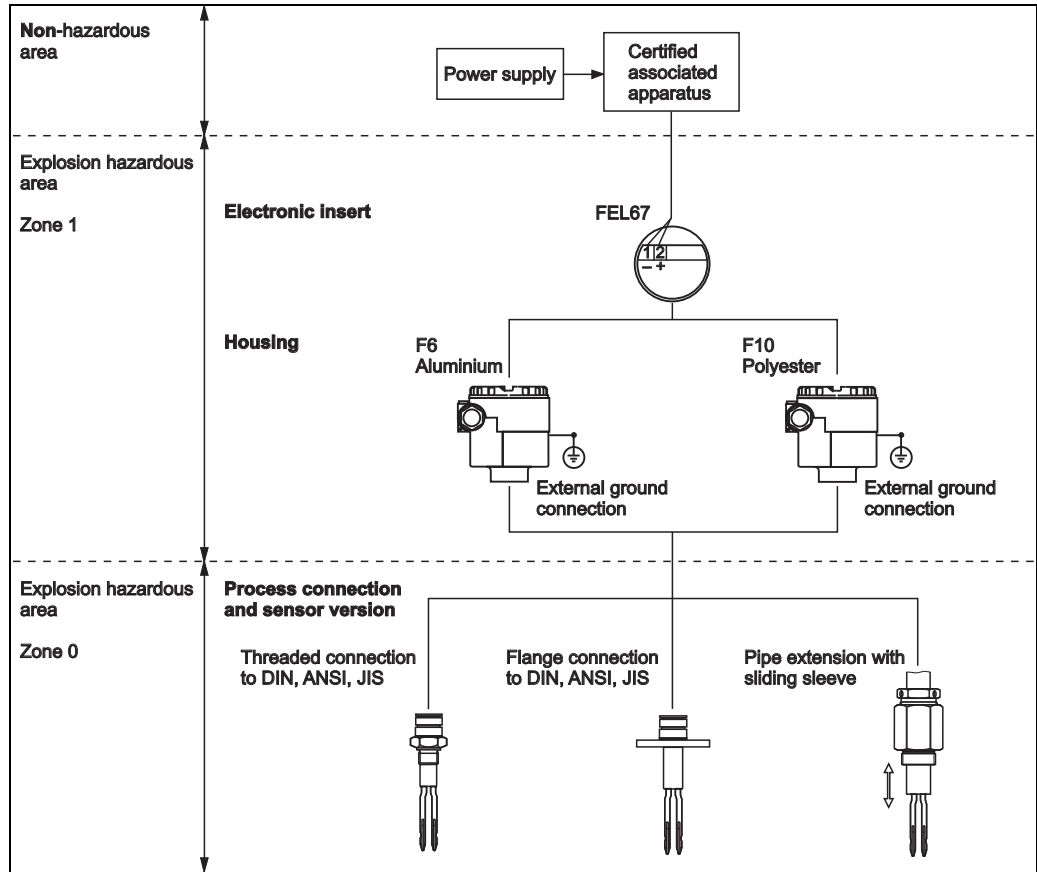
The Operating Instructions which are supplied and correspond to the device type apply.

**Designation**

Explanation of the labelling and type of protection can be found in the explosion protection brochure.

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**Designation of explosion protection****Ex ia IIC T3...T6**



XA528en01

<b>Certified associated apparatus</b>	$U_i \leq 16.7 \text{ V}$ $I_i \leq 150 \text{ mA}$ $P_i \leq 1 \text{ W}$	[Ex ia] IIC
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<b>Electronic insert FEL67</b>	$-20 \text{ }^\circ\text{C} \leq T_a \leq +70 \text{ }^\circ\text{C}$	$C_i = 0$ $L_i = 0$
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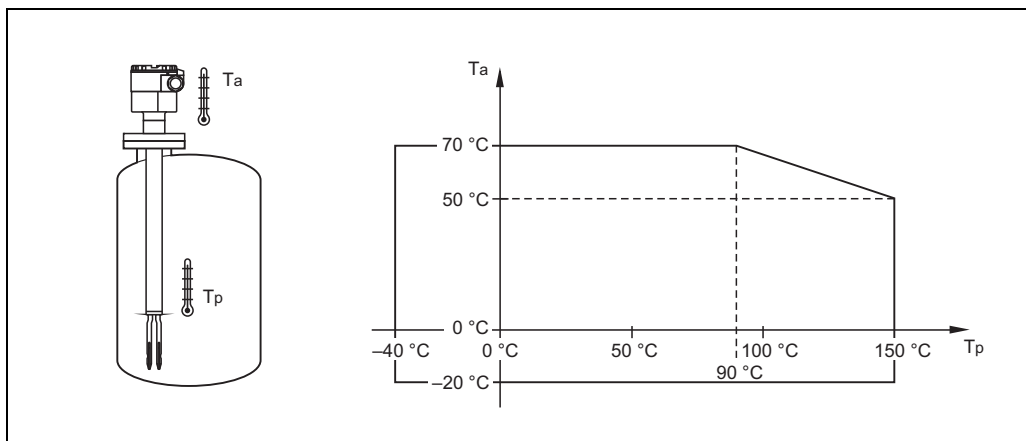
<b>Housing F6</b>	Aluminium
<b>Housing F10</b>	Polyester Warning: Avoid electrostatic charging of the housing for potentially explosive atmosphere.

**Safety instructions:  
Installation**

- The external earth connection facility should be connected reliably.
- In explosive atmospheres, the device must be used together with an certified associated apparatus with the intrinsically safe parameters stated in the table above. Connect the terminals correctly.
- The device is only suitable for connection to certified, intrinsically safe equipment with explosion protection Ex ia.
- Avoid electrostatic charging of the plastic surfaces, for plastic process connections or plastic coatings (e.g. friction, cleaning, maintenance, strong medium flow).
- Connecting cable between transmitter and associated device should be insulated screen cable.
- Connect cable screen to earth ground at safe area.
- The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.
- For installation, use and maintenance of the device, users must also observe the requirements stated in the Operating Instructions and the standards:
  - GB50257-1996: "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
  - GB3836.13-1997: "Electrical apparatus for explosive gas atmospheres, Part 13: Repair and overhaul for apparatus used in explosive gas atmospheres".
  - GB3836.15-2000: "Electrical apparatus for explosive gas atmospheres, Part 15: Electrical installations in hazardous area (other than mines)".
  - GB3836.16-2006: "Electrical apparatus for for explosive gas atmospheres, Part 16: Inspection and maintenance of electrical installation (other than mines)".

Type of protection	Temperature class	Max. process temperature Tp (process): sensor	Max. ambient temperature Ta (ambient): electronics
Ex ia IIC	T6	+85 °C	+70 °C
	T5	+100 °C	+70 °C
	T4	+135 °C	+70 °C
	T3	+150 °C	+70 °C

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XA528en02

**Safety instructions:  
Zone 0**

- In the event of potentially explosive vapor/air mixtures, only operate the device under atmospheric conditions.
  - Temperature: -20 to +60 °C
  - Pressure: 80 to 110 kPA (0.8 to 1.1 bar)
  - Air with normal oxygen content, usually 21 % (V/V)If no potentially explosive mixtures are present, or if additional protective measures have been taken, the device may also be operated under non-atmospheric conditions in accordance with the manufacturer's specifications.
- The sensor part of the device approved for Zone 0 does not cause any ignition hazards if it is operated under non-atmospheric pressures and temperatures.

Permissible process temperatures for operation in accordance with manufacturer's specifications: dependent on ambient temperature; see table and temperature graphics.

Permissible pressures for operation in accordance with manufacturer's specifications:  
pe = -1 bar...+40 bar, dependent on process connection; see manufacturer's Operating Instructions.
- Only install the devices in media for which the wetted materials have sufficient durability (e.g. process connection seal).

# Liquiphant S FDL60, FDL61



**相关文档**

本文档是下列操作手册的组成部分：  
BA140F/00

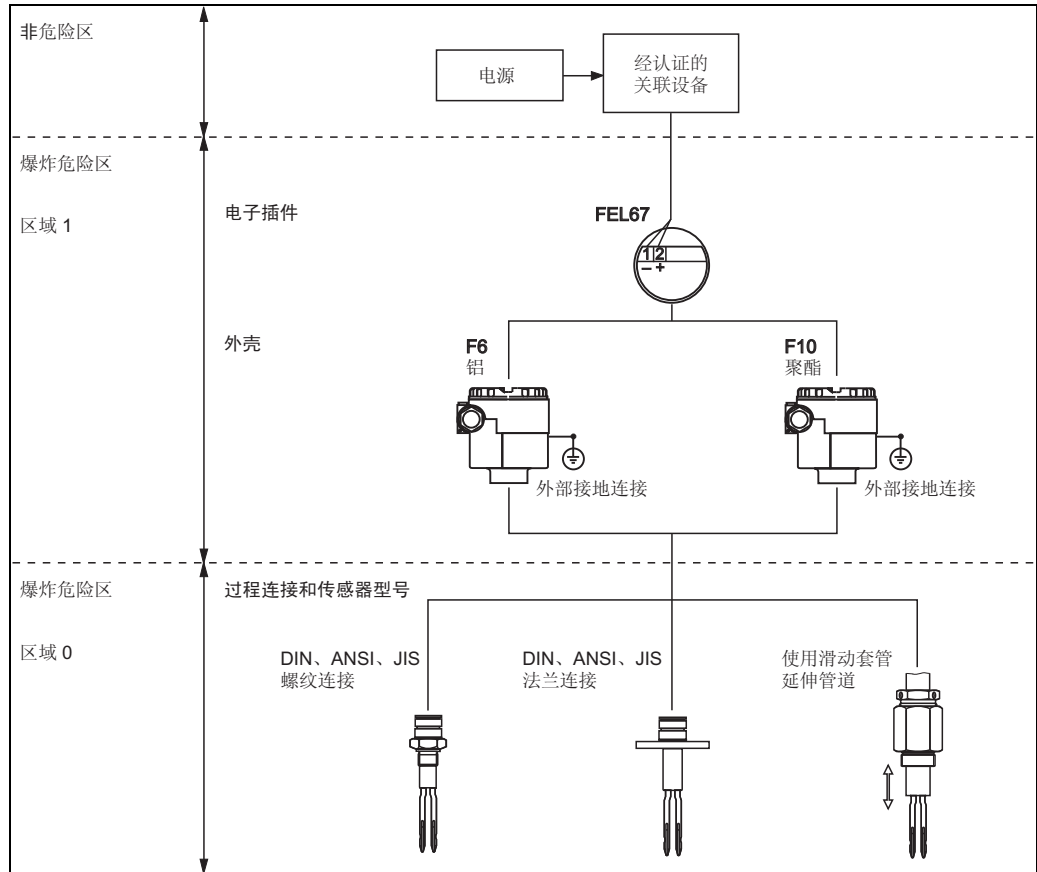
根据用户订购仪表的具体型号所提供的相应操作手册。

**名称**

防爆标志和防护类型的说明请查询防爆手册。

防爆代号

**Ex ia IIC T3...T6**



XA528zh01

经验证的 关联设备	$U_i \leq 16.7 \text{ V}$ $I_i \leq 150 \text{ mA}$ $P_i \leq 1 \text{ W}$	[Ex ia] IIC
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电子插件 FEL67	$-20 \text{ }^\circ\text{C} \leq T_a \leq +70 \text{ }^\circ\text{C}$	$C_i = 0$ $L_i = 0$
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外壳 F6	铝
外壳 F10	聚酯 警告：在有潜在爆炸危险的环境中，请小心避免外壳上出现静电。

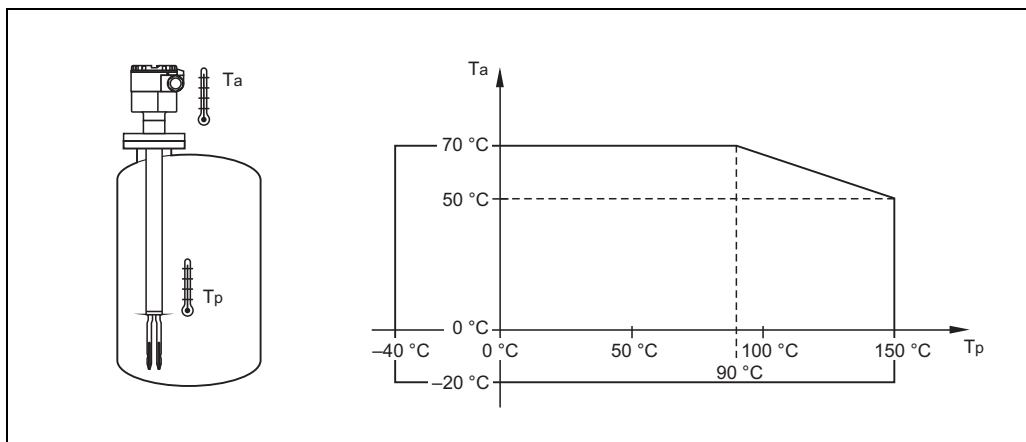


**安全指南:  
安装**

- 外部接地连接部件应可靠连接。
- 在有爆炸危险的环境中，设备必须与经认证且具有上表所示本质安全型参数的关联设备同时使用。
- 设备仅适合连接到经认证的、防爆等级达到 Ex ia 的本质安全型设备上。
- 对于塑料过程连接或塑料涂层，请小心避免塑料表面产生静电 (例如避免摩擦、清洗、维护、强大介质流量等产生静电)。
- 变送器和关联设备之间的连接电缆应为绝缘屏蔽电缆。
- 将屏蔽电缆连接至安全区域的接地端。
- 为了保持 / 确保设备的防爆性能，用户不得更改设备配置。任何更改都可能影响安全。
- 在安装、使用和维护产品时，用户必须遵守操作手册和下列标准中的规定：
  - GB50257-1996：“电气装置安装工程 爆炸和火灾危险环境电气装置施工及验收规范”
  - GB3836.13-1997：“爆炸性气体环境用电气设备第 13 部分：爆炸性气体环境用电气设备的检修”。
  - GB3836.15-2000：“爆炸性气体环境用电气设备第 15 部分：危险场所电气安装 (煤矿除外)”。
  - GB3836.16-2006：“爆炸性气体环境用电气设备第 16 部分：电气装置的检查和维护 (煤矿除外)”。

防护类型	温度组别	最大过程温度 Tp (过程): 传感器	最大环境温度 Ta (环境): 电子部件
Ex ia IIC	T6	+85 °C	+70 °C
	T5	+100 °C	+70 °C
	T4	+135 °C	+70 °C
	T3	+150 °C	+70 °C

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XA528zh02

**安全指南:  
区域 0**

- 若环境空气为存在爆炸性危险的空气蒸汽混合气，则仅可在大气条件下操作设备。
  - 温度：-20 至 +60 °C
  - 压力：80 至 110 kPA (0.8 至 1.1 bar)
  - 具有正常氧含量 (通常为 21 % (V/V)) 的空气若环境空气并非存在潜在爆炸危险的混合气，或采取了额外的保护措施，则设备可以在符合制造商技术规范的非大气条件下运行。
- 当在非大气压力和温度下运行时，经认证可用于区域 0 的仪表传感器部件不会导致任何引燃危险。
  - 符合制造商技术规范的运行过程温度：  
取决于环境温度；参见表格和温度图表。
  - 符合制造商技术规范的运行过程压力：  
 $p_e = -1 \text{ bar} \dots +40 \text{ bar}$ ，取决于工艺连接件；参见制造商操作说明。
- 当仪表的受潮部件对介质具有足够耐久性时，才可将仪表安装于介质中。  
(例如工艺连接件密封)。



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