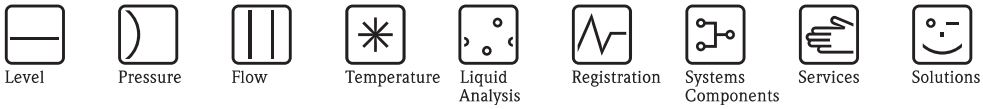

Safety Instructions

Gammapilot FTG20

Ex d ia IIC T* Gb
Ex d [ia] IIC T* Gb
Ex tb ia IIIC T* Db
Ex tb [ia] IIIC T* Db

IECEx BVS 12.0080 X

XA00617F-A

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

XA00617F-A/00/EN/01.12
71204600

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Gammapilot FTG20

english

Associated Documentation

This document is an integral part of the following Operating Instructions:
BA01035F/00

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

Supplementary Documentation

Explosion-protection brochure:
CP021Z/00

Designation

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

Designation according to IECEx
Equipment protection level (EPL) **Gb**

Designation of explosion protection

Ex d ia IIC T* Gb
Ex d [ia] IIC T* Gb

T* → 🖹 6

Designation according to IECEx
Equipment protection level (EPL) **Db**

Designation of explosion protection

Ex tb ia IIIC T* Db
Ex tb [ia] IIIC T* Db

T* → 🖹 6

Applied standards

IEC 60079-0 :2011
IEC 60079-1 :2007
IEC 60079-11 :2012
IEC 60079-31 :2008

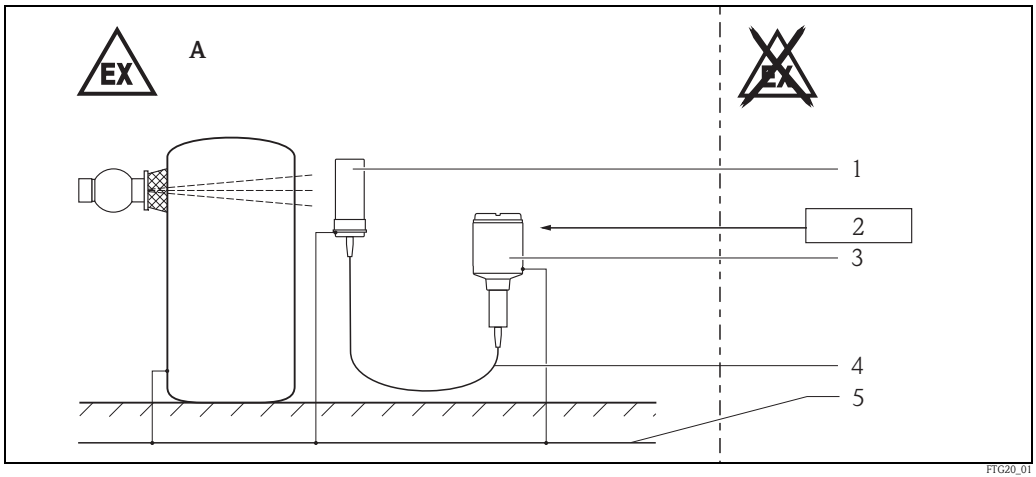
Safety instructions: General

- 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.
- Do not operate the device outside the specified electrical and thermal parameters.
- Changes in electrical and mechanical parts of the equipment could harm the type of explosion protection and are not allowed for the user.
- To maintain the ingress protection of the housing, install the housing cover and cable glands correctly.
- Close unused entry glands with sealing plugs.
- Use a connecting cable for continuous duty temperature T ≥ Ta +20 K.
- After aligning (rotating) the housing, retighten the fixing screw (see Operating Instructions) (e.g. secure the earth connection).
- Install the device to exclude impact and friction sparks on the aluminium housing (F13).
- Connect the sensor and transmitter to the common on-site potential equalization line.

Safety instructions: Special conditions

- Connecting cable between sensor and transmitter:
  - Do not install in the vicinity of processes generating strong electrostatic charges.
  - Avoid electrostatic charging of the sensor cable (e.g. do not rub dry and install outside the filling flow).
  - Do not leave cable hanging loosely when installed.
  - If the connecting cable is removed from both the sensor and the transmitter, ensure that measures are taken to avoid electrostatic discharge in a potentially explosive atmosphere.

Safety instructions: Installation



1

A *Zone 1, Zone 21*

FTG20 with electronic insert FEG24 (Relay)

1 Sensor
2 Power supply
3 Transmitter (Ex d or Ex t)
4 Connection cable (Ex ia),
Cable designation: Lapp Ölflex Heat 180 EWKF or Helu Thermflex 180 EWKF-C
5 Potential equalization

FTG20 with electronic insert FEG25 (8/16 mA)

1 Sensor
2 Associated intrinsically safe apparatus [Ex ia]
3 Transmitter (Ex ia)
4 Connection cable (Ex ia),
Cable designation: Lapp Ölflex Heat 180 EWKF or Helu Thermflex 180 EWKF-C
5 Potential equalization

Ingress protection of housing

- Transmitter, F13 housing (aluminium): IP66/67
- Transmitter, F27 housing (stainless steel): IP66/68
- Sensor (stainless steel): IP66/68

Instructions: Ex d joints

Specification according to IEC/EN 60079-1:2007, Chapter 5.1

- If required or if doubt: ask manufacturer for specifications.

Gammapilot with FEG24

Safety instructions: Zone 1

- Connect the device using suitable cable and wire entries or using piping systems of protection type "Pressure-tight Enclosure d".
- Close unused entry glands with approved (Ex d) sealing plugs.
  The plastic sealing plug is used only as transport protection.
- Transmitter housing: Do not open in a potentially explosive atmosphere.
- During operation, the cover must be screwed all the way in and the cover's safety catch must be fastened.
- Replace sealing plugs only with identical parts.
- Lay connecting cable to the transmitter and secure.
- The instrinsically safe signal circuit to the sensor is galvanically isolated from other circuits up to a peak value of the nominal voltage of 375 V.

Safety instructions: Zone 21

- Connect the device using suitable cable and wire entries or using piping systems.
- Only use suitable cable glands for Zone 21 with degree of protection IP68, which are suitable for an ambient temperature of at least –40 °C...+70 °C.
- Close unused entry glands with approved sealing plugs.
  The plastic sealing plug is used only as transport protection.
- Lay connecting cable to the transmitter and secure.
- Transmitter housing: Do not open in a potentially explosive dust atmosphere.
- Replace cable glands and sealing plugs only with identical parts.
- The instrinsically safe signal circuit to the sensor is galvanically isolated from other circuits up to a peak value of the nominal voltage of 375 V.

Gammapilot with FEG25

Safety instructions: Zone 1, Zone 21

- The pertinent guidelines must be observed when intrinsically safe circuits are connected together acc. EN 60079-14 (Proof of Intrinsic Safety).
- 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.
- The intrinsically safe signal circuit of the sensor is isolated from ground potential and has a dielectric strength of at least 500 V_{rms} with respect to it.
- When the device is connected to an intrinsically safe circuit Ex ib, the level of protection changes to Ex ib.
- 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 1 or zone 21.

Safety instructions: Zone 21, Zone 22

- For service operations, the transmitter housing may be opened under voltage for a short time.
  If the terminal compartment is opened make sure that no dust may deposit.
  After configuration close the cover according to good professional practice.

FTG20 with electronic insert FEG24 (Relay)

Designation Gammapilot FTG20	Type of protection			Temperature class/surface temperature/ ambient temperature range		Operating condition
	Transmitter	Sensor		Transmitter	Sensor	Sensor
	Housing	Housing	Signal circuit			
Ex d [ia] IIC T6 Gb	Ex d	Ex d	Ex ia	T6 for Ta = –40 °C…70 °C	T6 for Ta = –40 °C… 70 °C	Without water cooling or water cooling out of operation
Ex d [ia] IIC T4 Gb					T4 for Ta = –40 °C…120 °C	With water cooling in operation
Ex tb [ia] IIIC T90°C Db	Ex tb	Ex tb	Ex ia	T90°C for Ta = –40 °C…70 °C	T75°C for Ta = –40 °C… 70 °C	Without water cooling or water cooling out of operation
Ex tb [ia] IIIC T125°C Db					T125°C for Ta = –40 °C…120 °C	With water cooling in operation

FTG20 with electronic insert FEG25 (8/16 mA)

Designation Gammapilot FTG20	Type of protection			Temperature class/surface temperature/ ambient temperature range		Operating condition
	Transmitter	Sensor		Transmitter	Sensor	Sensor
	Housing	Housing	Signal circuit			
Ex d ia IIC T6...T4 Gb	Ex ia	Ex d	Ex ia	T6 for Ta = –40 °C…40 °C T4 for Ta = –40 °C…70 °C	T6 for Ta = –40 °C… 70 °C	Without water cooling or water cooling out of operation
Ex d ia IIC T4 Gb					T4 for Ta = –40 °C…120 °C	With water cooling in operation
Ex tb ia IIIC T75°C Db	Ex ia	Ex tb	Ex ia	T75°C for Ta = –40 °C…70 °C	T75°C for Ta = –40 °C… 70 °C	Without water cooling or water cooling out of operation
Ex tb ia IIIC T125°C Db					T125°C for Ta = –40 °C…120 °C	With water cooling in operation

Connection data

Transmitter

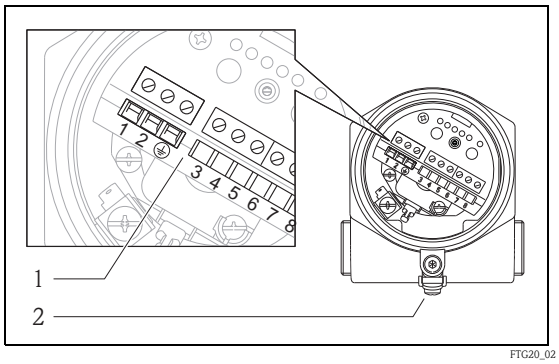
Electronic insert FEG24 (Relais)

Power supply terminal 1, 2:

19…253 VAC
19…55 VDC
Um = 253 VAC

Terminal 3, 4, 5 and 6, 7, 8 relay contacts:

253 VAC, 4 A
1000 VA (cos φ = 1), 750 VA (cos φ = 0.7)
or
30 VDC, 4 A
125 VDC, 0.2 A



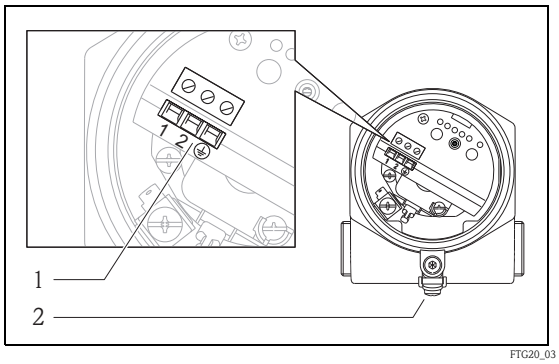
2

1 Terminals
2 Potential equalization

Electronic insert FEG25 (8/16 mA)

Terminal 1, 2:

Ui = 30 V
Ii = 100 mA
Pi = 1 W
Ci = 2.4 nF
Li = 0



3

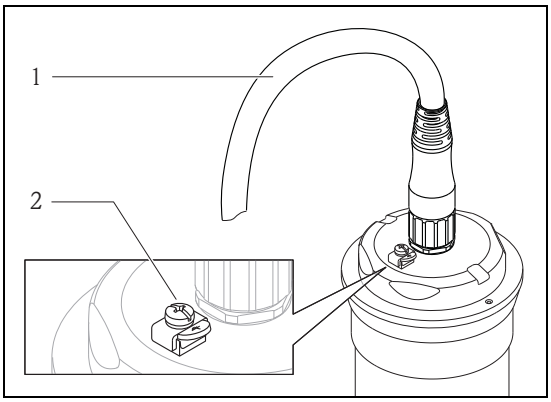
1 Terminal
2 Potential equalization

Sensor

Sensor with plug connector

Ui = 9.77 V
Ii = 26.7 mA
Pi = 78.5 mW

Only for connection to Gammapilot FTG20 with electronic insert FEG24 or FEG25



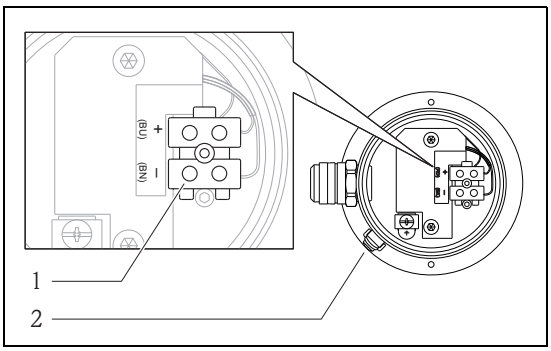
4

1 Supplied cable with coded plug connectors
2 Potential equalization

Sensor with connection compartment

Ui = 9.77 V
Ii = 26.7 mA
Pi = 78.5 mW

Only for connection to Gammapilot FTG20 with electronic insert FEG24 or FEG25



5

1 Terminal
2 Potential equalization

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