

Instruction Manual

UFA-Ex-d FA Di, ZS, TS (UFA)

UVA-Ex-d VA Di or VA40 (UVA)

UTA-Ex-d TA Di or TA10/15 (UTA)

with transducer processing unit in a flameproof enclosure



Apparatus

Vane wheel flow sensors, vortex flow sensors and thermal flow sensors, as probe or measuring tube with transducer processing unit in a flameproof enclosure with optional LCD display.

These are intrinsically safe sensors for measuring the flow velocity and the flow rate (standard flow velocity and standard flow rate in the case of UTA) of gases (UFA, UVA, UTA) and liquids (UFA only) with a non-intrinsically safe transducer processing unit in a flameproof enclosure. They are designed for use in areas in which category 1 apparatus is required. Assembly is carried out either with flange or probe guide piece in the zone partition. The electronics housing is located in areas which require category 2 apparatus.



1. Safety Precautions

Please read this Instruction Manual carefully before initial operation!
Non-compliance can cause an explosion!

The apparatus may be installed only in category 1/2G and 2G or 1/2D and 2D areas in which the ambient temperature range of -20 to +60 °C or -40 to +60 °C for the TT (cryogenic) version for the electronics housing, as marked on the type plate and in the corresponding technical documents, is not exceeded. With the TT version the terminal clamps must not be used at temperatures below -20 °C!

The temperature of the medium in category 1/2G areas must not exceed +60 °C under atmospheric pressure. For UFA and UVA, the maximum admissible temperature of the medium in category 2G areas corresponds to the temperature class. For UTA, the maximum admissible temperature of the medium in category 2G areas for temperature class T4 corresponds to 130 °C, and for temperature class T3 ... T1 140 °C. See also details on the type plate as well as in the corresponding technical documents.

For UFA and UVA in category 1/2D and 2D areas self-heating need not be considered. For UTA, the additional maximum surface temperature in category 1/2D and 2D areas is 135 °C. For maximum temperature of the medium refer to the type plate and corresponding technical documents.

The gas container for the medium is to be insulated in such a way as to ensure that the electronics housing of the apparatus does not take on temperatures exceeding the above mentioned maximum ambient temperatures, taking radiant and convective heat into account.

Sensors may be used only in areas in which the temperature of the gas medium, the ambient temperature, the maximum admissible overpressure, as specified on the type plate, are not exceeded.

For applications in pressurized pipelines sensors are to be inserted or retracted in depressurized conditions only. Non-observance can result in serious harm to personnel.

The cover of the flameproof enclosure which is furthest away from both cable glands may only be opened in the safety zone or when disconnected.

Tightness of the zone separation must be ensured by using a standardised process connection (> or = IP67).

There is no safety-related electrical isolation between Ex-i and equipotential bonding. Therefore, this must be guaranteed both inside and outside the explosive atmospheres when installing.

Titanium sensors (UFA) only have approval for applications in zone 1 (category 2G) areas, unless fitted with additional preventive measures (e.g. safety mesh).

2. Technical Data

EC type examination certificate: **IBExU 06 ATEX 1103 X**

UFA and UVA:

Marking

CE ₀₆₃₇  **II 1/2 G**

Explosion protection: **Ex ia/db eb [ia] IIC T6 Ga/Gb**

Marking

CE ₀₆₃₇  **II 1/2 D**

Explosion protection: **Ex ia/tb IIIC TX Da/Db**

UTA:

Marking

CE ₀₆₃₇  **II 1/2 G**

Explosion protection: **Ex ia/db eb [ia] IIC T4 Ga/Gb**

Marking

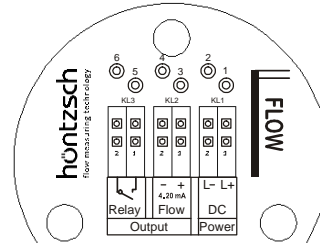
CE ₀₆₃₇  **II 1/2 D**

Explosion protection: **Ex ia/tb IIIC T135°C Da/Db**

X: There are certain special factors to be observed for applications in explosive atmospheres (see under 1).

2.1 Electrical Data

Power supply	: 24 V DC (20 ... 27 V DC) < 5 W
Current consumption	: < 150 mA
Terminals KL1	: +24 V DC = Power DC L+ 0 V DC = Power DC L-
Analog output	: 4 ... 20 mA, resistance max. 500 Ohm
Terminals KL2	: + = Output Flow + 4 ... 20mA - = Output Flow - 4 ... 20mA
Relay output	: potential-free, max. 30 V DC, 100 mA
Terminals KL3	: output relay, normally-open contact



Terminal connections



3. Installation

The relevant standards for installing electrical equipment, the General Engineering Regulations and these Operating Instructions apply.

The apparatus is to be connected to the local equipotential bonding system according to the currently valid regulations. A protective ground terminal on the exterior of the flameproof enclosure serves this purpose.

The earth terminal is designed for cross-sections of 4 ... 6 mm². Use a cable lug. The torque for fixture to the earth terminal must amount to 2 ... 3 Nm.

Cables are connected to the protection type "e" terminal blocks in the terminal compartment via two protection type "e" cable glands. Condition as supplied to customer: one "e" cable gland and one "e" screw plug.

Cable glands M20 thread are used for cables with an exterior diameter of 5 ... 9 mm. The cable gland is to be tightened with a torque of 4 Nm.

The terminals are for wires with a cross-section of 0.5 ... 2.5 mm², AWG 20 to 16. Wire end sleeves must be used. Bare wires must not be visible after installation. The connection cables used must be usable for the temperature range of -25 ... +80 °C.

We recommend a regulated mains adapter 24V DC ±10% output, rating > 6 W, current >250 mA.



4. Cleaning / Maintenance

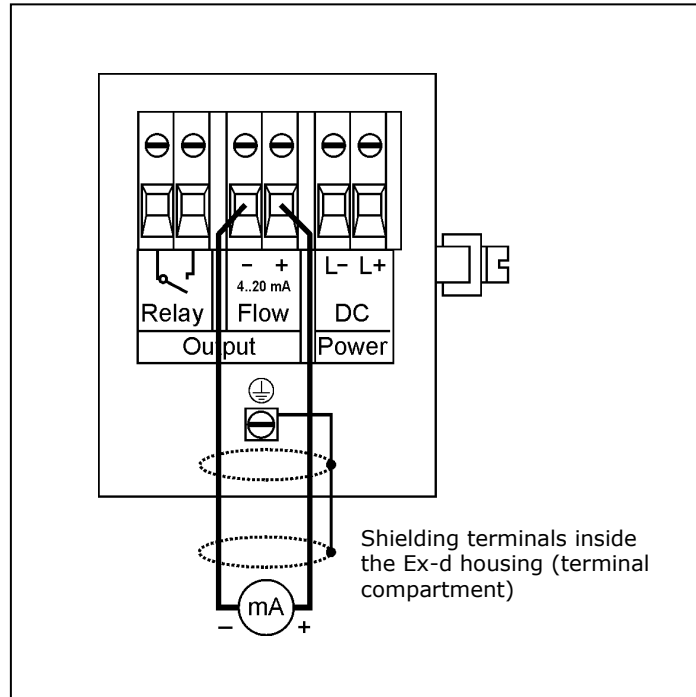
Sensors should be cleaned at regular intervals.

Any covering of dust on the electronic housing may not exceed 5 mm.

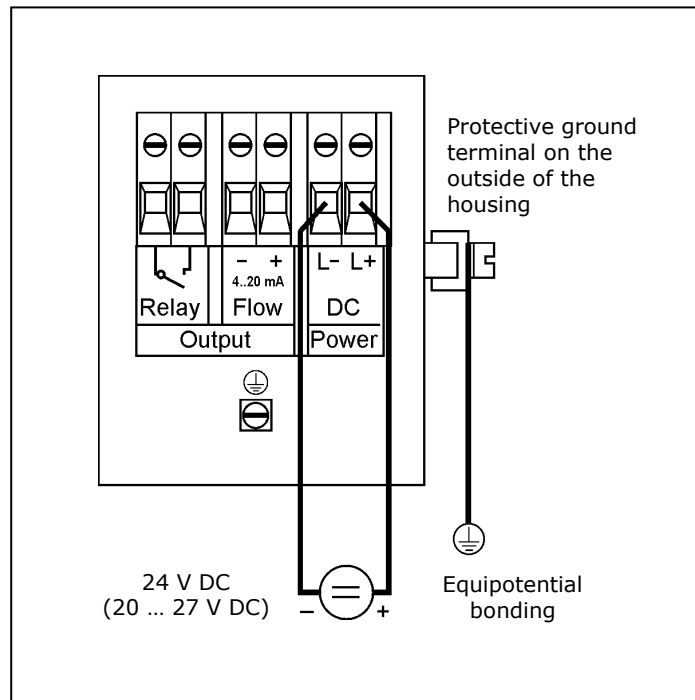
The housing cover threads are treated with graphite to protect against corrosion.

Any other maintenance or repair work is to be carried out solely by Höntzsch GmbH & Co. KG.

Electrical Connections



Analog output connection



Power supply connection

Declaration of conformity, Declaration of Incorporation

We, Höntzsch GmbH & Co. KG
Gottlieb-Daimler-Str. 37
D-71334 Waiblingen

bearing sole responsibility, hereby declare that the product
flow measuring equipment

UFA-Ex-d measuring tubes FA Di, probes ZS, TS
UVA-Ex-d measuring tubes VA Di, probes VA40
UTA-Ex-d measuring tubes TA Di, probes TA10/15

with EC type examination certificate **IBExU 06 ATEX 1103 X**

referred to by this declaration is in conformity with the following standards or normative documents:

Provisions of the Directive	Reference no. and date of issue
2014/34/EU: Equipment and Protective Systems in Potentially Explosive Atmospheres	EN 60079-0: 2018 EN 60079-1: 2014 EN 60079-7: 2015 EN 60079-11: 2012 EN 60079-26: 2015 EN 60079-31: 2014
2014/30/EU: Electromagnetic Compatibility	EN 61000-6-4: 2007 + A1: 2011 EN 61000-6-2: 2006 + Corrigendum 1: 2011
2014/68/EU: Pressure Equipment Directive	

One or more of these standards referred to in the EC type examination certificate have been replaced by new versions. We declare that we are also in agreement with these new versions.



Waiblingen, 02.08.2022

Jürgen Lempp / Managing Director

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Subject to alteration