



- (1) **EU-Type Examination Certificate**
- (2) Equipment or protective system intended for use in potentially explosive atmospheres - **Directive 2014/34/EU**
- (3) Certificate number: **SEV 18 ATEX 0134 X**
- (4) Product: Float level switches and float level transmitter  
Type JUMO NESOS 4083XX
- (5) Manufacturer: JUMO GmbH & Co. KG
- (6) Address: Moritz-Juchheim-Strasse 1, 36039 Fulda, Germany
- (7) The equipment and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
- (8) Eurofins, notified body No. 1258, in accordance with article 17 of Directive 2014/34/EU of the European parliament and of the council, dated 26 February 2014, certifies that this product has been found to comply with the essential health and safety requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in confidential report no 20CH-00602.X03
- (9) Compliance with the essential health and safety requirements has been assured by compliance with:
- EN IEC 60079-0:2018**  
**EN 60079-11:2012**  
**EN 60079-26:2015**  
**EN 80079-36:2016**  
**EN 80079-37:2016**
- Except in respect of those requirements listed at item 18 of the schedule.
- (10) If the sign «X» is placed after the certificate number, it indicates that the product is subjected to special conditions for safe use specified in the schedule to this certificate. The sign “U” is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.
- (11) This EU type examination certificate relates only to design and construction of the specified product. Further requirements of this directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.
- (12) The marking of the product shall include the following:



See page 6: (19) Markings

**Eurofins Electric & Electronic Product Testing AG**  
**Notified Body ATEX**

Martin Plüss  
Product Certification

(13)

## Appendix

(14)

**EU-Type Examination Certificate no. SEV 18 ATEX 0134 X**

(15) **Description of product**

The limit and level measurement takes place according to the Archimedean principle for liquids. The float moves along the guide tube as the level rises or falls.

The magnet in the float actuates the reed contact(s) installed in the guide tube with its magnetic field. The switching status of the reed contact can be evaluated and processed through downstream electronics.

The electrical connection, process connection, guide tube length, float, as well as the number, position, and function of the contacts may vary depending on the ordered variant.

The float switch is used to switch small loads such as lamps, horns, PLC inputs, motor controls, pumps or valves.

With the level transmitter, the levels of tanks and containers are transferred with a standard signal. When connecting to intrinsically safe electrical circuits, the intrinsically safe version of the product (Ex i) fulfils the requirements for explosion group II of categories 1/2 G and 1/2 D, as well as 2 G und 2 D. It is therefore suitable for use in the potentially explosive area of zone 0, 1 and 2 for gas (G) and zone 21 and 22 for dust (D). A certified, intrinsically safe isolation amplifier or supply isolator in Ex ia must be used.

Classification of installation and use: stationary

Ingress protection: Depends on the device configuration and is defined in the type drawings or datasheet,

Rated ambient temperature range (°C): minimum IP 54 (Ex Ga) respective IP 65 (Ex Da)  
Depends on the device configuration and is defined in the type drawings or datasheet.

**Details of Rating(s):**

measurement and supply circuit of Ex i float level switches

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$\begin{aligned} U_i &\leq 30 \text{ V} \\ I_i &\leq 100 \text{ mA} \\ P_i &\leq 750 \text{ mW} \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

measurement and supply circuit of Ex i float level switches as option NAMUR

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$\begin{aligned} U_i &\leq 15 \text{ V} \\ I_i &\leq 60 \text{ mA} \\ P_i &\leq 225 \text{ mW} \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

measurement and supply circuit of Ex i float level transmitters with JUMO dTRANS T01 temperature transmitter type 707015/...:

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$\begin{aligned} U_i &\leq 30 \text{ V} \\ I_i &\leq 100 \text{ mA} \\ P_i &\leq 750 \text{ mW} \\ C_i &= 0 \\ L_i &= 0 \end{aligned}$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

measurement and supply circuit of Ex i float level transmitters with 2-wire level transmitter type 5333D and 5343B:

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$U_i \leq 30 \text{ V}$$

$$I_i \leq 120 \text{ mA}$$

$$P_i \leq 840 \text{ mW}$$

$$C_i = 1 \text{ nF}$$

$$L_i = 10 \text{ }\mu\text{H}$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

#### Details of Rating(s):

Optional temperature switch:

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$U_i \leq 30 \text{ V}$$

$$I_i \leq 100 \text{ mA}$$

$$P_i \leq 750 \text{ mW}$$

$$C_i = 0$$

$$L_i = 0$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

Optional temperature sensor:

In type of protection intrinsically safe: Ex ia IIC, Ex ia IIIC  
only to connect to an certified intrinsically safe circuit:  
Maximum ratings:

$$U_i \leq 30 \text{ V}$$

$$I_i \leq 55 \text{ mA}$$

$$P_i \leq 413 \text{ mW}$$

$$C_i = 0$$

$$L_i = 0$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

measurement and supply circuit of Ex i float level transmitters with display CL1:

In type of protection intrinsically safe: Ex ia IIC only to connect to an certified intrinsically safe circuit: Maximum ratings:

$$U_i \leq 30 \text{ V}$$

$$I_i \leq 100 \text{ mA}$$

$$P_i \leq 750 \text{ mW}$$

$$C_i = 0$$

$$L_i = 0$$

The maximum values of the allowable external capacitance ( $C_a$  or  $C_o$ ) and inductance ( $L_a$  or  $L_o$ ) can be found on the nameplate or the certificate of the supply unit.

or

measurement and supply circuit of Ex i float level transmitters with 2-wire HART temperature transmitter type 5437D:

Supply / output circuit for type 5437D: terminals 1 and 2, inclusive the 'Test' connection,

in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, only for connection to a certified intrinsically safe circuit, with the following maximum values:

$U_i = 30 \text{ V}$ ;  $I_i = 120 \text{ mA}$ ;  $C_i = 1.0 \text{ nF}$ ;  $L_i = 0 \text{ }\mu\text{H}$ . For  $P_i$ , see the below table.

Sensor circuit type 5437D: terminals 3..9:

in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, with the following maximum values:

$U_o = 7.2 \text{ V}$ ;  $I_o = 12.9 \text{ mA}$ ;  $P_o = 23.3 \text{ mW}$ ;  $C_o = 13.5 \text{ }\mu\text{F}$ ;  $L_o = 200 \text{ mH}$ .

or

Sensor circuit (CH1 terminals 3 to 4,5,6 or CH2 terminals 3 to 7,8,9) for 5437D in type of protection intrinsic safety Ex ia IIC and Ex ia IIIC, with the following maximum values:

$U_o = 7.2 \text{ V}$ ;  $I_o = 7.3 \text{ mA}$ ;  $P_o = 13.2 \text{ mW}$ ;  $C_o = 13.5 \text{ }\mu\text{F}$ ;  $L_o = 667 \text{ mH}$ .

The sensor circuit is infallibly isolated from the supply / output circuit.

The relation between Pi, temperature class, model type and maximum ambient temperature is as follows:

Pi per channel	Temperature class	Maximum ambient temperature	
		Single and dual input	Two channel
900 mW	T6	+50 °C	+45 °C
	T5	+65 °C	+60 °C
	T4	+85 °C	+85 °C
750 mW	T6	+55 °C	+50 °C
	T5	+70 °C	+65 °C
	T4	+85 °C	+85 °C
610 mW	T6	+60 °C	+55 °C
	T5	+75 °C	+70 °C
	T4	+85 °C	+85 °C

**(16) Specific conditions of use**

1. In case the flange, stopper and floats are made from titanium alloy ignition sparks needs to be prevented by the end user.
2. An equipotential bonding of the metal parts of the enclosure must be ensured over the entire circuit.

**(17) Essential health and safety requirements**


In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item 9, the following are considered relevant to this product, and conformity is demonstrated in the report:

Clause	Subject
None	


**(18) Drawings and Documents**

See test report "Manufacturer's Documents"

**(19) Markings**

	II 1/2 G	Ex h ia IIC T6... T3 Ga/Gb
	II 2 D	Ex h ia IIIC T80 °C ... T200 °C Db

Deviations of the gas group for different configurations :

	II 1/2 G	Ex h ia IIB T6... T3 Ga/Gb e.g. coated wetted parts
	II 1/2 G	Ex h ia IIA T6... T3 Ga/Gb e.g. plastic float