IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx SEV 18.0011X**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2019-04-05) Issue 0 (2019-01-21)
Date of Issue:	2020-07-14		

Applicant: **JUMO GmbH & Co. KG**
Moritz-Juchheim-Strasse 1
36039 Fulda
Germany

Equipment: **Float level switches and float level transmitter, Type: JUMO NESOS 4083XX**

Optional accessory:

Type of Protection: **h, ia**

Marking: Ex h ia IIC T6...T3 Ga/Gb
Ex h ia IIIC T80 °C ... T200 °C Db

Deviations of the gas group for different configurations :
Ex h ia IIB T6...T3 Ga/Gb e.g. coated wetted parts
Ex h ia IIA T6...T3 Ga/Gb e.g. plastic float

Approved for issue on behalf of the IECEx Certification Body: **Martin Plüss**

Position: **Manager Product Certification**

Signature: (for printed version)

Date: 2020-07-14

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Eurofins Electric & Electronic Product Testing AG
Luppmenstrasse 3
CH-8320 FEHRALTORF
Switzerland

eurofins | E&E

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Manufacturer: **JUMO GmbH & Co. KG**
Moritz-Juchheim-Strasse 1
36039 Fulda
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Edition:7.0	Explosive atmospheres - Part 0: Equipment - General requirements
IEC 60079-11:2011 Edition:6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-26:2014-10 Edition:3.0	Explosive atmospheres – Part 26: Equipment with Equipment Protection Level (EPL) Ga
ISO 80079-36:2016 Edition:1.0	Explosive atmospheres - Part 36: Non-electrical equipment for explosive atmospheres - Basic methods and requirements
ISO 80079-37:2016 Edition:1.0	Explosive atmospheres - Part 37: Non-electrical equipment for explosive atmospheres - Non electrical type of protection constructional safety "c", control of ignition source "b", liquid immersion "k"

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

CH/SEV/ExTR18.0053/02

Quality Assessment Report:

DE/TUN/QAR13.0005/07

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EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

Float level switches and float level transmitter, Type: JUMO NESOS 4083XX

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

Ratings see Annexe to CoC

SPECIFIC CONDITIONS OF USE: YES as shown below:
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.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
The 2-wire Programmable Transmitter Type 5333D, the 2-wire HART Temperature Transmitter 5437D and the Current Loop Display Type CL1 or CL6 or CM1 are added to the certified components.
A new type with hinge guide tube is added.
An additional process connection chamber could be added.
Handbook of construction is updated.

Annex:

IECEx SEV 18.0011X Annexe Issue 2.pdf

Annexe to: **IECEx SEV 18.0011X** **Issue No.: 2**

Applicant Name: **JUMO GmbH & Co. KG**
Moritz-Juchheim-Strasse 1, 36039 Fulda, GERMANY

Electrical Apparatus: **Float level switches and float level transmitter**

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: $U_i \leq 30$ V $I_i \leq 100$ mA $P_i \leq 750$ 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 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: $U_i \leq 15$ V $I_i \leq 60$ mA $P_i \leq 225$ 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

Eurofins Electric & Electronic Product Testing AG
Swiss Certification Body

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:

$U_i \leq 30$ V
$I_i \leq 100$ mA
$P_i \leq 750$ 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 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:

$U_i \leq 30$ V
$I_i \leq 120$ mA
$P_i \leq 840$ mW
$C_i = 1$ nF
$L_i = 10$ µH

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:

$U_i \leq 30$ V
$I_i \leq 100$ mA
$P_i \leq 750$ 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:

$U_i \leq 30$ V
$I_i \leq 55$ mA
$P_i \leq 413$ 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:

$U_i \leq 30$ V
$I_i \leq 100$ mA
$P_i \leq 750$ 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:

Ui = 30 V; Ii = 120 mA; Ci = 1.0 nF; Li = 0 µH. For Pi, 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:
Uo = 7.2 V; Io = 12.9 mA; Po = 23.3 mW; Co = 13.5 µF; Lo = 200 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:
Uo = 7.2 V; Io = 7.3 mA; Po = 13.2 mW; Co = 13.5 µF; Lo = 667 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