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 TUN 15.0036X**

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Certificate history:
Issue 0 (2017-04-13)

Status: **Current**

Issue No: 1

Date of Issue: 2021-11-29

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

Equipment: **JUMO safetyM STB/STW type 701155 / * - ** - **** - **** - 23 / *** , *** and type 701155 / * - ** - **** - **** - 25 / *** , ***.**

Optional accessory:

Type of Protection: **Intrinsic Safety "i"; Non electrical type of protection control of ignition source "b"**

Marking: **[Ex ia Ga] IIC or [Ex ia Da] IIIC or**
[Ex h Ga] IIC or [Ex h Da] IIIC

Approved for issue on behalf of the IECEx Certification Body: **Andreas Meyer**

Position: **Deputy Head of the IECEx Certification Body**

Signature: (for printed version)

TÜV NORD
Digital unterschrieben von Meyer Andreas
Datum: 2021.11.29 21:04:20 +01'00'

Date:

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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:

TÜV NORD CERT GmbH
Hanover Office
Am TÜV 1, 30519 Hannover
Germany

TÜV NORD

IECEx Certificate of Conformity

Manufacturer: **JUMO GmbH & Co. KG**
Moritz-Juchheim-Straße 1
36039 Fulda
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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"
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:

DE/TUN/ExTR16.0025/01

Quality Assessment Report:

DE/TUN/QAR13.0005/08

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

The JUMO safetyM STB/STW type 701155 / * - ** - **** - **** - 23 / *** , *** and type 701155 / * - ** - **** - **** - 25 / *** , *** are either a safety temperature limiter or a safety temperature monitor considered as associated safety temperature facilities intended for installation on mounting rails outside the hazardous areas.

For all other data see attachment to IECEx TUN 15.0036X issue No .1.

SPECIFIC CONDITIONS OF USE: YES as shown below:
For applications that require EPL Ga or EPL Da devices, the safety temperature limiter / safety temperature monitor must be used redundantly (HFT > 0).

Only for applications that require EPL Gb or EPL Db devices, the safety temperature limiter / safety temperature monitor is used as single-channel (HFT = 0).

This refers to equipment which does not provide an ignition source in fault-free operation, but has no fault tolerance with regard to ignition protection.

For alternative concepts / applications, the requirements / options according to ISO 80079-37 have to be taken into account.

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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
The installation lengths of the temperature probes 902006/10-402-1003-1-9-xxx-104/922 and 902006/10-402-2003-1-9-xxx-104/922 which are intended to be operated with the devices are extended to 150 mm resp. 200 mm.

Proof of conformity of the JUMO safetyM STB/STW type 701155 / * - ** - **** - **** - 23 / *** , *** and type 701155 / * - ** - **** - **** - 25 / *** , *** to the current version of the IEC standards IEC 60079-0:2017, IEC 60079-11:2011, ISO 80079-36:2016 and ISO 80079-37:2016.

Annex:

Attachment to IECEx TUN 15.0036X issue No. 1.pdf

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General product information:

Description:

The JUMO safetyM STB/STW type 701155 / * - ** - **** - **** - 23 / *** , *** and type 701155 / * - ** - **** - **** - 25 / *** , *** are either a safety temperature limiter or a safety temperature monitor considered as associated safety temperature facilities intended for installation on mounting rails outside the hazardous areas.
Each output of the two intrinsically safe output circuits of the device is provided to be connected to a resistor-type thermometer (PT100 or PT1000) or to a thermocouple or to measure a standardised signal current (4...20 mA).
The intrinsically safe output circuits are intended to be operated in areas with an explosive gas or dust atmosphere.

Electrical data:

For types STB/STW 701155 / * - ** - ** - **** - 23 / *** , ***:**

Supply circuit (Terminals N and L1)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of: U_N = 110 up to 240 V a.c +10% / -15%, 48 up to 63 Hz U_m = 250 V

For types STB/STW 701155 / * - ** - ** - **** - 25 / *** , ***:**

Supply circuit (Terminals L- and L+)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of: U_N = 20 up to 30 V d.c or a.c, 48 up to 63 Hz U_m = 250 V

For all types:

Binary connection (Terminals 4 and 5)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of: U_m = 250 V
Analogue connection (Terminals 9 and 10)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of: U_m = 250 V
Relay connection (Terminals 11, 12, 13)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage and current of: U_m = 250 V I_{max} = 3 A
Relay connection (Terminals 14, 15, 16)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage and current of: U_m = 250 V I_{max} = 3 A
USB connection (USB-socket)	only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage and current of: U_m = 250 V

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Output circuit
(Terminals 1, 2, 3 and 6, 7, 8)

in type of protection intrinsic safety Ex ia IIC resp. Ex ia IIIC with the following maximum values per circuit:

U_o = 6 V
I_o = 41.2 mA
P_o = 61.8 mW
Characteristic line: linear
The effective internal capacitance C_i is 3.7 µF.
The effective internal inductance L_i is negligibly small.

The maximum permissible values for the external inductance L_o and the external capacitance C_o have to be taken from the following table:

Ex ia IIC	L_o [mH]	0.2	0.1	0.05	0.02	0.01	0.001
	C_o [µF]	0.2	1	2.1	4.3	7.3	36.3
Ex ia IIIC	L_o [mH]	100	50	20	10	0.2	0.001
	C_o [µF]	3.6	5.4	7.3	8.3	27.3	996.3

The values of the table below are only applicable, if the internal inductance L_i (without the cable) or the internal capacitance C_i (without the cable) of the connected equipment is ≤ 1 % of the below specified values. If L_i (without the cable) and C_i (without the cable) of the connected equipment are > 1 % of the specified values, the specified values of L_o shall be reduced to 50 %.
The reduced capacitance of the external circuit (including cable) shall not exceed 1 µF for group IIIC and 600 nF for group IIC.

Ex ia	IIC	IIIC
Maximum permissible external inductance	20 mH	83 mH
Maximum permissible external capacitance	36.3 µF	996.3 µF

For the temperature probes listed below, which have to be considered as simple apparatus and which to be operated with the device, the limit value for the maximum permissible upper limit of the ambient temperature according to the temperature class resp. the maximum surface temperature has to be taken from the following table:

Temperature class resp. maximum surface temperature	Upper limit of the medium and ambient temperature for applications requiring devices of equipment protection level Gb resp. Db		Upper limit of the medium and ambient temperature for applications requiring devices of equipment protection level Ga resp. Da	
	Temperature probes with PT100	Temperature probes with thermocouple	Temperature probes with PT100	Temperature probes with thermocouple
T1 / 445 °C	432.5 °C	439.1 °C	342.5 °C	349.1 °C
T2 / 295 °C	282.5 °C	289.1 °C	222.5 °C	229.1 °C
T3 / 195 °C	187.5 °C	194.1 °C	147.5 °C	154.1 °C
T4 / 130°C	122.5 °C	129.1 °C	95.5 °C	102.1 °C
T5 / 95 °C	87.5 °C	94.1 °C	67.5 °C	74.1 °C
T6 / 80 °C	72.5 °C	79.1 °C	55.5 °C	62.1 °C

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The following temperature probes of the manufacturer with PT100 resistor-type thermometer are intended to be operated with the device:

Type designation of the manufacturer	Replacement character xxx
902006/65-228-1003-1-15-xxx-668/922 902006/55-228-1003-1-15-xxx-254/922 902006/65-228-2003-1-15-xxx-668/922 902006/55-228-2003-1-15-xxx-254/922	500, 710 and 1000
902006/10-402-1003-1-9-xxx-104/922 902006/10-402-2003-1-9-xxx-104/922	100, 150 and 200
902006/10-226-1003-1-9-xxx-104/922 902006/10-226-2003-1-9-xxx-104/922	250
902006/54-227-1003-1-15-xxx-254/922 902006/54-227-2003-1-15-xxx-254/922	710
902006/53-505-2003-1-12-xxx-815/922 902006/53-505-1003-1-12-xxx-815/922	190
902006/53-507-2003-1-12-xxx-815/922	100, 160, 190 and 220
902006/53-507-1003-1-12-xxx-815/922 902006/53-505-3003-1-12-xxx-815/922 902006/40-226-1003-1-12-xxx-815/922	100, 160 and 220
902006/10-390-1003-1-8-xxx-104/922	250

The following temperature probes of the manufacturer with thermocouple are intended to be operated with the device:

Type designation of the manufacturer	Replacement character xxx
901006/65-547-2043-15-xxx-668/922 901006/65-546-2042-15-xxx-668/922	500, 710 and 1000
901006/66-550-2043-6-xxx-668/922 901006/66-880-1044-6-xxx-668/922 901006/66-880-2044-6-xxx-668/922 901006/66-953-1046-6-xxx-668/922 901006/66-953-2046-6-xxx-668/922	250, 355 and 500
901006/54-544-2043-15-xxx-254/922 901006/54-544-1043-15-xxx-254/922 901006/54-544-2042-15-xxx-254/922 901006/54-544-1042-15-xxx-254/922	710
901006/53-543-1042-12-xxx-815/922 901006/53-543-2042-12-xxx-815/922	220
901006/45-551-2043-2-xxx-11-1000…20000/922	50…2000

Thermal data:
Permissible ambient temperature range during operation 0 °C ≤ Ta ≤ +55 °C

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Details of Change:

The installation lengths of the temperature probes 902006/10-402-1003-1-9-xxx-104/922 and 902006/10-402-2003-1-9-xxx-104/922 which are intended to be operated with the devices are extended to 150 mm resp. 200 mm.
The temperature probes 902006/10-390-1003-1-8-xxx-104/922 and 901006/45-551-2043-2-xxx-11-1000...20000/922 are newly added.
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Specific Conditions of Use:
For applications that require EPL Ga or EPL Da devices, the safety temperature limiter / safety temperature monitor must be used redundantly (HFT > 0).
Only for applications that require EPL Gb or EPL Db devices, the safety temperature limiter / safety temperature monitor is used as single-channel (HFT = 0).
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