



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: IECEx TUN 15.0036X Issue No: 0 Certificate history:  
Issue No. 0 (2017-04-13)

Status: **Current** Page 1 of 3

Date of Issue: **2017-04-13**

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"**

Marking:  
[Ex ia Ga] IIC resp.  
[Ex ia Da] IIIC

Approved for issue on behalf of the IECEx  
Certification Body:

Christian Roder

Position:

Deputy Head of the Certification Body

Signature:  
(for printed version)

Date:

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 the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

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





# IECEX Certificate of Conformity

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

Additional Manufacturing location(s):

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 electrical apparatus 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 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition:6.0  
**IEC 60079-11 : 2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

*This Certificate **does not** indicate compliance with electrical 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/ExTR16.0025/00](#)

Quality Assessment Report:

[DE/TUN/QAR13.0005/01](#)



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## Schedule

### EQUIPMENT:

*Equipment and systems covered by this certificate are as follows:*

The JUMO safetyM STB/STW mentioned above 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 please see attachment.

### SPECIFIC CONDITIONS OF USE: YES as shown below:

1. Connection or disconnection of the intrinsically safe circuits may only be conducted when the device inclusive of all wirings is free of voltage.
2. The device inclusive of all wirings may only be energized when the cover of the intrinsically safe circuits is installed properly.

### Annex:

[Attachment to IECEx TUN 15.0036X.pdf](#)

General product information:

Subject and Type:

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

701155							<b>Basic type</b> Safety temperature limiter / -monitor (STB) / (STW)
	8						<b>Version</b> Factory set Configured acc. to customer specifications
	9						<b>National language</b> German (set at factory) English French
		01					<b>Switching behavior</b> Safety temperature monitor max. alarm [inverse, opening function] Safety temperature monitor min. alarm [direct, closing function] Safety temperature limiter max. alarm [inverse, opening function] (set at factory) Safety temperature limiter min. alarm [direct, closing function]
		02					
		03					
			0251				
			0252				
			0253				
			0254				
							<b>Measuring input<sup>1</sup> (programmable)</b>
				1003			1x Pt100 in 2-wire circuit
				2001			2x Pt100 in 3-wire circuit (set at factory)
				2003			2x Pt100 in 2-wire circuit
				2005			2x Pt1000 in 2-wire circuit
				2006			2x Pt1000 in 3-wire circuit
				2036			2x W5Re-W26Re „C“
				2037			2x W3Re-W25Re "D"
				2039			2x Cu-CuNi "T"
				2040			2x Fe-CuNi "J"
				2041			2x Cu-CuNi "U"
				2042			2x Fe-CuNi "L"
				2043			2x NiCr-Ni "K"
				2044			2x Pt10Rh-Pt "S"
				2045			2x Pt13Rh-Pt "R"
				2046			2x Pt30Rh-Pt6Rh "B"
				2048			2x NiCrSi-NiSi "N"
				1053			1x 4 to 20 mA
				2053			2x 4 to 20 mA
							<b>Voltage supply</b>
					23		AC 110 to 240 V +10 % /-15 %, 48 to 63 Hz
					25		AC/DC 20 to 30 V, 48 to 63 Hz
							<b>Analog output (configurable)</b>
						001	0 to 20 mA
						005	4 to 20 mA (factory set)
						040	0 to 10 V
						070	2 to 10 V
							<b>Extra code</b>
						059	SIL, PL and IPL approval
						062	GL approval
701155 /	8 -	01 -	0253 -	2001 -	23 /	005 ,	062

**Description:**

The JUMO safetyM STB/STW mentioned above 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.

**Parameters:**

**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

$$U_N = 110 \text{ up to } 240 \text{ V AC } +10\% / -15\%, 48 \text{ up to } 63 \text{ Hz}$$
$$U_m = 250 \text{ V}$$

**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

$$U_N = 20 \text{ up to } 30 \text{ V DC or AC}, 48 \text{ up to } 63 \text{ Hz}$$
$$U_m = 250 \text{ V}$$

**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

$$U_m = 250 \text{ V}$$

Analogue connection (Terminals 9 and 10) only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of

$$U_m = 250 \text{ V}$$

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

$$U_m = 250 \text{ V}$$
$$I_{\max} = 3 \text{ A}$$

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

$$U_m = 250 \text{ V}$$
$$I_{\max} = 3 \text{ A}$$

USB connection  
 (USB-socket)

only for the connection to a non-intrinsically safe circuit with a safety-related maximum voltage of

$$U_m = 250 \text{ V}$$

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

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

$$U_o = 6 \text{ V}$$

$$I_o = 41.2 \text{ mA}$$

$$P_o = 61.8 \text{ mW}$$

Characteristic line: linear

Permissible maximum external capacitance  $C_o = 36.3 \mu\text{F}$

Permissible maximum external inductance  $L_o = 20 \text{ mH}$

These values are only applicable, if the internal inductance  $L_i$  or the internal capacitance  $C_i$  of the external connected equipment is  $\leq 1 \%$  of the above specified values.

If  $L_i$  as well as  $C_i$  of the external connected equipment are  $> 1 \%$  of the specified values, the specified values of  $L_o$  and  $C_o$  shall be reduced to 50 %.

The reduced capacitance of the external circuit (capacitance of the cable + internal capacitance of the connected equipment) shall not exceed 1  $\mu\text{F}$  for groups IIA, IIB and IIIC and 600 nF for group IIC.

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

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
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

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
90.1006/66-550-2043-6-xxx-668/922 90.1006/66-880-1044-6-xxx-668/922 90.1006/66-880-2044-6-xxx-668/922 90.1006/66-953-1046-6-xxx-668/922 90.1006/66-953-2046-6-xxx-668/922	250, 355 and 500
901006/54-554-2043-15-xxx-254/922 901006/54-554-1043-15-xxx-254/922 901006/54-554-2042-15-xxx-254/922 901006/54-554-1042-15-xxx-254/922	710
901006/53-543-1042-12-xxx-815/922 901006/53-543-2042-12-xxx-815/922	220

**“Specific Conditions of Use”**

Connection or disconnection of the intrinsically safe circuits may only be conducted when the device inclusive of all wirings is free of voltage.

The device inclusive of all wirings may only be energized when the cover of the intrinsically safe circuits is installed properly.