

Temperature sensor type Multipoints

903530/1.. 903530/30...

ATEX / IECEx „t“ / „ia“

For use in areas with an explosion hazard
(Ex areas)



B 903530.0.2
Operating Manual

V3.00/EN/00761031/2024-09-11-CN



Safety

information

This manual contains information that must be observed in the interest of your own safety and to avoid material damage. This information is supported by symbols which are used in this manual as indicated.

Please read this manual before starting up the device.

Store this manual in a place that is accessible to all users at all times.

If difficulties occur during startup, please do not intervene in any way that could jeopardize your warranty rights!

Non-observance of these instructions and their contents may result in the loss of explosion protection.

Check whether the classification is suitable for the application. Observe the relevant national regulations.

Observe the information given in the applicable type examination certificate and the relevant regulations for installation and use in hazardous areas



Please read these Operating Instructions before commissioning the device. Please assist us in improving these operating instructions where necessary. Your comments will be appreciated.

Phone: 03 87 37 53 00 Fax: 03 87 37 89 00

Email: info.fr@jumo.net

Sales support service: **0892 700 733** (€ 0.337/min)



If any difficulties should arise during commissioning, you are asked not to undertake

any unauthorized manipulations on the device. **This will endanger you rights under the device warranty!** Please contact your supplier or the main factory.

Contents

	Page
1 Object of these instructions and purpose of application	4
2 Marking	5
3 Safety notes	5
4 Conformance with standards	6
5 Technical data, explanation and case study	6
5.1 Thermal data	6
5.2 Relation ship between process temperature and temperature class according To zone	6-7
5.3 Maximum surface temperature in dust	7
5.4 Intrinsically safe connection, ignition protection type Ex "i"	7-8
5.5 Use in areas that are potentially explosive due to dust	8-9
6 Installation	9
7 Maintenance	9
8 Connection for silos	10-11
9 Declaration of conformity, data sheet/detail drawing	11

1 Object of these instructions and purpose of application

Object

The multipoint temperature sensors from Jumo are used for temperature measurement in storage of cereals, of flour, dried mud, sugar refinery, ... as well as for dusts.

Resistance probes for silos may be anchored to the structure or to a concrete screed, as preferred.

Connection housings in aluminium or stainless steel with IP 6x protection indices allow the replacement of the measuring element when the silo is full.

Connection of the measuring cable to the IP 6x housing compliant with directive 2014/34/EC.

The measuring sensor consist of Pt100 temperature sensors according to EN/IEC 60751 and are used in the fittings in tolerance classes A or B in a two-wire, three-wire, or four-wire circuit.

The use of these sensors with a higher basic value (Pt500, Pt1000..) is possible.

Similarly, NTCs, such as KTY, or other PTCs can also be used

Digital temperature sensor: allows several sensors to be placed on the same network and communicates with a 1-wire bus with each specific sensor on the network.

The polyethylene conduit has undergone migration tests to validate its suitability for contact with food:

* Référence document: regulation EU n.° 1935/2004 of 27/10/2004

* Test Rapport: LNE P175256

Specification and application

BASIS REFERENCE	ADDITIONAL CODE	TYPE OF PROTECTION	MARKING ATEX and IECEx	REMARKS
903530/1	-11-...	Ex"i"	II 1 D Ex ia IIIC T20085°C...T200100°C Da	Resistif sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/1	-12-...	Ex"i"	II 1 D Ex ia IIIC T20085°C...T200100°C Da	Digital sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/1	-13-...	Ex"t"	II 1 D Ex ta IIIC T20085°C...T200100°C Da	Resistif sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/1	-14-...	Ex"t"	II 1 D Ex ta IIIC T20085°C...T200100°C Da	Digital sensor sensor – Stainless steel terminal head - PEHD conduits
903530/30	-11-...	Ex"i"	II 1/2 D Ex ia IIIC T20085°C...T200100°C Da / Ex ia IIIC T85°C...T100°C Db	Resistif sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/30	-12-...	Ex"i"	II 1/2 D Ex ia IIIC T20085°C...T200100°C Da / Ex ia IIIC T85°C...T100°C Db	Digital sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/30	-13-...	Ex"t"	II 1/2 D Ex ta IIIC T20085°C...T200100°C Da / Ex tb IIIC T85°C...T100°C Db	Resistif sensor – Aluminium / Stainless steel terminal head - PEHD conduits
903530/30	-14-...	Ex"t"	II 1/2 D Ex ta IIIC T20085°C...T200100°C Da / Ex tb IIIC T85°C...T100°C Db	Digital sensor sensor – Stainless steel terminal head - PEHD conduits

Technical data sheet 903530: Temperature sensor type Multipoints with ATEX UE TypeExamination Attestation and/or IECEx certification

2 Marking

Example of sensor marking :

JUMO REGULATION METZ 57075 (1)
Type : Multipoints (2) C € 0344 (4)
Serial number: (3)
Year of construction :

Resistif sensor (5)

Ex II 1 D Ex ta IIIC T₂₀₀85°C...T₂₀₀100°C Da (6)
Un:25V In:50mA Pn:250mW
-40<=Tamb<=+80°C

Digital temperature sensor (5)

Ex II 1 D Ex ta IIIC T₂₀₀85°C...T₂₀₀100°C Da (6)
Un:9V In:550mA Pn:630mW
-40<=Tamb<=+75°C

QPS 23ATEX5019X (7)
IECEX QPS 24.0028X

WARNING-POTENTIAL ELECTROSTATIC
CHARGING HAZARD, SEE INSTRUCTION

⇒ **WARNING – POTENTIAL ELECTROSTATIC
CHARGING HAZARD, SEE INSTRUCTIONS**

- (1) Manufacturer's address
- (2) Type of sensor
- (3) Manufacturing number: order number + position
- (4) Notified body: 0344 = DEKRA
- (5) Choice of measuring element
- (6) Ex marking of group and category for dust zone
- (7) Type examination + IECEX certificate

2 Safety notes

The relevant technical data for using the device in potentially explosive areas are listed in the relevant drawing, the relevant data sheet, and/or on the label stuck into this operating manual.

Operate all RTD temperature probes according to the intended use, only when they are in an Undamaged and clean condition !

No modifications may be made to the RTD temperature probes. Otherwise, it may no longer be possible to ensure error-free functioning. Moreover, all warranty claims will be invalidated.
When replacing interchangeable measuring inserts, only JUMO original parts of the same type should be used.

The national and international safety and accident prevention regulations must be observed during installation, during work on and with the RTD temperature probes, as well as during mounting at the installation location.

Furthermore, the plant operator is responsible for compliance with the legal regulations.

If connecting cable extensions are used, the specific length-dependent capacitance and inductance must be observed.

The installation conditions, electrical connection values, temperature classes resp. the maximum surface temperatures of instruments for the use in explosive dust atmospheres and the permissible ambient temperature shall be taken from the corresponding EU-type examination certificates and shall be considered

Ambient temperature range:

EU Type Examination certificate QPS 23ATEX5019X / IECEx certificate IECEX QPS 24.0028X

Ambient temperature range :

For resistive sensor : -40..+80°C

For digital sensor : -40..+75°C

4 Compliance with standards

ATEX Type examination	EN Standards	IECEX certificates	IEC Standards
DEKRA 20ATEX0014 X	EN IEC 60079-0 (2018) EN60779-11 :2012	/	/
QPS 23ATEX5019X	EN IEC 60079-0 :2018 EN 60779-11 :2012 EN 60079-31 :2014	IECEX QPS 24.0028X	IEC 60079-0 : 2017 IEC 60079-11 :2023 IEC 60079-31 :2022

5 Technical Data

⇒ **CAUTION: for specific data, see the attached technical data sheet/detail drawing and/or the label that is affixed to these operating instructions**

5.1 Thermal data

In an RTD temperature probe, the measuring current (or in the case of a malfunction, the fault current) flows through the sensor element. Self-heating of the element occurs and, ultimately, a temperature increase on the surface of the protection fitting also occurs.

Surface heating is determined by the temperature probe design, by the environmental influences (thermal coupling to the measurement medium), as well as the power fed in.

This increase must be taken into account for the process temperature difference and the temperature class. It must be ensured that the limit of the specified temperature class is not exceeded. The operator must determine whether the thermometer is suitable for the measurement task for the relevant application and the connected equipment.

5.2 Relationship between process temperature and temperature class according to zone

Self-heating at the sensor tip depends on the type of sensor (resistance thermometer) and the electrical power of the measurement circuit in the event of a failure

Maxi temperature rise values

MAXI TEMPERATURE RISE		
Measuring insert	Resistance value	Value
RTD sensor	Pt 100 / Pt1000	12,5 K
Digital sensor	/	12,5 K

These values are taken from the FTZU test report number 24.0127-19 – Temperature rise test – measurement of surface temperature.

5.3 Maximum surface temperature in Dust

The maximum surface temperature T₂₀₀₁₀₀ °C rise as a function of electrical circuit power °C

5.4 Intrinsically safe connection, type of protection type Ex "i"

An electrical circuit is intrinsically safe if no ignitable sparks occur in normal cases and in the case of malfunction due to a short circuit of the electrical circuit, or the surface of the devices does not heat up above the specified temperature class due to the current flowing (see also EN 60079-11 and paragraph 5.2).

In order that an electrical circuit can be designated as intrinsically safe, all devices in the circuit must be designed to be intrinsically safe. Furthermore, it must be ensured that the interconnection of intrinsically safe devices meets the requirements for an intrinsically safe electrical circuit.

The interconnection of any intrinsically safe devices does not ensure an intrinsically safe circuit in itself. It must be ensured that the limit of the specified temperature class is not exceeded (see also paragraph 5.2).

Electrical value for ATEX Type Examination

- **QPS 23ATEX5019X and IECEx QPS 24.0028X:**

For resistif sensor: $U_i: 25V\ DC - I_i: 50mA - P_i: 250mW - L_i: 0 - C_i: 0$

For digital temperature sensor : $U_i: 9V - I_i: 550mA - P_i: 630mW - L_i: 0 - C_i: 30pF$

Integral cable with folowing parameters : $L_c: 1\mu H/m$ and $C_c: 200pF/m$

- **DEKRA 20ATEX0014 X**

For resistif sensor: $U_i: 25V\ DC - I_i: 50mA - P_i: 250mW - L_i: 0 - C_i: 0$

For digital temperature sensor : $U_i: 5,5V - I_i: 550mA - P_i: 630mW - L_i: 0 - C_i: 30pF$

Integral cable with folowing parameters : $L_c: 1\mu H/m$ and $C_c: 200pF/m$

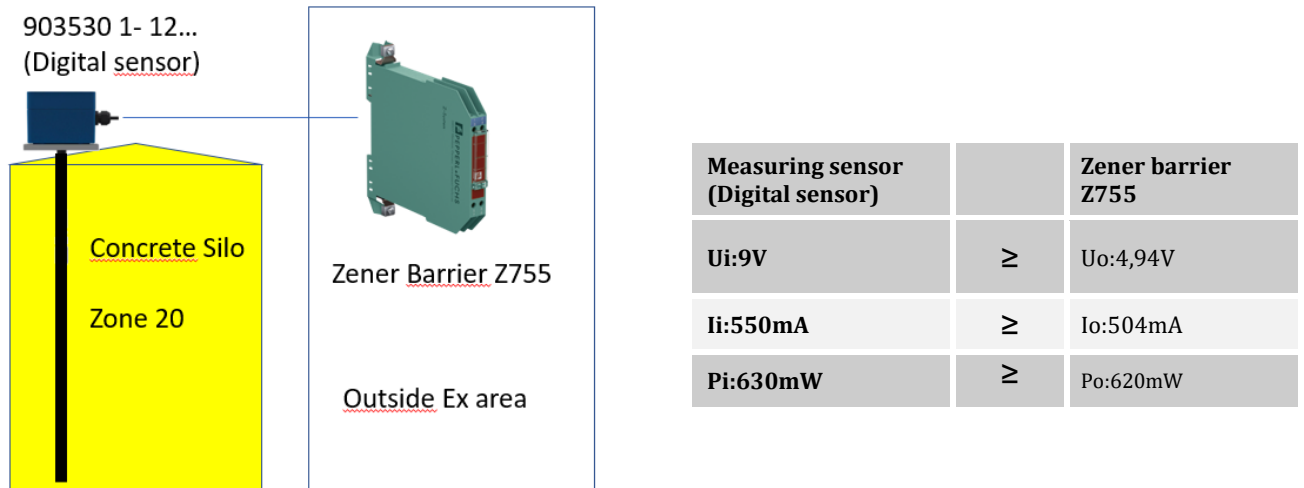
Calculation for self-heating at the sensor/ thermowell tip must be carried out according to paragraph 5.2

The intrinsic safety loop must be calculated.

To provide evidence of intrinsic safety, the electrical boundary values must comply with the attestations covering the equipment.

The conditions are verified by comparing with the permissible boundary values of the electrical equipment

Example:



Considering the length of cables of the sensor $L_c=1\mu\text{H/m}$ and $C_c=200\text{pF/m}$ and the length of the interconnection cable $L_c=1\text{mH/km}$ and $C_c=110\text{nF/km}$

5.5 Use in areas that are potentially explosive due to dust

For use in areas that are potentially explosive due to dust, the following temperature values must be considered:

The following applies for all zones:

The equipment's surface temperature must not reach the point at which clouds of dust or dust deposited on equipment could ignite. This is achieved through the following conditions::

Without dust deposits

The surface temperature must not exceed 2/3 of the ignition temperature in °C of the respective dust/air mixture..

With dust deposits

Surfaces on which dangerous deposits of smolderable dust cannot be prevented must not have a surface temperature that is higher than 75 K below the smoldering temperature of the dust concerned. If layers thicker than 5 mm occur, a further reduction of the surface temperature is required.

Where a combination of swirling and deposited dust occurs, the lower of the temperature values derived above must be applied.

Note:

In this case, surface means the exterior surface of the equipment, see also 60079-14.

The ignition or smoldering temperature of the dust or dust/air mixture that is present must be defined or determined by the plant operator!

Note:

In this case, "surface" means the external surface of the equipment, see also EN 60079-14.

The ignition or smoldering temperature of the dust or dust-air mixture that is present must be defined or determined by the operator of the plant or system!

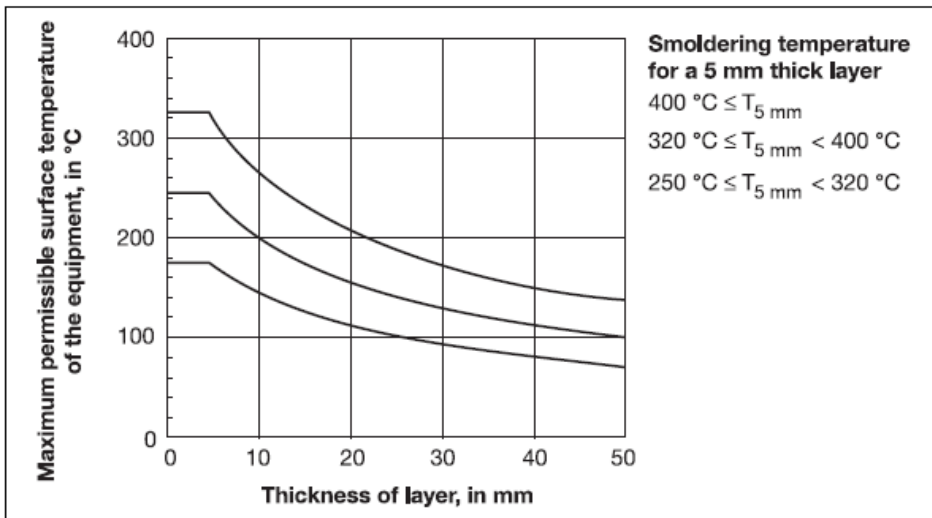


Figure 18: Reduction of the maximum permissible surface temperature with increasing thickness of the dust deposit

6 Specific parameters per protection mode

Follow the installation and safety instructions in the operating manual.

The installation conditions, electrical connection values, temperature classes resp. the maximum surface temperatures of instruments for the use in explosive dust atmospheres and the permissible ambient temperature shall be taken from the corresponding EU-type examination certificates and shall be considered

In the case of devices belonging to ignition protection type Ex "i", the supply and evaluation is carried out via certified, intrinsically safe electrical circuits.

Calculation for self-heating at the sensor/ thermowell tip must be carried out according with example to paragraph 5.2.

The user must perform this calculation for each application

When connecting to non-intrinsically safe electrical circuits, the power introduced must be restricted by the user to ensure that the maximum surface heating – according to the temperature class minus the safety clearance – is not exceeded!

The equipotential bonding (earth connection of the device) include the entire wiring of the measuring circuit!

Metallic connector housings must be grounded via the connecting cables, for equipotential bonding.

Non-metallic connector housings must not exceed the max. surface area specified by EN 60079-26.

The standard EN 60079-14 "Explosive atmospheres Part 14: Electrical installations design, selection and erection" must be observed.

Connection housing for model 903530/30 (respectively 903530/1) is certified for installation in Zone 21 (respectively zone 20).

7 Maintenance

The European and national regulations applicable to maintenance/repair/inspection must be adhered to.

During maintenance, the parts upon which the ignition protection type depends must be checked in particular.

Furthermore, thermometers with a plastic terminal head and all plastic parts (e.g. plug connectors, etc.) must only be cleaned with a damp cloth in order to prevent electrostatic charge.

8 Connection of RTD temperature probes

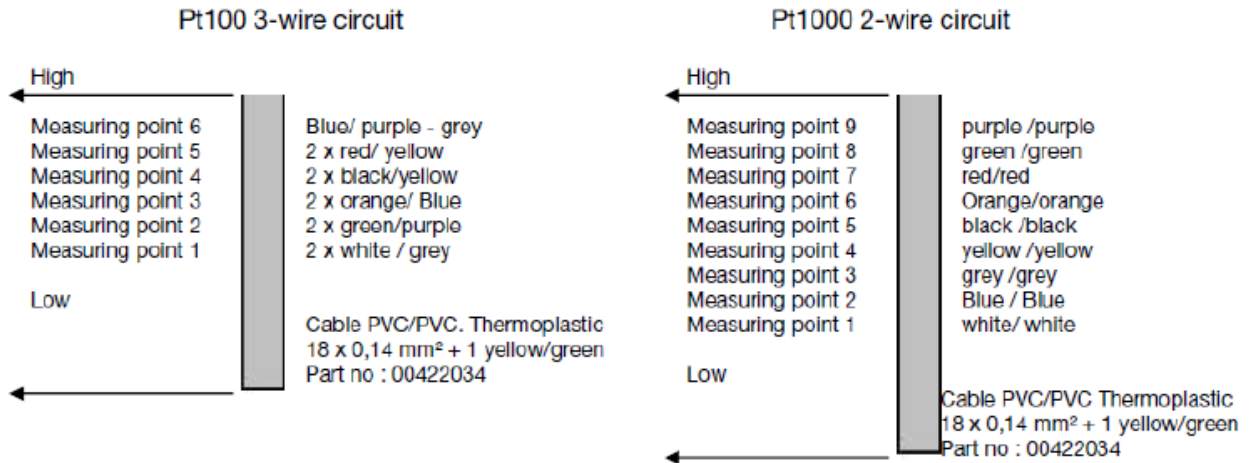
applies to Pt500 and Pt1000, for JUMO resistance probes with cable connecting head)

Measuring points on sensors of silos

With cable part number 00422034

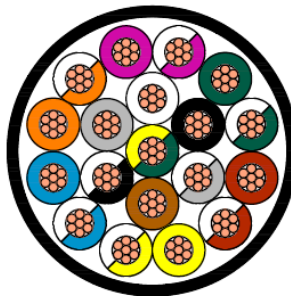
Pt100 3-wire

Pt1000 2-wire

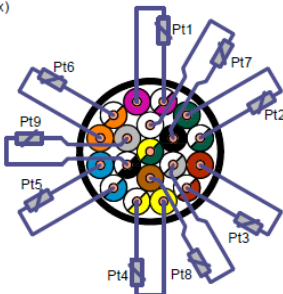


With cable part number 00788068

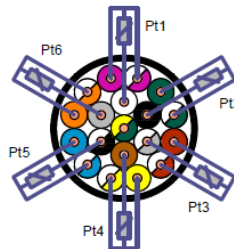
- BLACK
- GREY
- RED
- ORANGE
- YELLOW
- GREEN
- BLUE
- PURPLE
- BROWN
- WHITE
- WHITE / BLACK
- WHITE / GREY
- WHITE / RED
- WHITE / ORANGE
- WHITE / YELLOW
- WHITE / GREEN
- WHITE / BLUE
- WHITE / PURPLE
- GREEN / YELLOW



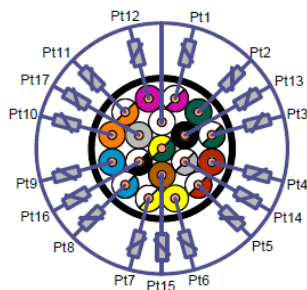
Assembly 2 wires
(9 points max)



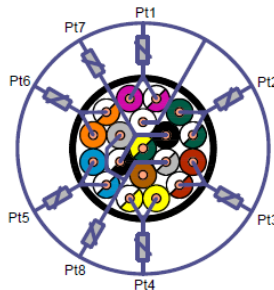
Assembly 3 wires
(6 points max)



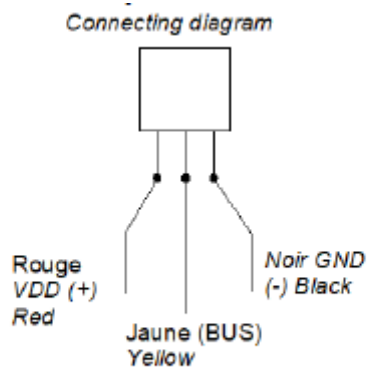
Assembly 2 wires with a shared thread
(17 points max)



Assembly 3 wires with a shared thread
(7 points max)



digital temperature sensor



9 Attestations and certificats

Download Ex attestations and IECEx certificates from our website :
www.jumo.fr



JUMO GmbH & Co. KG

Adresse :

Moritz-Juchheim-Straße 1

36039 Fulda, Allemagne

Adresse de livraison :

Mackenrodtstraße 14

36039 Fulda, Allemagne

Adresse postale :

36035 Fulda, Allemagne

Téléphone : +49 661 6003-0

Télécopieur : +49 661 6003-500

E-Mail : mail@jumo.net

Internet : www.jumo.net

JUMO FRANCE SAS

Actipôle Borny

7 rue des Drapiers

B.P. 45200

57075 Metz – Cedex 3, France

Téléphone : +33 3 87 37 53 00

Télécopieur : +33 3 87 37 89 00

E-Mail : info.fr@jumo.net

Internet : www.jumo.fr

Déclaration UE de Conformité
EU Konformitätserklärung / EU Declaration of Conformity

Etabli par <i>Hersteller / Manufacturer</i>	JUMO REGULATION S.A.
Adresse <i>Anschrift / Address</i>	7 rue des Drapiers, Actipôle Borny, BP 45200, 57070 METZ
Produit <i>Produkt / Product</i>	Capteur de température type Multipoints <i>Temperaturfühler Typ Multipoints</i> <i>Temperature probe type Multipoints</i>
Fiche technique <i>Typenblatt-Nr / Data sheet :</i>	903530
Marquage Ex du produit : <i>Ex Beschriftung des Produkt</i> <i>/ Marking of product</i>	Dust : II 1 D Ex Ia IIIC T200/100°C Da

Nous déclarons sous notre seule responsabilité que le produit remplit les directives européennes.
Wir erklären in alleiniger Verantwortung, dass das bezeichnete Produkt die Schutzanforderungen der Europäischen Richtlinien erfüllt.
We hereby declare in sole responsibility that the designated product fulfills the safety requirements of the European directives.

Directive	2014/34/UE Appareils et systèmes de protection destinés à être utilisés en atmosphères explosives
<i>Richtlinie / Directive</i>	<i>2014/34/EG Appar- und Systemprotektion bestimmt für die Benutzung in explosiven Atmosphären</i> <i>2014/34/CE Devices and systems of protection intended to be used in explosive atmospheres</i>

Attestation d' Examen CE de Type : <i>EG-Baumusterprüfbescheinigung / EC Type Examination Certificate</i>	DEKRA 20ATEX0014 X
---------------------------------------------------------------------------------------------------------------------	---------------------------

Notification de l'évaluation relative à la qualité de production <i>Anmeldung der Bewertung betreffend der Produktionsqualität</i> <i>Production Quality Assurance Notification</i>	DEKRA 20ATEXQ0019
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------

Normes appliquées <i>Angewendete Normen/ Normative update according to standards</i>	EN IEC 60079-0 : 2018 / EN 60079-11: 2012
------------------------------------------------------------------------------------------------	--------------------------------------------------

Organisme notifié agréé <i>Anerkanntes Qualitätssicherungssystem</i>	CE 0344 DEKRA Certification B.V. Meander 1051 6825 MJ Arnhem Netherlands
--------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------

Lieu, Date <i>Ort, Datum / Place, Date</i>	Metz, le 15/09/2021
------------------------------------------------------	----------------------------

Directeur Général <i>Generaldirektor / Chief Executive</i>	
----------------------------------------------------------------------	--

Jean-Marc RICHARD



CERTIFICATE

(1) EU-Type Examination

(2) **Equipment or protective systems intended for use in potentially explosive atmospheres - Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number: **DEKRA 20ATEX0014 X** Issue Number: **0**

(4) Product: **Temperature probe Type Multipoints**

(5) Manufacturer: **JUMO Régulation S.A.S.**

(6) Address: **7, rue des drapiers, Actipole Borny, B.P. 45200, 57075 Metz Cedex 3, France**

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) DEKRA Certification B.V., Notified Body number 0344 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 test report number 224420000, issue 0.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0 : 2018 EN 60079-11 : 2012

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 subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the 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:



II 1 D Ex ia IIIC T₂₀₀ 100°C Da

Date of certification: 16 July 2021

DEKRA Certification B.V.

T. Pijpker
Certification Manager

Page 1/2



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(13) **SCHEDULE**

(14) **to EU-Type Examination Certificate DEKRA 20ATEX0014 X**

Issue No. **0**

(15) **Description**

The multipoints temperature sensors are equipped with resistive elements (Pt100, Pt1000, CTP..) or digital sensors and are used for temperature measurement in storage of cereals, flours, dried mud, sugar, etc...

The head is made of aluminium or stainless steel and the conduit protection is in PEHD.

The measuring cable is secured by a certified cable gland.

The sensor consists of:

- up to 18 measuring points for resistive elements, or
- up to 30 measuring points for digital sensors

Ambient temperature range:

- for resistive sensors -40 °C to +80 °C,
- for digital sensors -40 °C to +75 °C.

Electrical data

In type of protection intrinsic safety Ex ia IIIC only for connection to certified intrinsically safe circuits, with the following maximum values:

- Resistive sensor: $U_i = 25 \text{ V DC}$; $I_i = 50 \text{ mA}$; $P_i = 250 \text{ mW}$; $C_i = 0 \text{ nF}$; $L_i = 0 \text{ mH}$.
- Digital sensor : $U_i = 5.5 \text{ V DC}$; $I_i = 550 \text{ mA}$; $P_i = 650 \text{ mW}$; $C_i = 30 \text{ pF}$; $L_i = 0 \text{ mH}$.

Integral cable with following parameters: $L_c = 1 \text{ } \mu\text{H/m}$ and $C_c = 200 \text{ pF/m}$

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

(16) **Report Number**

No. 224420000, issue 0.

(17) **Specific conditions of use**

Ambient temperature range:

- for resistive sensors -40 °C to +80 °C,
- for digital sensors -40 °C to +75 °C.

(18) **Essential Health and Safety Requirements**

Covered by the standards listed at item (9).

(19) **Test documentation**

As listed in Report No. 224420000, issue 0.

(20) **Certificate history**

Issue 0 - 224420000 initial certificate



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 QPS 24.0028X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2024-09-12

Applicant: **JUMO France SAS**
7 rue des Drapiers
Actipôle Borny
METZ 57075
France

Equipment: **Temperature sensors type Multipoints 903530/1-xx-...and 903530/30-xx**

Optional accessory:

Type of Protection: **Ex i; Ex t**

Marking: **IECEX QPS 24.0028X**
Ex ia IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)
Ex ta IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)
Ex ia IIIC T₂₀₀85°C ...T₂₀₀100°C Da / Ex ia IIIC T85°C ...T100°C Db (for 903530/30)
Ex ta IIIC T₂₀₀85°C ...T₂₀₀100°C Da / Ex tb IIIC T85°C ...T100°C Db (for 903530/30)
Ambient temperature range: For resistive sensor : -40°C..+80°C
For digital sensor : -40°C...+75°C

Approved for issue on behalf of the IECEx
Certification Body:

D, Adams, P.Eng.

Position:

Manager, Hazardous Location Department

Signature:
(for printed version)

Date:
(for printed version)

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:

QPS
Evaluation Services Inc.
81 Kelfield St
Unit 8
Toronto, Ontario M9W 5A3
Canada





IECEX Certificate of Conformity

Certificate No.: **IECEX QPS 24.0028X**

Page 2 of 3

Date of issue: 2024-09-12

Issue No: 0

Manufacturer: **JUMO France SAS**
7 rue des Drapiers
Actipôle Borny
METZ 57075
France

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](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2023](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:7.0

[IEC 60079-31:2022](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"
Edition:3.0

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:

[CA/QPS/ExTR24.0025/00](#)

Quality Assessment Report:

[NL/DEK/QAR19.0019/03](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX QPS 24.0028X**

Page 3 of 3

Date of issue: 2024-09-12

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The multipoint temperature sensors are used for temperature measurement in storage of dust environments. Resistance probes for silos may be anchored to the structure.

Terminal head for product 903530/1-xxis made of aluminium or stainless steel, additional connection housing is made of aluminium for product 903530/30-xx. Connection housing for model 903530/30 (respectively 903530/1) is certified for installation in Zone 21 (respectively zone 20).

The measuring sensor consists of Pt500, Pt100 or Pt1000 temperature sensors in a two-wire, three-wire, or four-wire circuit. Similarly, NTCs, such as KTY, or other PTCs can also be used.

Digital temperature sensor: allows several sensors to be placed on the same network and communicates with a 1-wire bus.

It ensures an IP 6x and allows the replacement of the measuring element.

SPECIFIC CONDITIONS OF USE: YES as shown below:

When the process temperature range exceeds the ambient temperature range it shall be verified that the temperature at the connection with the connection head does not exceed the specified ambient temperature range of 75°C (for digital sensor) and 80°C (for resistive sensor).

When the ambient temperature is more than 60°C a cable and cable gland shall be suitable for the ambient temperature +20 K.



QPS Evaluation Services Inc



(1) EU-Type Examination Certificate

(2) **Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014**

(3) EU-Type Examination Certificate Number: **QPS 23ATEX5019X** Issue Number: 0

(4) Product: **Temperature sensors type Multipoints 903530/1-xx-...and 903530/30-xx**

(5) Manufacturer: **JUMO FRANCE S.A.S**

(6) Address: 7 rue des Drapiers
Actipôle Borny
57075 METZ

(7) This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) QPS Evaluation Services Inc. 81 Kelfield St., Units 7-9, Toronto, ON M9W 5A3, Canada, Notified Body Number 2900, 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 equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential test report number ATX3234-2
Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

(9)

Standard	Edition	Standard	Edition	Standard	Edition
EN IEC 60079-0	2018	EN60079-31	2014	EN 60079-11	2012

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 subject to the Specific Conditions of Use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive 2014/34/EU article 13 apply to the manufacturing process and supply of this product. These are separately certified and not covered by this certificate.

(12) The marking of the product shall include the following:



II 1 D Ex ia IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)

II 1 D Ex ta IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)

II 1/2 D Ex ia IIIC T₂₀₀85°C ...T₂₀₀100°C Da / Ex ia IIIC T85°C ...T100°C Db (for 903530/30)

II 1/2 D Ex ta IIIC T20085°C ...T200100°C Da / Ex tb IIIC T85°C ...T100°C Db (for 903530/30)

Date of certification: 8 November 2024

Rob Kohuch
Certification Manager, Ex Product
QPS Evaluation Services Inc.



EU-Type Examination Certificate without signature shall not be valid. The certificates may be circulated only without alteration. Extracts or alterations are subject to approval by QPS Evaluation Service Inc. The SCC Accreditation Symbol is an official symbol of the accreditation body and notifying authority, used under license.

QPS Inc. 81 Kelfield St., Units 7-9, Toronto, ON M9W 5A3 Tel: 416-241-8857
www.qps.ca

(13) **SCHEDULE**(14) **to EU-Type Examination Certificate QPS 23ATEX5019 X**

Issue No. 0

(15) **Description and Electrical data**

The multipoint temperature sensors are used for temperature measurement in storage of dust environments.

Resistance probes for silos may be anchored to the structure.

Terminal head for product 903530/1-xxxx is made of aluminium or stainless steel, additional connection housing is made of aluminium for product 903530/30-xx.

It ensures an IP 6x and allows the replacement of the measuring element.

Connection housing for model 903530/30 (respectively 903530/1) is certified for installation in Zone 21 (respectively zone 20).

The measuring sensor consists of Pt500, Pt100 or Pt1000 temperature sensors in a two-wire, three-wire, or four-wire circuit. Similarly, NTCs, such as KTY, or other PTCs can also be used.

Digital temperature sensor: allows several sensors to be placed on the same network and communicates with a 1-wire bus.

Ambient temperature range: For resistive sensor : -40°C..+80°C
For digital sensor : -40°C...+75°C

Electrical data:

For Ex ia protection method:

- For resistif sensor: Ui: 25V DC - Ii : 50mA – Pi : 250mW – Li :0nH – Ci :0pF
- For digital temperature sensor : Ui: 5,5V - Ii : 550mA – Pi : 630mW – Li :0 nH– Ci :30pF
- Integral cable with following parameters : Lc: 1microH/m and Cc:200pF/m

For Ex ta/tb protection method:

- For resistif sensor: Ui: 25V DC - Ii : 50mA – Pi : 250mW
- For digital temperature sensor : Ui: 9,0V - Ii : 550mA – Pi : 630mW

(16) **Report Number:**

ATX3234-2.

(17) **Specific conditions of use:**

When the process temperature range exceeds the ambient temperature range it shall be verified that the temperature at the connection with the connection head does not exceed the specified ambient temperature range of 75°C (for digital sensor) and 80°C (for resistive sensor).

When the ambient temperature is more than 60°C a cable and cable gland shall be suitable for the ambient temperature +20 K.

(18) **Essential Health and Safety Requirements**

Met by compliance with the requirements mentioned in item 9.

(19) **Remarks and additional information: N/A**(20) **Certificate history**

Issue 0 - 241108; Initial certificate.

Déclaration UE de Conformité
EU Konformitätserklärung / EU Declaration of Conformity

Etabli par / *Hersteller / Manufacturer* **JUMO REGULATION S.A.**

Adresse / *Anschrift / Address* 7 rue des Drapiers, Actipôle Borny, BP 45200, 57070 METZ

Produit / *Produkt / Product* **Temperature sensors type Multipoints 903530/1-xx and 903530/30-xx**

Fiche technique / *Typenblatt-Nr / Data sheet :* **903530**

Marquage Ex du produit : **DUST :**

Ex Beschriftungs des Produkt / Marking of product

II 1 D Ex ia IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)

II 1 D Ex ta IIIC T₂₀₀85°C...T₂₀₀100°C Da (for 903530/1)

II 1/2 D Ex ia IIIC T₂₀₀85°C...T₂₀₀100°C Da / Ex ia IIIC T85°C...T100°C Db (for 903530/30)

II 1/2 D Ex ia IIIC T₂₀₀85°C...T₂₀₀100°C Da / Ex ia IIIC T85°C...T100°C Db (for 903530/30)

Nous déclarons sous notre seule responsabilité que le produit remplit les directives européennes.
Wir erklären in alleiniger Verantwortung, dass das bezeichnete Produkt die Schutzanforderungen der Europäischen Richtlinien erfüllt.
We hereby declare in sole responsibility that the designated product fulfils the safety requirements of the European directives.

Directive / *Richtlinie/ Directive* **2014/34/UE Appareils et systèmes de protection destinés à être utilisés en atmosphères explosives**
2014/34/EG Apparatur- und Systemprotektion bestimmt für die Benutzung in explosiven Atmosphären
2014/34/CE Devices and systems of protection intended to be used in explosive atmospheres

Attestation d'Examen CE de Type : / *EG-Baumusterprüfbescheinigung / EC Type Examination Certificate* **QPS 23ATEX5019X**

Notification de l'évaluation relative à la qualité de production / *Anmeldung der Bewertung betreffend der Produktionsqualität* **DEKRA 20ATEXQ0019**
Production Quality Assurance Notification

Normes appliquées / *Angewendete Normen / Normative update according to standards*
EN IEC 60079-0 : 2018
EN 60079-31 : 2014
EN 60079-11 : 2012

Organisme notifié agréé / *Anerkanntes Qualitätssicherungssystem* **CE 0344**
DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands

Lieu, Date / *Ort, Datum / Place, Date* **Metz, le 19/11/2024**

Directeur Général / *Generaldirektor / Chief Executive*
Jean-Marc RICHARD

Nature de la modification : ajout du cartouche de traçabilité avec la vérification par le Responsable Qualité							
Indice	0						
Date :	19/11/24						
Rédacteur : C. NOUSSBAUM	Etabli le : 19/11/2024	Validé le : 19/11/2024	Par : Stéphane Ketterer	N° réf : FEATEX79			