



(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 09 ATEX 0101 X**
- (4) Product: Pressure transducer
Type JUMO MIDAS S21 Ex 404710 / 000 - *** - 405 - *** - 20 - **
- (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 19CH-01050.X02
- (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 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:

 II 2G Ex ib IIC T6 ... T4 Gb
II 2D Ex ib IIIC T70 °C ... T100 °C Db

Eurofins Electric & Electronic Product Testing AG
Notified Body ATEX

Martin Plüss
Product Certification



(13)

Appendix

(14)

EU-Type Examination Certificate no. SEV 09 ATEX 0101 X

(15) **Description of product**

The pressure transducer JUMO MIDAS S21 Ex type 404710 / 000 - *** - 405 - *** - 20 - ** serves for converting a physical measured quantity (pressure) into a standardised electrical signal (current signal 4 .. 20 mA). It is intended for use within potentially explosive areas.
The intrinsically safe circuit is connected with a non-detachable (cable length in plain text), circular connector M12 x 1 or a special electrical connection.

Measuring and supply circuit with the type of protection intrinsic safety

Ex ib IIC

Ex ib IIIC

Only for connection to a certified intrinsically safe circuit.

Rating:

Input and supply circuits:

With type of protection intrinsic safety Ex ib IIC

Only for connection to certified intrinsically safe circuit.

Maximum values for circular connector M12x1 and special electrical connection:

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i = 10.4 \text{ nF}$ (effective internal capacitance)

$L_i = 0 \text{ uH}$ (effective internal inductance)

Maximum values for electrical connection with non-detachable cable:

$U_i \leq 28 \text{ V}$

$I_i \leq 100 \text{ mA}$

$P_i \leq 750 \text{ mW}$

$C_i \leq 10.4 \text{ nF} + 100 \text{ pF/m} \cdot \text{cable length}$

$L_i \leq 1 \text{ uH/m} \cdot \text{cable length}$

Classification of installation and use:

stationary

Ingress protection:

IP65

Equipment protection level Gb

Ambient temperature:

T4: -40 °C to +85 °C

T5: -40 °C to +70 °C

T6: -40 °C to +55 °C

Rated ambient temperature range (°C):

Equipment protection level Db

maximum surface temperature:

T100 °C: -40 °C to +85 °C

T85 °C: -40 °C to +70 °C

T70 °C: -40 °C to +55 °C

Type designation:

Example of type designation 404710/000 - 459 - 405 - 504 - 20 - 11 / 000
 (1) (2) (3) (4) (5) (6) (7)

(1) Basic type

404710/000 JUMO MIDAS S21 Ex – Pressure transducer for use in potentially explosive atmospheres

(2)* Pressure rated measuring range

- 432 0 to 30 bar relative pressure
- 451 0 to 0.25 bar relative pressure
- 452 0 to 0.4 bar relative pressure
- 453 0 to 0.6 bar relative pressure
- 454 0 to 1 bar relative pressure
- 455 0 to 1.6 bar relative pressure
- 456 0 to 2.5 bar relative pressure
- 457 0 to 4 bar relative pressure
- 458 0 to 6 bar relative pressure
- 459 0 to 10 bar relative pressure
- 460 0 to 16 bar relative pressure
- 461 0 to 25 bar relative pressure
- 462 0 to 40 bar relative pressure
- 463 0 to 60 bar relative pressure
- 464 0 to 100 bar relative pressure
- 475 -0.25 to 0 bar relative pressure
- 476 -0.4 to 0 bar relative pressure
- 477 -0.6 to 0 bar relative pressure
- 478 -1 to 0 bar relative pressure
- 479 -1 to +0.6 bar relative pressure
- 480 -1 to +1.5 bar relative pressure
- 481 -1 to +3 bar relative pressure
- 482 -1 to +5 bar relative pressure
- 483 -1 to +9 bar relative pressure
- 484 -1 to +15 bar relative pressure
- 485 -1 to +24 bar relative pressure
- 487 0 to 0.6 bar absolute pressure
- 488 0 to 1 bar absolute pressure
- 489 0 to 1.6 bar absolute pressure
- 490 0 to 2.5 bar absolute pressure
- 491 0 to 4 bar absolute pressure
- 492 0 to 6 bar absolute pressure
- 493 0 to 10 bar absolute pressure
- 494 0 to 16 bar absolute pressure
- 495 0 to 25 bar absolute pressure
- 998 special measuring range for absolute pressure
- 999 special measuring range for relative pressure

(3) Electrical output

405 4 to 20 mA. two-wire

(4)* Process connection

- 502 G 1/4 according to DIN EN 837
- 504 G 1/2 according to DIN EN 837
- 511 1/4-18 NPT according to DIN EN 837
- 512 1/2-14 NPT according to DIN EN 837
- 521 G 1/4 according to DIN 3852-11
- 523 G 1/2 according to DIN 3852-11
- 563 7/16-20 UNF inside with vent core pusher
- 583 M20 x 1.5 with stud
- 999 according to customer specification

(5) Material of process connection

20 CrNi (stainless steel)

(6) Electrical connection

- 11 attached cable
- 24 loose stranded wires
- 36 round plug M12x1
- 61 cable socket DIN EN 175301-803 form A
- 99 special electrical connection

(7)* Additional options

- 000 without
- 462 inverted output signal
- 591 choking coil in pressure channel
 - 624 free from oil and grease
 - 630 widened pressure channel

*) The numerical type keys can be extended with values not named here in the sense of the basic test. These extensions have no effect on the explosion protection and general safety.

(16) **Specific conditions of use**

- For details concerning the admissible ambient temperatures and temperature classes please refer to the user's manual.
- The sensor with the connector cable socket (NTS 61) may only be used for gas applications.

(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"