

Translation

EU-Type Examination Certificate

Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014

EU-Type Examination Certificate Number: **DMT 03 ATEX G 003 X** Issue: **01**

Equipment: **SUPREMA**

Manufacturer: **MSA EUROPE GmbH**

Address: **Schlüsselstr. 12, 8645 Rapperswil-Jona, Switzerland**

This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

DEKRA Testing and Certification GmbH, Notified Body number 0158, 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 the confidential Report PFG-no. 41300204P NXII.

This issue of the EU-Type Examination Certificate replaces the previous issue of the EC-Type Examination Certificate DMT 03 ATEX G 003 X including supplements 1 to 26.

Compliance with the Essential Health and Safety Requirements with respect to the measuring function for explosion protection has been assured by compliance with:

EN 60079-29-1:2016

EN 50104:2019

EN 50271:2018

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the "Specific Conditions of Use" listed under item 17 of this certificate.

This EU-Type Examination Certificate relates only to the technical design of the specified product in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

The marking of the product shall include the following:



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DEKRA Testing and Certification GmbH
Bochum, 2023-05-25

Signed: Dr. Rolf Krökel

Managing Director

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15 Product description

15.1 Subject and type

Control unit SUPREMA

15.2 Description

The modular control system SUPREMA of MSA EUROPE GmbH when operated with remote catalytic sensors or transmitters with 4-20 mA interface is a fixed control system for the measurement of flammable gases and vapours and oxygen (transmitters only). The control system is not intended to be used in potentially explosive atmospheres.

Reason for this issue

Test of operation with remote catalytic sensor series 47K-HT-PRP

15.3 Parameters

Not applicable

15.4 Measuring function for explosion protection

This EU-type examination certificate covers:

- Control unit SUPREMA consisting of the following modules:
 - SUPREMA Touch 19" Rack, part no. 10166233, 10166234, 10166235 or 10166236
 - MIB20, part no. 10050712
 - MST20, part no. 10104584
 - MCP20, part no. 10101581, software version 3.03.03
 - MDO20, part no. 10109638, software version 3.03.03
 - MDC20, part no. 10110482
 - MAI30, part no. 10151719, software version 1.02.05
 - MAR30, part no. 10151720, software version 1.02.05
 - MHS30, part no. 10151731
 - MGI30, part no. 10170299, software version 1.02.05
 - MGR30, part no. 10170300, software version 1.02.05
 - MAO20, part no. 10102071, software version 3.01.02
 - MGO20, part no. 10083804, software version 3.01.02
 - MAT10 TS, part no. 10022311
 - MGT40 TS, part no. 10026772
 - MRC10 TS, part no. 10021676
 - MRO20-8 TS, part no. 10112807
 - MRO20-16 TS, part no. 10112805
 - MRO20-8 TS-SSR, part no. 10115115
 - MRD10, part no. 10052880
 - MUT10, part no. 10019468
- when operated with remote catalytic sensor series 47K-PRP the measurement of methane, propane, acetone, FAM-Benzine 65/95, 2-butanone, ethanol, ethyl acetate, 1-Ethoxy-2-propanol, n-nonane, 1-Propanol, 2-Propanol, propene, toluene and hydrogen mixed with air in the measuring range 0 % LEL to 100 % LEL
- when operated with remote catalytic sensor series 47K-HT-PRP the measurement of methane and propane mixed with air in the measuring range 0 % LEL to 100 % LEL

- when operated with transmitters with a 4-20 mA interface the measurement of the flammable gases and vapours which are listed in the EC- or EU-type examination certificate of the transmitter
- when operated with transmitters with a 4-20 mA interface the measurement of oxygen (measurement of inertisation) according to the EC- or EU-type examination certificate of the transmitter
- use of the following outputs for safety relevant purposes:
 - display
 - relays
 - optocoupler
- use of the following accessories:
 - CAN-bridge, part no. 10034641
 - CAN/LWL converter, part no. 10052948
 - Power supply 250W/24 VDC, part no. 10152510
 - Sensor simulation module 4-20 mA, part no. 10030262
 - Sensor simulation module WT, part no. 10030263
 - MBC20-Modbus, part no. 10122578, with MBT20, part no. 10105279 (functionality not tested)
 - MBC20-Profinet, part no. 10213560, with MBT20, part no. 10105279 (functionality not tested)
 - microSD card, part no. 10179005
- use of the following accessories for sensor series 47K-PRP:
 - Junction box Ex e (part no. 10114111 and 10114114)
 - Junction box Ex d (part no. 10114112 and 10114115)
 - Flow through adapter (part-no. 10113031)
 - Calibration cap (part-no. 10112789)
 - Weather protection cap (part-no. 10051623 and 10051731)
 - Duct mount flange (part-no. 10112790)
 - Remote calibration adapter CalGard (part-no. 10150921)
- use of the following accessories for sensor series 47K-HT-PRP:
 - Junction box ATEX 100 °C (part no. 10151980)
 - Wall mounted bracket (part-no. 10048829)
 - Flow through adapter (part-no. 10113031)

The EU-type examination includes for the control unit SUPREMA no deviations from the operating conditions required by EN 60079-29-1 or EN 50104.

The EU-type examination includes for sensor series 47K-PRP the following deviations from the operating conditions required by EN 60079-29-1:

- Extended range of temperature at operation: -40 °C to +55 °C
- Extended range of humidity of the measured gas: 5 % RH to 95 % RH

The EU-type examination includes for sensor series 47K-HT-PRP the following deviations from the operating conditions required by EN 60079-29-1:

- Extended range of temperature at operation: -40 °C to +160 °C
- Extended range of humidity of the measured gas: 5 % RH to 95 % RH

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17 Specific Conditions of Use

- When operated with transmitters with 4 - 20 mA interface the specification of the 4 - 20 mA interface as well as the behaviour below 4 mA and above 20 mA shall be taken into account.
- For each measuring point, the alarm with the highest significance for safety shall be configured as Latching.
- Switching outputs for safety-related switching operations shall be parametrized with "New Alarm" not selected.

- Time delayed switching outputs should not be used for safety related purposes. If their use is unavoidable, the delay time shall be set to the minimum possible for the required operation. The maximum possible rate of increase of gas concentration shall be taken into account when determining the delay time.
- All safety related relays shall be parametrized that they are energized under normal conditions.
- The system fail relays of all racks in the system shall be monitored.
- The 8 common relays shall be monitored. The horn relay may be excluded.
- All controls, including digital inputs and inputs from communication interfaces shall be protected against unauthorised or inadvertent interference or operation.
- When measuring flammable gases or vapours, the following conditions shall be observed:
 - The description in the instruction manual of the sensors series 47K on the effects of the accessories on the characteristics of the sensor series 47K-PRP shall be observed.
 - Catalytic remote sensors shall be connected with 5-core cables when the 3-core cable length allowed for proper cable control has been exceeded (see chapter sensor data in the manual).
 - The parameter UA_{idle} shall not be set below -10 % of the measuring range (240) for user changeable sensors.
- When measuring oxygen, the following conditions shall be observed:
 - A user changeable dimension shall be used. It shall include the unit of measurement as well as the gas type (e.g., "% O₂").
 - The parameter "zero band" shall not be set above 40 %.
 - User changeable sensors shall be used. The parameter UA_{idle} shall not be set below -5 % of the measuring range (320).

18 Essential Health and Safety Requirements

Met with respect to the measuring function for explosion protection by compliance with the requirements mentioned in item 9.

19 Remarks and additional information

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH
Bochum, 2023-05-25



Managing Director