DNV·GL

Certificate No:
TAA00001YN

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Automatic Gas Detection System

with type designation(s)
SUPREMA

Issued to
MSA Europe GmbH
Rapperswil-Jona, Switzerland

is found to comply with
DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature	**B**
Humidity	**B**
Vibration	**A**
EMC	**B**
Enclosure	**A**

Issued at **Hamburg** on **2018-10-22**

This Certificate is valid until **2023-10-21**.
DNV GL local station: **Magdeburg**

Approval Engineer: **Dariusz Lesniewski**

Digitally Signed By: Rinkel, Marco
for **DNV GL**
Location: Hamburg, on behalf of

Joannis Papanuskas
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Product description

The SUPREMA is a scalable gas warning controller for use with flammable and toxic gas, oxygen or smoke detectors.
The controller is ATEX certified by DEKRA EXAM, certificate DMT 03 ATEX G 003.

System main technical data:
Power supply: 24V DC (external line filter to be used)
230V AC (in connection with a type approved power adapter)
Number of inputs: 1-256
Number of relay outputs: 0-512
Number of analog outputs (0-20mA): 0-256
Display (touch): 320x240 pixel, colour, function keys
Interfaces: 3xRS232, 2xCAN-Bus, Ethernet, USB
Housing: 19" rack

The controller may consist of the following components:

P/N	Name	Description
10166236	Rack (w/o PS, w MDO)	Main Rack
10166235	Rack (w/o PS, w/o MDO)	Satellite Rack
10050712	SUPREMA MIB20	Interconnection board (Backplane)
10104584	SUPREMA MST20	System Terminal Module
10101581	SUPREMA MCP20	Central Processing Module
10109638	SUPREMA MDO20	Display and Operation Module
10110482	SUPREMA MDC20	Display Connection Module
10083804	SUPREMA MGO20	General Output Module
10021676	SUPREMA MRC10-TS	Relay Connection Module (Rail)
10026178	SUPREMA FRC-40	Flat Ribbon Cable
10029124	SUPREMA FRC-40	Flat Ribbon Cable (Shielded)
10018946	SUPREMA MRO10-8	Relay Output Module (8 Outputs, 3A)
10021674	SUPREMA MRO10-8-TS	Relay Output Module (8 Outputs, 3A, Rail)
10021430	SUPREMA MRO10-16-TS	Relay Output Module (8 redundant Outputs, 3A, Rail)
10112807	SUPREMA MRO20-8-TS	Relay Output Module (8 Outputs, 5A, Rail)
10112805	SUPREMA MRO20-16-TS	Relay Output Module (8 redundant Outputs, 5A, Rail)
10115115	SUPREMA MRO20-8-TS SSR Relay (rail)	Relay Output Module (8 Outputs, SSR, Rail)
10105281	SUPREMA MRO10-16-TS SSR	Relay Output Module (8 redundant Outputs, SSR, Rail)
10052880	SUPREMA MRD10	Relay Dummy Module
10151719	SUPREMA MAI30	Analog Input Module
10151720	SUPREMA MAR30	Analog Input Redundancy Module
10151731	SUPREMA MHS30	HART Support Module
10170299	SUPREMA MGI30	General Input Module
10170300	SUPREMA MGR30	General Input Redundancy Module
10015759	SUPREMA MAT10	Analog Terminals Module
10022311	SUPREMA MAT10-TS	Analog Terminals Module (Rail)

10019468	SUPREMA MUT10	Universal Terminal Module
10026772	SUPREMA MGT-40-TS	General Terminal Module (Rail)
10030262	SUPREMA Sensor Simulation Module 4-20mA	Sensor Simulation Module (4..20mA)
10191490	SUPREMA Sensor Simulation Module Switch	Sensor Simulation Module (Switch)
10102071	SUPREMA MAO 20	Module Analog Output
10122578	SUPREMA MBC20-Modbus	Modbus TCP/RTU Gateway
10105279	SUPREMA MBT20	Module Bus Terminal
10179005	SUPREMA microSD card	micro SD card

Compass Safe Distance:
Standard compass: 200 cm
Stearing compass: 150 cm

Place of manufacture
MSA Produktion Deutschland GmbH
Thiemannstr. 1
12059 Berlin, Germany

Approval conditions
The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation
24V DC power supply via external line filter FN 6060-6/06 or type approved power adapter.

Type Approval documentation
Test report: MSA SUPREMA DNVGL-CG-0339_High Voltage Test (07.05.2018)
Test report: MSA EMC-SUPREMA MAI30 No. 30013173 (13.09.2016)
Test report: AUCOTEAM No. 13875.01 / 18 (15.05.2018)
Test report: AUCOTEAM No. 13875.02 / 18 (28.05.2018)
Test report: TREO No. 152-18 (2018-05-04)
Test report: TREO No. 237-18 (2018-07-18)
Test report: AMETEK No. D/18/4627/01 (2018.05.16)
Test report: AMETEK No. D/14/4183/06 (2015.12.10)
Test report: MSA SUPREMA DNVGL Performace TR0747009/00 (04.09.2018)
TÜVRheinland Version Release List (2017-09-13)
TÜVRheinland Certificate No. 968/EZ 163.24/16
TÜVRheinland Report No. 968/EZ 163.24/17
EU-Type Examination Certificate DMT 03 ATEX G 003 (2017-04-19)
Test Report: DEKRA EXAM PFG-no. 41300202P of 2002-07-31
Test Report: DEKRA EXAM PFG-no. 41300202P NXVII of 2017-04-19
Test Reports: DEKRA EXAM PFG-no. 41300202P NI~NXVI (2003~2013)
SUPREMA Touch User Manual (Ed. 2017)
Type approval assessment report issued at Magdeburg on 2018-08-03

Tests carried out
Applicable tests according to class guideline DNVGL-CG-0339, November 2016.
'Compass safe distance' was measured according to section 11.2 of IEC 60945 4th edition (2002).

Marking of product

The products to be marked with:
- manufacturer name
- model name
- serial number
- power supply ratings

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE