

Translation

EU-Type Examination Certificate Supplement 10

Equipment intended for use in potentially explosive atmospheres
Directive 2014/34/EU
Devices with a measuring function for explosion protection
Directive 2014/34/EU

EU-Type Examination Certificate Number: **BVS 10 ATEX E 080 X**

Product: **Portable Gas Detector type MQG 001*, MQG 01**, MQG 002***

Manufacturer: **Dräger Safety AG & Co. KGaA**

Address: **Revalstraße 1, 23560 Lübeck, Germany**

This supplementary certificate extends EU-Type Examination Certificate No. BVS 10 ATEX E 080 X to apply to products designed and constructed in accordance with the specification set out in the appendix of the said certificate but having any acceptable variations 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 Test Report No. BVS PP 10.2185 EG and PFG-no. 41300108P NXI.

The Essential Health and Safety Requirements are assured in consideration of:

EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-11:2012 EN 60079-29-1:2016 EN 50271:2018

If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

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.

The marking of the product shall include the following:

	I M1 Ex ia I Ma	für Typ MQG 01** und Typ MQG 002*
	II 1G Ex ia IIC T4/T3 Ga	
	I M1 Ex da ia I Ma	für Typ MQG 001*
	II 1G Ex da ia IIC T4/T3 Ga	

DEKRA Testing and Certification GmbH
Bochum, 2021-03-10

Signed: Jörg-Timm Kilisch

Managing Director



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DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

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15 **Product description**

15.1 **Subject and type**

Portable Gas Detector type MQG 001*, type MQG 01**, type MQG 002*

The characters "*" in the model type designation may be replaced by any characters to distinguish between different models of the device (non-Ex-relevant).

15.2 **Description**

Reason for the supplement:

The gas detectors were tested in accordance to the standard EN IEC 60079-0:2018.

Description of Product:

MQG 001*, MQG 01** and MQG 002* are a family of portable, battery operate gas detectors that are used to measure the concentration of flammable gases or vapours, and / or of oxygen and / or of toxic gases and vapours under atmospheric conditions.

The MQG 001* series comprises a catalytic sensor type XDS 00xx (BVS 05 ATEX E 096 U) for the detection of flammable gases and vapours and up to three electrochemical sensors. The catalytic sensor is component certified I M1 Ex da ia I Ma and II 1G Ex da ia IIC T4 Ga.

The MQG 01** series comprises an infrared sensor type IDS 03** (BVS 10 ATEX E 079 U) for the detection of infrared absorbing gases and vapours and up to three electrochemical sensors. The infrared sensor is component certified I M1 Ex ia I Ma and II 1G Ex ia IIC T4 Ga.

The MQG 002* contains only electrochemical sensors.

The temperature class (T4/T3) and the upper ambient temperature (+50 °C / +40 °C) depend on the types of batteries used in the type ABT 01xx battery holder.

When the HBT 00xx or HBT 01xx battery pack is being used, the temperature class is T4 and the upper ambient temperature is +50 °C.

15.3 **Parameters**

The following table provides an overview over the possible battery packs, useable batteries, ambient temperatures and assigned temperature classes:

Battery Pack	Cells	Ambient temperature range	Temperature Class
ABT 01xx	Duracell Plus Power MN1500	-20 °C to +50 °C	T4
	Duracell Procell MN1500	-20 °C to +50 °C	T4
	Varta Powerone 4006	-20 °C to +40 °C	T3
	Varta Powerone 4106	-20 °C to +40 °C	T3
	Panasonic Powerline LR6	-20 °C to +40 °C	T3
	GP 180AAHC	-20 °C to +40 °C	T3
HBT 00xx or HBT 01xx	No changeable cells	-20 °C to +50 °C	T4

All battery packs are suitable for Group I,
ambient temperature range -20 °C to +50 °C.



Charging parameters for charging of the device outside the hazardous area with battery pack HBT 00xx or HBT 01xx: $U_m = 4.6 \text{ V}$, $I_m = 1.3 \text{ A}$, see manufacturer's instructions.

Enhanced ambient temperature range for the portable Gas Detector type MQG 001* or type MQG 01** or type MQG 002* only with NiMH battery pack type HBT 00xx or HBT 01xx:

$-40 \text{ °C} \leq T_a \leq +50 \text{ °C}$ for maximum 15 minutes

Precondition:

Storage of the device minimum 60 minutes at room temperature ($+20 \text{ °C}$ or more).

15.4 Measuring function for explosion protection

This EU-type examination certificate covers:

- Devices types MQG 0010, MQG 0011 and MQG 0100 with software version 7.8
- Types MQG 0010 and MQG 0011:
the measurement of alkanes from methane to nonane mixed with air in the measuring range 0 to 100 % LEL (when adjusted with the target gas, catalytic sensor type XDS 00x4)
- Types MQG 0010 and MQG 0011:
the measurement of methane, propane, ethane, ethene, ethine, propene, n-butane, i-butene and hydrogen mixed with air in the measuring range 0 to 100 % LEL (when adjusted with the target gas) and for use in mines susceptible to firedamp the measurement for methane mixed with air in the measuring range 0 to 5 % v/v (catalytic sensor type XDS 00x2)
- Type MQG 0100:
the measurement of methane, propane and n-nonane (infrared sensors IDS 0300, IDS 0302, IDS 0310 or IDS 0312 with software version 2.0 when adjusted with the target gas) and hydrogen (electrochemical sensor DrägerSensor XXS H₂ HC) mixed with air in the measuring range 0 - 100 % LEL
- use of the following outputs for safety relevant purposes:
 - display
 - visible and audible alarm indicators
- use of the following accessories:
 - Calibration cradle (part no. 8318752)
 - NiMH-battery pack type HBT 0000

The EU-type examination includes the following deviations from the operating conditions required by EN 60079-29-1:

- Extended range of temperature at operation: -20 °C to $+50 \text{ °C}$
- Extended range of ambient pressure: 70 kPa to 130 kPa
- Extended range of humidity of the measured gas: 10 % RH to 90 % RH

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PFG-Nr. 41300108P NXI as of 2020-04-03

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Special Conditions for Use

- In Group I areas the device is only to be used in areas known to have a low risk of mechanical impact.
- Use only battery packs type HBT 00xx, HBT 01xx or ABT 01xx. See markings on the battery pack for permissible batteries and related temperature class.
- A T3 temperature class and an ambient temperature range of $-20\text{ °C} \leq T_a \leq +40\text{ °C}$ is assigned when the device is used with the type ABT 01xx battery holder and the batteries specified for T3 on the battery pack's marking.
- A T4 temperature class and an ambient temperature range of $-20\text{ °C} \leq T_a \leq +50\text{ °C}$ is assigned when the device is used with the type HBT 00xx or HBT 01xx battery pack or ABT 01xx battery holder and the batteries specified for T4 on the battery pack's marking.
- If a catalytic sensor type XDS 00x4 is used in MQG 0010 or MQG 0011, zero and sensitivity shall be adjusted after any impact which causes an indication in clean air deviating from zero.
- The variation of the indication at air velocities between 0 and 6 m/s is between 5 % and 10 % of the indication for catalytic sensors.
- If an IR-sensor is used in MQG 0100, zero and sensitivity shall be adjusted after any impact which causes an indication in clean air deviating from zero.

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Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

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Drawings and Documents

Drawings and documents are listed in the confidential Test Reports.

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, 2021-03-10
BVS-Rip/Mu A20200728



Managing Director