

# EU-TYPE EXAMINATION CERTIFICATE



## Equipment or Protective System intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

- [2] EU-Type Examination Certificate Number: **DEMKO 19 ATEX 2094X Rev. 0**
- [4] Product: **Midas M2 - Misfuel Identification & Avoidance System**
- [5] Manufacturer: **Berrys Global Innovations Ltd.**
- [6] Address: **Berrys Technologies Building, 141 Lichfield Road, Birmingham, B6 5SP, GB**
- [7] This product and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.
- [8] UL International Demko A/S, notified body number 0539 in accordance with Article 17 of the Council Directive 2014/34/EU of 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to 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. **4788470685.5.1**
- [9] Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
- EN 60079-0:2012+A11:2013      EN 60079-1:2014      EN 60079-11:2012**
- [10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to special conditions for safe 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 the certificate.
- [12] The marking of the product shall include the following:

II 2 G      Ex db ia IIA T4 Gb

**Certification Manager**  
Jan-Erik Storgaard

This is to certify that the sample(s) of the Product described herein ("Certified Product") has been investigated and found in compliance with the Standard(s) indicated on this Certificate, in accordance with the ATEX Product Certification Program Requirements. This certificate and test results obtained apply only to the product sample(s) submitted by the Manufacturer. UL did not select the sample(s) or determine whether the sample(s) provided were representative of other manufactured product. UL has not established Follow-Up Service or other surveillance of the product. The Manufacturer is solely and fully responsible for conformity of all product to all applicable Standards, specifications, requirements or Directives. The test results may not be used, in whole or in part, in any other document without UL's prior written approval.

**Date of issue:** 2019-06-14



**Notified Body**

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## Schedule

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#### Description of Product

MIDAS (Misfuel identification & avoidance system) is an intelligent valve system installed on refuelling facilities. The system prevents operators from delivering incorrect fuel to bulk fuel storage tanks. The valve can differentiate between different fuel types and if the fuel being delivered is correct the valve will open and allow the delivery to commence. If the fuel type is wrong the valve will remain closed and alarm audibly and visually to indicate the mistake. The Midas M2 is powered by battery or an internal generator driven by the flow of fluid. The battery is charged by the generator, or an external supply in a safe area only.

The Midas M2 has been designed to be used in a number formats:

1. MIDAS FIXED system: In this format the Midas valve would be attached to the fuel tank filling point as a permanent feature. The valve would then be calibrated to that particular tank and fuel delivered would be either accepted or rejected. Inlet and discharge fitting appropriate to the client/ gas station/ country would be bolted to the Midas body. This system is activated via a push button on the side of the unit. This system is identified as the MIDAS M2-FIXED
2. MIDAS COMPACT system: In this format the Midas is used as a portable system that could be stored on the road tanker or alternatively on the site. The Compact system is designed for sites which have "above ground" filling points. In most cases above ground filling points consists of pipework protruding above the ground level and normally terminate with a 45 ° elbow. the Compact system incorporates a female hose coupler adapter on the discharge side and a conventional male hose coupler adapter on the inlet side. In most instances these are 4" nominal bore, but in some countries, this could change dependent on local guidelines. The unit is activated via a push button on the side of the MIDAS. In conjunction with this portable application each filling point will need to have a passive RFID tag and retaining system attached to each filling point. This RFID tag will hold information about the storage tank, i.e. tank no, fuel type and other information such as gas station identification, address and other such detail. If the fuel from the road tanker matches the grade of fuel assigned to the filling point the delivery will continue as normal if the two do not match up the Midas will alert the driver to the mistake.
3. MIDAS ELBOW system: For some markets like the US market the filling point are below ground level in what's called a "spill bucket". The typical way to make a connection between the hose from the road tanker and the filling point inlet in the spill bucket would be to use what's known in the industry as a fuel delivery elbow. The inlet fitting attached to the top of the Midas would be in shape of an elbow. The fitting on the outlet of the Midas will be a straight length of tube with an industry standard female coupling fitting designed to connect to the filling point. This coupling would be activated by depressing a handle on the Midas which would in turn create a coupling effect between the discharge of the MIDAS and the inlet of the filling point in the spill bucket. The act of depressing this handle also activates an electronic switch which switches on the Midas system. In this embodiment the filling points on gas stations will need to have a passive RFID collar attached to each filling point. This RFID tag will hold information about the storage tank, i.e. tank no, fuel type and other information such as gas station identification, address and other such detail. If the fuel from the road tanker matches the grade of fuel assigned to the filling point the delivery will continue as normal if the two do not match up the Midas will alert the driver to the mistake.

All variants of the MIDAS M2 contain Bluetooth to allow communication to the equipment for programming and maintenance purposes

#### Model Nomenclature

E.g. Midas M2-F-1-xx

Product :Midas M2-

Variants :

- F-(Fixed)
- C-(Compact)
- E-(Elbow)

Options:

- 1-(External aerial)
- 2-(Internal aerial)

Configurations

- xx – Two numeric characters 00-99 detailing connection types, not relevant to the Type of Protection

#### Performance testing

The optical radiation output of the product with respect to explosion protection, according to Annex II clause 1.3.1 of the Directive 2014/34/EU is covered in this certificate based on Exception 1) to the scope of EN 60079-28:2015.

Temperature range

The ambient temperature range is  $-25^{\circ}\text{C} \leq T_a \leq +47^{\circ}\text{C}$

#### Electrical data

Battery Pack : 10.8V

Input Pressure Rating : 3psi

Intrinsically safe specifications:

$U_m$  : 60 V

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## Schedule

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### Routine tests

Routine tests according to EN 60079-1:2014 Clause 16 are not required, as the enclosures have been successfully tested at four times the reference pressure.

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### Descriptive Documents

The scheduled drawings are listed in the report no. provided under item no. [ 8 ] on page 1 of this EU-Type Examination Certificate.

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### Specific conditions of use:

- The equipment is designed to be connected to an external process fluid. The process temperature is between -5°C and +30°C.
- Use Fasteners with Yield Stress  $\geq$  A2-50.
- RFID Tags to be used in conjunction with the equipment have not been assessed for use in Hazardous Locations.
- Flamepaths are not intended to be repaired.
- The MIDAS M2 rechargeable battery must only be charged in a non-hazardous (safe) area. Charging must only be performed within an ambient temperature range of -15°C to +47°C. The metallic door frame must be refitted after charging.

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### Essential Health and Safety Requirements

The Essential Health and Safety Requirements (EHSRs) covered by the standards listed at item 9.

### Additional information

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in Annex III to Directive 2014/34/EU of the European Parliament and the Council of 26 February 2014.