UK-TYPE EXAMINATION
CERTIFICATE

Product or Protective Systems Intended for Use in Potentially Explosive Atmospheres

UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

1. **UK-Type Examination Certificate Number:** **ITS21UKEX0389X** **Issue 0**
2. **Product:** MSM400 Control Unit
3. **Manufacturer:** Delta Mobrey Limited.
4. **Address:** Riverside Business Park, Dogflud Way, Farnham, Surrey, GU9 7SS, UK
5. This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.
6. Intertek Testing and Certification Limited, Approved Body number 0359, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), 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 Schedule 1 of the Regulations.
   The examination and test results are recorded in the confidential report 104795862LHD-002.
7. 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 referred to within item 14 of the Schedule.
8. If the sign “X” is placed after the certificate number, it indicates that the product is subject to the special conditions of use specified in the Schedule to this certificate.
9. This UK-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Regulations apply to the manufacturing process and supply of this product. These are not covered by this certificate.
10. The marking of the product shall include the following:

II (1) G [Ex ia Ga] IIC

-40°C ≤ Ta ≤ +55°C

Certification Officer: A M Smart **Date:** 19-Jan-2022

This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. This Certificate is accredited under UKAS schedule 0010
Intertek Testing & Certification Limited, Cleeve Road, Leatherhead, Surrey, KT22 7SA
Registered No 3272281 Registered Office: Academy Place, 1-9 Brook Street, Brentwood, Essex, CM14 5NQ.

SCHEDULE:

UK-Type Examination Certificate Number: ITS21UKEX0389X Issue 0

11. Description of Product or Protective System

The MSM400 Control Unit is a microprocessor based electronic control unit designed to limit an intrinsically safe level the power and signal connections to MSM Sensors situated in the hazardous area and provide galvanic isolation between the two units.

The MSM400 Control Unit contains an unspecified circuit, intrinsically safe (IS) interface circuit and terminal blocks for hazardous area connections to sensors and non-hazardous area connections to unspecified apparatus. The IS circuit contains two channels, RX and TX. Each channel comprises an IS transformer, fuses, Zener diodes, resistors and suppression capacitors and inductors.

The fuse in each channel in series with the primary winding of IS transformer is a high breaking capacity (HBC) rated at 250 V, 4000 A.

The Control Unit has the following Output parameters:

Channel RX	**Channel TX**
U_O = 1.2 V	U_O = 4.6 V
I_O = 42.1 mA	I_O = 162 mA
P_O = 13 mW	P_O =0.2 W

The equivalent parameters for both RX and TX are:

C_i = 0.4 nF
L_i = 40 µH
C_O = 99.9 µF
L_O = 0.7 mH
L_O/R_O = 98 µH/Ω

U_m = 250 V

12. Report Number

Intertek Report: 104795862LHD-002 Issue: 0 Dated: December 2021.

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13. Special Conditions of Certification

(a). Special Conditions of Use

- The Degree of protection (IP20) for Control Unit shall be maintained with use of suitable Cable glands for cables and blanking plugs for unused openings.

(b). Conditions of Manufacture - Routine Tests

- The dielectric strength test shall be conducted on the infallible transformer with the following test voltages for 60s.
  1. 2500Vr.m.s between the input and output windings
  2. 1000Vr.m.s between all the windings and the core

  Alternatively, the test shall be carried for at least 1s at 1.2 times the above test voltages.

14. Essential Health and Safety Requirements (EHSRs)

The relevant Essential Health and Safety Requirements (EHSRs) have been identified and assessed in Intertek Report: 104795862LHD-002 Issue: 0 Dated: December 2021.

15. Drawings and Documents

Title:	Drawing No.:	Rev. Level:	Date:
I.S MSM400 CIRCUIT CONTROL UNIT	71097/970	3	02/10/00
APPR DRG I.S 3440/MSM400 CONTROL UNIT ASSY	71097/968	6	08/10/13
APPR. DRG. MSM CONTROLLER CERT LABEL	71097/1318	C	29/10/19
APPR DRG I.S 3440/MSM400 PSU P.C.B	71097/969	7	08/10/13
Sch.Dwg. MSM Controller UKCA Ex Markings	71097/1516	A	22/10/2021

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