1 # EC-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective System Intended for use in Potentially Explosive Atmospheres Directive 94/9/EC**

3 EC-Type Examination Certificate Number : **BAS01ATEX7225X**

4 Equipment or Protective System: **MOBREY CONTROL UNIT TYPE MCU*** P*-A ****

5 Manufacturer: **SOLARTRON MOBREY LIMITED**

6 Address: **Slough, Berkshire, SL1 4UE**

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 The Electrical Equipment Certification Service, notified body number 600 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report N°

00(C)0822 dated 15 January 2002

9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 50014: 1997 + Amds 1 & 2 **EN 50020: 1994**

except in respect of those requirements listed at item 18 of the Schedule.

10 If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-TYPE EXAMINATION CERTIFICATE relates only to the design and construction of the specified equipment or protective system. If applicable, further requirements of this Directive apply to the manufacture and supply of this equipment or protective system.

12 The marking of the equipment or protective system shall include the following:-

⟨Ex⟩ II (1) G **[EEx ia] IIC** **(-40°C ≤ T_a ≤ 55°C)**

This certificate may only be reproduced in its entirety and without any change, schedule included.

File No: EECS 0131/02/041

This certificate is granted subject to the general conditions of the Electrical Equipment Certification Service. It does not necessarily indicate that the apparatus may be used in particular industries or circumstances.

I M CLEARE
DIRECTOR
15 January 2002

HSE Health & Safety Executive

Electrical Equipment Certification Service
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13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7225X**

15 **Description of Equipment or Protective System**

The **Mobrey Control Unit Type MCU*** P*-A **** is mains powered apparatus for installation in a non hazardous (safe) area and is intended for connection to transmitters located in a hazardous area.

It can be used in one of two modes, either loop powered (transmitter powered from control unit) or externally powered (transmitter separately powered).

It comprises a plastic enclosure intended for panel mounting housing two printed circuit board (p.c.b.) assemblies.

External connections are made at terminals that protrude through apertures in the rear panel of the enclosure. These consist of five 'plug in' terminal blocks, one for the hazardous area connections and the others for the non-hazardous area connections and one 'fixed' terminal for connection to earth, this 'fixed' terminal and the mating connectors for the 'plug in' terminal blocks being mounted on one of the p.c.b's.

Terminals 4-29

$U_m = 250V$

a. Loop Powered Hazardous Area Transmitter Mode

Terminal 1 (24V) w.r.t. Terminal 2 (I_{IN}) and Terminal 1 (24V) w.r.t. Terminal 3 (Earth)

$U_o = 28V$ $U_i = 0$
$I_o = 120mA$
$P_o = 0.82W$
$L_i = 0.2mH$
$C_i = 0.6nF$

The capacitance and either the inductance or the inductance to resistance ratio (L/R) of the load connected to the terminals must not exceed the following values:

GROUP	CAPACITANCE in µF	INDUCTANCE in mH	OR	L/R RATIO in µH/ohm
IIC	*0.082µF	1.2mH		42µH
IIB	0.65µF	10.9mH		172µH
IIA	2.15µF	21.9mH		346µH

* of which the total C_i of the hazardous area apparatus connected must not exceed 0.020µF

13 **Schedule**

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b. External Powered Hazardous Area Transmitter Mode

Terminal 2 (I_{IN}) w.r.t. Terminal 3 (Earth)

(no connection must be made to Terminal 1 (24V))

U_o = 6.51V (capacitance charging only - see below) U_i = 30V
I_o = 0 I_i = 120mA
P_o = 0
L_i = 0.1mH
C_i = 0.6nF

Terminal 2 (I_{IN}) w.r.t. Terminal 3 (Earth) must be treated as a 6.51V source. The 6.51V is considered as being the theoretical maximum to which a capacitive load across these terminals could become charged through leakage through internal series blocking diodes. This voltage does not contribute to the short circuit sparking risk of any external source connected to these terminals.

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17 **Special Conditions For Safe Use**

Terminal 30 must be earthed in the safe area via a high integrity earth.

18 **Essential Health and Safety Requirements**

Essential Health & Safety Requirements not covered by Standards listed at (9)		
Clause	**Subject**	**Compliance**
1.1.3	Changes in characteristics of materials and combinations thereof	Report No 00(C)0822 Clause 5.1.1.3
1.2.2	Components for incorporation or replacement	Report No 00(C)0822 Clause 5.1.2.2
1.2.5	Additional means of protection	Report No 00(C)0822 Clause 5.1.2.5
1.2.7	Protection against other hazards	Report No 00(C)0822 Clause 5.1.2.7
1.4.2	Withstanding attack by aggressive substances	Report No 00(C)0822 Clause 5.1.4.2

13 **Schedule**

14 **EC-TYPE EXAMINATION CERTIFICATE N° BAS01ATEX7225X**

19 **DRAWINGS**

Number	Issue	Date	Description
71097/989	4	14.01.02	Circuit
71097/990	3	04.12.01	P.C.B. Assembly Details
71097/991	4	04.12.01	General Assembly and Certification Label Details

BASEEFA List Keywords
2CONTRUN
2POWERSU