



UNITED KINGDOM CONFORMITY ASSESSMENT

1 **UK TYPE EXAMINATION CERTIFICATE**

2 Equipment or Protective System Intended for use in Potentially Explosive Atmospheres
UKSI 2016:1107 (as amended) – Schedule 3A, Part 1

3 Certificate Number: **CSAE 22UKEX1312** Issue: **0**
4 Product: **Relay Barrier, Type EB3C-*N, EB3L-*N, EB3N-* and EB3S-B*N**
5 Manufacturer: **IDEC CORPORATION**
6 Address: **2-6-64 Nishimiyahara, Yodogawa-ku
Osaka 532-0004
Japan**

7 This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

8 CSA Group Testing UK Limited, Approved Body number 0518, 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 reports listed in Section 14.2.

9 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 listed at Section 16 of the schedule to this certificate. The above standards may not appear on the UKAS Scope of Accreditation, but have been added through flexible scope of accreditation, which is available on request.

10 If the sign 'X' is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use identified in the schedule to this certificate.

11 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.

12 The marking of this product shall be in accordance with Regulation 41 and include the following:



II (1)G
[Ex ia Ga] IIC

Ta = -20 °C to +60 °C



II (1)D
[Ex ia Da] IIIC

Ta = -20 °C to +60 °C

Name: M Halliwell
Title: Director of Operations



**UKUK
CANI**

Certificate No. CSAE 22UKEX1312
CSA Group Testing UK Ltd., Unit 6 Hawarden Industrial Park, Hawarden, CH5 3US, UK
This certificate and its schedules may only be reproduced in its entirety and without change

QD-1599 Issue 4 (2022-08-22)

Page 1 of 3

SCHEDULE

UK TYPE EXAMINATION CERTIFICATE

CSAE 22UKEX1312

Issue 0

13 DESCRIPTION OF PRODUCT

The Relay Barriers of types EB3C-*N, EB3L-*N, EB3N-* and EB3S-B*N are associated apparatus intended for connection to passive intrinsically safe circuits. They are provided with intrinsically safe I/O-circuits which can differ in the number of channels from 1 channel up to a maximum of 16 channels. The signals of the intrinsically safe circuits are electrically isolated from the non-intrinsically safe circuits by optocouplers and they are available via relay contacts or transistor switches.

Ambient Temperature -20 °C to +60 °C

Electrical data

Barrier, type EB3C-*N:

Power supply (Terminals +,-): 24 Vdc; Um = 250 V.

Power supply (Terminals N, L): 100...240 Vac; Um = 250 V.

Signal output, relay type (Terminals An, Cn): 250 V; 3 A; Um = 250 V.

Signal output, relay type with connectors (Connectors An, Cn): 30 V; 1 A; Um = 250 V.

Signal output, transistor type (Terminals An, Cn): 24 Vdc; 0.1 A; Um = 250 V.

Signal input (Terminals Pn, Nn):

In type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:

Uo = 13.2 V; Io = 14.2 mA; Po = 46.9 mW (linear characteristic); Ci = negligibly low; Li = negligibly low.

Barrier, type EB3L-*N:

Power supply (Terminals +,-): 24 Vdc; Um = 250 V.

Power supply (Terminals N, L): 100...240 Vac; Um = 250 V.

Signal input (Terminals or Connectors Sn, Cn): 24 Vdc; 10 mA; Um = 250 V.

Signal output (Terminals Pn, Nn):

In type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:

Uo = 13.2 V; Io = 14.2 mA; Po = 46.9 mW (linear characteristic); Ci = negligibly low; Li = negligibly low.

Barrier, type EB3N-*:

Power supply (Terminals +,-): 24 Vdc; Um = 250 V.

Signal input (Terminals Y1, Y2): 24Vdc; 20 mA; Um = 250 V.

Signal output (Terminals 13, 14, 23, 24): 30 Vdc; 1 A; Um = 250 V.

Signal output (Terminals A1...A5, C1): 24 Vdc; 3 A; Um = 250 V.

Signal input (Terminals 11 and 12, 21 and 22, or Pn and N3):

In type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:

Uo = 13.2 V; Io = 14.2 mA; Po = 46.9 mW (linear characteristic); Ci = negligibly low; Li = negligibly low.

The intrinsically safe circuits of one or several Relay Barriers of types EB3C-*N, EB3L-*N and EB3N-* may also be interconnected and fed back using a common conductor or the respective individual conductors. When several Relay Barriers are interconnected the intrinsically safe ground terminals (N) shall be interconnected as well. In each case the rules for the interconnection of intrinsically safe circuits shall be complied with. For respective maximum external capacitances Co and inductances Lo, reference is made to the operating instructions manual.

SCHEDULE

UK TYPE EXAMINATION CERTIFICATE

CSAE 22UKEX1312

Issue 0

Barrier, type EB3S-B*N:

Power supply (Terminals +, -): 24 Vdc; Um = 250 V.

Power supply (Terminals N, L): 100...240 Vac; Um = 250 V.

Signal output, relay type (Terminals An, Cn): 250 V; 3A; Um = 250 V.

Signal output, transistor type (Terminals An, Cn): 24 Vdc; 0.1 A; Um = 250 V.

Signal input (Terminals Pn, Sn, Nn):

In type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:

Uo = 13.2 V; Io = 56 mA; Po = 185 mW (linear characteristic); Ci = negligibly low; Li = negligibly low.

The signal inputs of the barrier type EB3S-B*N shall be connected individually and shall not be interconnected. For respective maximum external capacitances Co and inductances Lo, reference is made to the operating instructions manual.

Installation instructions

The instructions provided with the product shall be followed in detail to assure safe operation.

To maintain intrinsic safety, the signal input or output terminal (secondary) may only be connected to intrinsically safe circuits where both the wiring and the connected equipment maintain 500 V isolation to the hazardous area earthing/bonding connections, per clause 6.3.13 of EN 60079-11:2012.

14 DESCRIPTIVE DOCUMENTS

14.1 Drawings

Refer to Certificate Annexe.

14.2 Associated Reports and Certificate History

Issue	Date	Report number	Comment
0	14 October 2022	R80139979A	The release of the prime certificate.

15 SPECIFIC CONDITIONS OF USE (denoted by X after the certificate number)

None

16 ESSENTIAL HEALTH AND SAFETY REQUIREMENTS (REGULATIONS SCHEDULE 1)

In addition to the Essential Health and Safety Requirements covered by the standards listed in Section 9, all other requirements are demonstrated in the relevant reports.

17 PRODUCTION CONTROL

17.1 Holders of this certificate are required to comply with production control requirements defined in Schedule 3A, as applicable, and CSA Group Testing UK Regulations for Certificate Holders

17.2 Transformer T1 on the DC-DC converter shall be subjected to a dielectric strength test as per clause 11.2 of IEC 60079-11, using a test voltage as follows:

- between primary and secondary windings: 1526.4 V or higher
- between all windings and cores: 526.4 V or higher
- see document 21-R&D-1353.