



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEX DEK 21.0070** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2022-08-03

Applicant: **IDEC CORPORATION**
2-6-64 Nishimiyahara, Yodogawa-ku, Osaka 532-0004
Japan

Equipment: **Relay Barrier type EB3C-*N, EB3L-*N, EB3N-* and EB3S-B*N**

Optional accessory:

Type of Protection: **Ex i**

Marking: [Ex ia Ga] IIC
[Ex ia Da] IIIC

Approved for issue on behalf of the IECEx
Certification Body:

R. Schuller

Position:

Certification Manager

Signature:
(for printed version)

Date:
(for printed version)

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.



Certificate issued by:

DEKRA Certification B.V.
Meander 1051
6825 MJ Arnhem
Netherlands





IECEX Certificate of Conformity

Certificate No.: **IECEX DEK 21.0070**

Page 2 of 3

Date of issue: 2022-08-03

Issue No: 0

Manufacturer: **IDEC CORPORATION**
2-6-64 Nishimiyahara, Yodogawa-ku, Osaka 532-0004
Japan

Manufacturing locations: **IDEC CORPORATION** **IDEC Corporation, Amagasaki Plant**
2-6-64 Nishimiyahara, Yodogawa-ku, Osaka 532-0004 5-8-10, Shioe
Osaka 532-0004 Amagasagi-shi, Hyogo 661-0976
Japan **Japan**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

[IEC 60079-0:2017](#) Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[NL/DEK/ExTR21.0081/00](#)

Quality Assessment Report:

[NO/NEM/QAR10.0001/16](#)



IECEX Certificate of Conformity

Certificate No.: **IECEX DEK 21.0070**

Page 3 of 3

Date of issue: 2022-08-03

Issue No: 0

EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

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.

For electrical data, see the Annex to NL/DEK/ExTR21.0081/00.

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 terminals (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 IEC 60079-11 : 2011.

SPECIFIC CONDITIONS OF USE: NO

Annex:

[420292900-Annex1 to ExTR21.0081.00_1.pdf](#)

Electrical data**Barrier, type EB3C-*N:**

Power supply (Terminals +, -): 24 Vdc; $U_m = 250$ V.
Power supply (Terminals N, L): 100...240 Vac; $U_m = 250$ V.

Signal output, relay type (Terminals An, Cn): 250 V; 3 A; $U_m = 250$ V.
Signal output, relay type with connectors (Connectors An, Cn): 30 V; 1 A; $U_m = 250$ V.
Signal output, transistor type (Terminals An, Cn): 24 Vdc; 0.1 A; $U_m = 250$ V.

Signal input (Terminals Pn, Nn):
in type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:
 $U_o = 13.2$ V; $I_o = 14.2$ mA; $P_o = 46.9$ mW (linear characteristic); $C_i =$ negligibly low; $L_i =$ negligibly low.

Barrier, type EB3L-*N:

Power supply (Terminals +, -): 24 Vdc; $U_m = 250$ V.
Power supply (Terminals N, L): 100...240 Vac; $U_m = 250$ V.

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

Signal output (Terminals Pn, Nn):
in type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each circuit:
 $U_o = 13.2$ V; $I_o = 14.2$ mA; $P_o = 46.9$ mW (linear characteristic); $C_i =$ negligibly low; $L_i =$ negligibly low.

Barrier, type EB3N-*:

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

Signal input (Terminals Y1, Y2): 24 Vdc; 20 mA; $U_m = 250$ V.
Signal output (Terminals 13, 14, 23, 24): 30 Vdc; 1 A; $U_m = 250$ V.
Signal output (Terminals A1...A5, C1): 24 Vdc; 3 A; $U_m = 250$ 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:
 $U_o = 13.2$ V; $I_o = 14.2$ mA; $P_o = 46.9$ mW (linear characteristic); $C_i =$ negligibly low; $L_i =$ 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 C_o and inductances L_o reference is made to the operating instructions manual.

Barrier, type EB3S-B*N:

Power supply (Terminals +, -): 24 Vdc; $U_m = 250$ V.
Power supply (Terminals N, L): 100...240 Vac; $U_m = 250$ V.

Signal output, relay type (Terminals An, Cn): 250 V; 3 A; $U_m = 250$ V.
Signal output, transistor type (Terminals An, Cn): 24 Vdc; 0.1 A; $U_m = 250$ V.

Signal input (Terminals Pn, Sn, Nn):
in type of protection intrinsic safety Ex ia IIC or IIIC, with following maximum values for each output:
 $U_o = 13.2$ V; $I_o = 56$ mA; $P_o = 185$ mW (linear characteristic); $C_i =$ negligibly low; $L_i =$ 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 C_o and inductances L_o , reference is made to the operating instructions manual.