Type Approval Certificate

[Explosion-Proof Electrical Equipment]

Initial Approval 25 February 2015

Manufacturer IDEC Corporation

2-6-64 Nishimiyahara, Yodogawa-Ku, Osaka 532-0004, Japan

Product Description Type : EB3C-N (Intrinsically Safe Type Relay Barrier)
EB3L-N (Intrinsically Safe Type Lamp Barrier)

* Manufacturing Place : IDEC CORPORATION Amagasaki Factory
5-8-10 Shioe, Amagasaki-shi, Hyogo, 661-0976, Japan

″ See Appendix 1 ″

Approval Condition ″ See Appendix 1 ″

THIS IS TO CERTIFY that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 1, Sec. 9 of the Rules for Classification of Steel Ships and IEC 60079-11

This Certificate is valid until 24 February 2025

Reissued at Tokyo, Japan on 28 November 2022

This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "http://e-cert.krs.co.kr" by using the tracking No(ME22035056246) and certificate No.(TKY17821-EL003).

KOREAN REGISTER

General Manager of
Tokyo Branch Office

Note : *1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.*
2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

Product Description and/or Approval Condition

Date of Issue : 28 November 2022

A. Product Description

1. Product Specification

1) Product description ;

The EB3C-N and EB3L-N are intrinsically safe type barriers for hazardous areas.

2) Particulars

a) EX-protection : Intrinsically Safe Type
(For the detail, refer to Explosion-proof certificate)
b) Intrinsically Safe Circuit (16ch. Common / 1ch. separate);
- Max. Output Voltage : 13.2 V / 13.2 V
- Max. Output Current : 227.2 mA / 14.2 mA
- Max Power : 750 mW / 46.9 mW
- Permissible Capacitance : 0.49 μF / 0.47 μF
- Permissible Inductance : 1) 0.60 mH / 87.5 mH
(Applied for the approved barriers by IECEx PTB 10.0015)
2) 0.60 mH / 88.0 mH
(Applied for the approved barriers by IECEx DEK 21.0070)

c) Non-Intrinsically Safe Circuit
- Permissible Voltage : AC 250V(50/60Hz), DC 250V

d) Ambient Temperature : -20℃ ~ 60 ℃

3) Type Designation

a) EB3C-abcdeN
a = Output Type;
R: Relay Output, T: Transistor Output, M: MOSFET
b = Output Channels;
01, 02, 03, 04C, 05, 06, 08, 08C, 10, 16C (C indicates common type only)
c = Type of Transistor Output;
K: Sink, S: Source (for 04C, 08C and 16C)
d = Power Supply;
A: AC, D: DC
e = Connection;
-C: Connector, Nil: Terminal

b) EB3L-abcdeN
a = Output type;
S: Supper LED
b = Number of channels;
01, 02, 03, 04C, 05, 06, 08, 08C, 10, 16C (C indicates common type only)
c = Input type;
K: Sink, S: Source
d = Power supply;
A: AC, D: DC
e = Connection;
-C: Connector, Nil: Terminal

2. Approved Drawings and Documents

1) EB3C-abcdeN :
- EB3C-N-IS-ME01, A39761~A39782, A49410, A39793, A39794, A49412
- Document List including documents listed therein dated 2022-07-22

2) EB3L-abcdeN :
- EB3L-N-IS-ME01, A39795~A39816, A49411, A39826, A39827, A49413
- Document List including documents listed therein dated 2022-07-22

3. Test Reports, etc.

1) Environmental testing report:
- 15-306-005N issued by IDEC CORPORATION
- KL80140667, KL80140669, KL80190747 issued by JAPAN QUALITY ASSURANCE ORGANIZATION
- 22-R&D-0624, 22-R&D-0625 issued by IDEC CORPORATION

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- KL80210901, KL80210900, KL80210902 issued by JAPAN QUALITY ASSURANCE ORGANIZATION

2) Explosion proof certificate : IECEx PTB 10.0015 Issue No.4
IECEx DEK 21.0070 Issue No.0

B. Approval Condition

1. Application & Limitation

1) This approval is granted on the basis of the test reports and the approved documentation.

2) Degree of protection shall be complied with Rule Pt.6 Ch.1 Sec.2 201.2.(5).

3) Explosion-proof certificate by a notified/recognized Certificate Body is not covered by this certificate. Ratings and Special Conditions for safe use in hazardous areas are to be obtained from the relevant valid Ex-Certificate.

4) The product is not to be installed in consoles, housings, etc. together with other heat dissipating power equipment.

2. Individual Product Cert. and Drawing Approval Requirement

1) Individual Product Certification is not required.

3. Marking

1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

4. Others

1) Test condition

Approved Testing	Approved Condition	Remark
EMC	All locations excluding the bridge and deck zone	Up to 6GHz
Temperature	-25℃ ~ +65℃	-
Vibration	Acceleration ±0.7g	-

< End of certificate>