



CERTIFICATE NUMBER	24-2516247-PDA
EFFECTIVE DATE	12-Apr-2024
EXPIRY DATE	11-Apr-2029
ABS TECHNICAL OFFICE	Houston ESD - Electrical

CERTIFICATE OF Product Design Assessment

This is to certify that a representative of this Bureau did, at the request of

BASLER ELECTRIC COMPANY

located at

204 HIGHLAND DR, TAYLOR, TX, United States, 76574

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate.

Product: Protection Relay
Model: BE1-FLEX
Endorsements:
Tier: 2 - PDA Issued

This Product Design Assessment (PDA) Certificate remains valid until 11/Apr/2029 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

American Bureau Of Shipping

Soheni Haque

Soheni Haque, Sr. Managing Principal Engineer

NOTE: This certificate evidences compliance with one or more of the Rules, Guides, standards or other criteria of ABS or a statutory, industrial or manufacturer's standards. It is issued solely for the use of ABS, its committees, its clients or other authorized entities. Any significant changes to the aforementioned product without approval from ABS will result in this certificate becoming null and void. This certificate is governed by ABS Rules 1-1-A3/5.9 Terms and Conditions of the Request for Product Type Approval and Agreement (2010)

BASLER ELECTRIC COMPANY

204 HIGHLAND DR .

TAYLOR TX

United States 76574

Telephone: 618 654 2341

Fax: 618 654 2351

Email: info@basler.com

Web:

Tier: 2 - PDA Issued

Product: Protection Relay**Model:** BE1-FLEX**Endorsements:****Intended Service:**

ABS classed vessels and offshore installations in accordance with the listed ABS Rules and International standards.

Description:

The BE1-FLEX Protection, Automation, and Control System is designed to be configurable for nearly any power system application. The BE1-FLEX can cover a wide application spectrum as it can be configured for any combination of functions available. Application including but not limited to feeder, motor, generator, transformer, intertie, capacitor bank, and busbar monitoring and protection.

Rating:

Control Power Options:

1. 48/125 Vdc, 120 Vac nominal: 35 to 150 Vdc, 55 to 135 Vac

2. 250 Vdc, 240 Vac nominal: 90 to 300 Vdc, 90 to 270 Vac

3. 24 Vdc nominal: 17 to 32 Vdc, down to 8 Vdc momentarily

Frequency (Options 1 and 2): 40 to 70 Hz

Burden (Options 1, 2 and 3): 15 W nominal, 20 W maximum with 23 outputs energized

Voltage Inputs: 50 to 300V Line to Neutral (Nominal), 600V Line to Line (Continuous)

AC Current Inputs: 1A/5A CT 20A (Continuous) SEF 4A (Continuous)

Analog to Digital Converter: 24-bit type 32 kHz base sampling rate

Output Contacts: 30 A, 250 Vdc for 0.2 seconds per IEEE Std C37.90-2005

Contact Sensing Inputs: 24Vdc, 48 Vac/Vdc, 125 Vac/Vdc, 250 Vac/Vdc (Nominal)

IRIG interface: -10 to +10 Vdc input voltage range

Communication: USB, RS-485, Ethernet (RJ-45 for copper, LC for fiber)

Operating Temperature: -40°C to 70°C (-40°F to 158°F), Display is impaired below -20°C (-4°F)

Enclosure: IP54 from front interface when semi-flush mount installed into IP54 or greater enclosure

Service Restriction:

1. Unit Certification is not required for this product.
2. If the manufacturer or purchaser request an ABS Certificate for compliance with a specification or standard, the specification or standard, including inspection standards and tolerances, must be clearly defined.
3. Installation and operation is to be in accordance with Manufacturer's Instruction.

Comments:

1. The Manufacturer has provided a declaration about the control of, or the lack of Asbestos in this product.
2. Performance tested to meet IEC 60255-127, IEC 60255-151, and IEC-60255-181.
3. Each particular application/configuration and external connection is to be specifically approved in conjunction with the relevant system, area classification, and environmental conditions.

Notes/Drawing/Documentation:

Drawing No. BE1-FLEX IACS E10 External Power Supply Failure, External Power Supply Failure, Pages: 5

BASLER ELECTRIC COMPANY

204 HIGHLAND DR .

TAYLOR TX

United States 76574

Telephone: 618 654 2341

Fax: 618 654 2351

Email: info@basler.com

Web:

Tier: 2 - PDA Issued

Drawing No. BE1-FLEX IACS E10 High Voltage, High Voltage, Pages: 10

Drawing No. BE1-FLEX IACS E10 Power Supply Variations, Power Supply Variations, Pages: 17

Drawing No. BE1-FLEX IACS E10 Vibration, Vibration, Pages: 30

Drawing No. BE1-FLEX1 IACS E10 Cold & Dry Heat Tests, Cold & Dry Heat Tests, Pages: 39

Drawing No. BE1-FLEX1 IACS E10 Damp Heat Test, Damp Heat Test, Pages: 39

Drawing No. BE1-FLEX1 IACS E10 Performance Test, Performance Test, Pages: 2

Drawing No. BE1-FLEX2 IACS E10 Cold & Dry Heat Tests, Cold & Dry Heat Tests, Pages: 36

Drawing No. BE1-FLEX2 IACS E10 Damp Heat Test, Damp Heat Test, Pages: 36

Drawing No. BE1-FLEX2 IACS E10 Performance Test, Performance Test, Pages: 3

Drawing No. BE1-FLEX IACS E10 Performance Test - IEC60255-127 SteadyState, Pages: 17

Drawing No. BE1-FLEX IACS E10 Performance Test - IEC60255-151 SteadyState, Pages: 13

Drawing No. BE1-FLEX IACS E10 Performance Test - IEC60255-181 SteadyState, Pages: 20

Terms of Validity:

This Product Design Assessment (PDA) Certificate remains valid until 11/Apr/2029 or until the Rules and/or Standards used in the assessment are revised or until there is a design modification warranting design reassessment (whichever occurs first).

Acceptance of product is limited to the "Intended Service" details prescribed in the certificate and as per applicable Rules and Standards.

This Certificate is valid for installation of the listed product on ABS units which exist or are under contract for construction on or previous to the effective date of the ABS Rules and standards applied at the time of PDA issuance. Use of the Product for non-ABS units is subject to agreement between the manufacturer and intended client.

STANDARDS

ABS Rules:

2024 Rules for Conditions of Classification, Part 1, 1-1-4/7.7, 1-1-A3 & A4, which covers the following:

2024 Marine Vessel Rules: 4-8-2/9.11, 9.13, 9.17, 9.19 and 4-9-9/ Table 1

2024 Rules for Conditions of Classification, Part 1 - Offshore Units and Structures: 1-1-4/9.7, 1-1-A2 & A3, which covers the following:

2024 Mobile Offshore Units Rules: 4-3-2/9.3, 9.7, 9.13, 9.15

National:

NA

International:

IEC 60255-26, 2023

IEC 60255-127, 2010

IEC 60255-151, 2009

IEC 60255-181, 2019

Government:

NA

EUMED:

NA

BASLER ELECTRIC COMPANY

204 HIGHLAND DR .

TAYLOR TX

United States 76574

Telephone: 618 654 2341

Fax: 618 654 2351

Email: info@basler.com

Web:

Tier: 2 - PDA Issued

OTHERS:

IACS UR E10, Rev. 8, 2022

EU RO Mutual Recognition Technical Requirements for Electrical/Electronic Relays, Version 0.6, 2023