DNV·GL

Certificate No:
TAE0000118

TYPE APPROVAL CERTIFICATE

This is to certify:

That the RCD - Residual Current Device

with type designation(s)
FBSmV

Issued to
Eaton Industries (Austria) GmbH
Schrems, Austria

is found to comply with
DNV GL rules for classification – Ships and offshore units

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

This Certificate is valid until **2021-05-10**.

Issued at **Hamburg** on **2016-05-11**

for **DNV GL**

DNV GL local station: **Augsburg**

Approval Engineer: **Harald Amberger**

Duy Nam Le
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

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Job Id: **262.1-020850-1**
Certificate No: **TAE0000118**

Product description

Add-on Residual Current Protection Unit FBSmV, Type AC and A

For subsequent mounting onto 2-, 3-, 3+N- and 4-pole miniature circuit breakers FAZ

Operating characteristics	Type A, AC acc. to IEC 61009 Type G acc. to ÖVE E 8601
Tripping	instantaneous 250A (8/20µs) surge current-proof
Type G	10 ms delay 3kA (8/20µs) surge current-proof
Type S	40 ms delay 5kA (8/20µs) surge current-proof
Ratings (40°C)	
Rated voltage (U_n)	120 up to 415V AC
Rated impule withstand voltage (U_{imp})	4kV
Number of poles	two / three / four pole
Rated frequency	50/60Hz
Rated current (I_n)	40, 63A
Rated tripping current ($I_{\Delta n}$)	30, 100, 300, 500, 1000mA
Sensitivity	AC and pulsating DC
Service short circuit breaking capacity (I_{CS})	acc. connected FAZ breaker
Rated breaking capacity (I_{cn})	acc. connected FAZ breaker
Rated residual making and breaking capacity ($I_{\Delta M}$)	4500A

Further technical ratings and type spectrum acc. manufacturer documentation.

Application/Limitation

Only used in conjunction with type approved FAZ breaker. Related type approved certificates:
E-14220 & 15645-00 HH

Type Approval documentation
Tests carried out

IEC/EN 61009-1:2004+A11:2008+A12:2009:+A13:2009+A14:2012
IEC/EN 61009-2-1:1994+A11:1998, ÖVE/ÖNORM E 8601:2001-02-01 (type G)
Temperature Class C, Humitity Class A, Vibration Class B, acc. DNVGL-CG-0339

Marking of product

Eaton – type designation - voltage – frequency – current – tripping current – operating characteristic

Name and place of manufacturer

Eaton Electrotechnika s.r.o.
Havlickova 89,
37806 Suchdol nad Luznici, Czech Republic

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the Type approval are complied with and that no alterations are made to the product design or choice of materials.

The main elements of the assessment are:

- Inspection on factory samples, selected at random from the production line (where practicable).
- Results from Production Sample Tests (PST) and Routines (RT) checked (if not available tests according to PST and RT to be carried out).
- Review of type approval documentation.
- Review of possible change in design, materials and performance.
- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Assessment to be performed at least every second year.

END OF CERTIFICATE