

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Fused Switch**

with type designation(s)
3KF...

Issued to

Siemens AG Low Voltage
REGENSBURG, Germany

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft

Application :

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

Issued at **Hamburg** on **2018-01-11**

This Certificate is valid until **2023-01-10**.

DNV GL local station: **Augsburg**

for **DNV GL**

Approval Engineer: **Harald Amberger**

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Arne Schaarmann
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.



Product description

3KF Switch Disconnectors with Fuses up to 800 A							
Ratings Type/Size		3KF1...	3KF2...	3KF3...	3KF4...	3KF5...	
Rated uninterrupted current I_u	A	up to 80	up to 160	250	400	630	800
For fuse links acc. IEC 60269-2		00+000		1+0	2+1	3+2	3+2
Number of poles		3, 4 (AC/DC)					
Rated operational voltage U_e							
AC [50/60 Hz]	V	690					
DC - 2 poles in series	V	220					
DC - 3 poles in series	V	440					
Rated insulation voltage U_i	V	1000					
Rated impulse withstand voltage U_{imp}	kV	12					
Rated operational current I_e [40°C]							
AC-21A, AC-22A, AC-23A 400 V...690 V	A	up to 80	up to 160	250	400	630	800
DC-21A, DC-22A, DC-23A 220 V...440 V	A	up to 80	up to 160	250	400	630	800
Short-circuit characteristics							
Rated short-time withstand current I_{cw} 1s, 690 V AC/440 V DC	kA	2,5	5	8	12	22	22
Rated short-circuit making capacity I_{cm} 690 V AC/440 V DC	kA	3,55	7,65	13,6	24	44	44
Rated conditional short circuit current with fuse I_q^1 At 400/500 V AC	kA	100					
At 690 V AC	kA	100					80
Accessory: Auxiliary contacts, Electronic Fuse Monitoring							
¹ Back-up NH Fuse required acc. manufacturer documentation							

Application/Limitation

Location Classes:

Temperature: B, Humidity: B, Vibration: A, EMC: B, Enclosure: IP00, IP20(3KF1...)

Operating instruction of the manufacturer to be observed

Type Approval documentation

Tests carried out

IEC 60947-1: 2007; A1: 2010; A2: 2014, IEC 60947-3:2008; A1: 2012; A2: 2015, cold, dry heat, damp heat, vibration, flame retardancy, EMC.

Job Id: **262.1-026192-1**
Certificate No: **TAE00002GX**

Marking of product

Acc. IEC 60947-3 subclause 5.2

Name and place of manufacturer

Siemens AG, Low Voltage
Siemensstrasse 10
93055 Regensburg
Germany

Siemens Electrical Apparatus Ltd.,
Suzhou, NO.455 ZhuJiang Road Suzhou New District
215129 SUZHOU
China

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 Routine Tests (RT) checked (if not available tests according to 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.

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE