

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Disconnection Switch**with type designation(s)
3KD..., 3KCO

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 **2018-03-27**for **DNV GL**This Certificate is valid until **2023-03-26**.DNV GL local station: **Augsburg**Approval Engineer: **Harald Amberger**

**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.



Job Id: **262.1-020942-2**
 Certificate No: **TAE00000UW**
 Revision No: **1**

Product description

Ratings Type 3KD		3KD.-M	3KD.-N	3KD.-P	3KD.-Q	3KD.-R
$U_{e, \max} = 690\text{VAC}$ (3, 4-pole), $I_{e, \max}$	A	63	200	400	800	1600
$U_{e, \max} = 1200\text{VDC}$ (6-pole), $I_{e, \max}$	A	63	160	400	800	1600
Rated operational voltage U_e						
AC [50/60 Hz]	V	400, 500, 690				
DC - 2 poles in series	V	220				
DC - 3 poles in series	V	440(A categories), 600(B categories)				
DC - 4 poles in series	V	800				
DC - 5 poles in series	V	1000				
DC - 6 poles in series	V	1200				
Rated insulation voltage U_i	V	1000/1250				
Rated impulse withstand voltage U_{imp}	kV	8		12		
Short-circuit characteristics						
Short-time withstand current I_{cw}^1 t = 1s, 690VAC/440VDC	kA	3	4	13	30	50
Short-time withstand current I_{cw}^1 t = 1s, 1200VDC	kA	3	4	10	20	20
Short-circuit making capacity I_{cm}^1 690VAC/440VDC	kA	7	12	26	63	105
Short-circuit making capacity I_{cm}^1 1200VDC	kA	4,3	5,7	14,2	28,4	28,4
Conditional short-circuit current I_q 500VAC	kA	100	100	100	100	100
Conditional short-circuit current I_q 690VAC	kA	100	65	65	65	--
Type 3KCO		3KCO.-ME	3KCO.-NE	3KCO.-PE	3KCO.-QE	3KCO.-RE
$U_{e, \max} = 690\text{VAC}$ (3, 4-pole), $I_{e, \max}$	A	63	160	400	800	1600
Rated operational voltage U_e						
AC [50/60 Hz]	V	400, 500, 690				
Rated insulation voltage U_i	V	1000				
Rated impulse withstand voltage U_{imp}	kV	8		12		
Short-circuit characteristics						
Short-time withstand current I_{cw}^1 t = 1s, 690VAC	kA	3	4	13	30	50
Short-circuit making capacity I_{cm}^1 690VAC	kA	7	12	26	63	105
Conditional short-circuit current I_q 500VAC	kA	100	100	100	100	100
Conditional short-circuit current I_q 690VAC	kA	100	65	65	65	--
¹ Back-up NH Fuse required acc. manufacturer documentation						

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Application/Limitation

Location classes:

Temperature: D, Humidity: B, Vibration: A, Enclosure: IP00 on the front, IP20 with closed switch, with cover or cable lug cover

Operating instruction of the manufacturer to be observed

Type Approval documentation

As per techdocs in job 262.1-020942-2

Tests carried out

IEC 60947-1(ed 5.2): am1, am2; 60947-3(ed 3.2): am1, am2; cold, dry heat, damp heat, vibration, flame retardancy

Marking of product

Acc. IEC 60947-3 subclause 5.2

Name and place of manufacturer

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