TYPE APPROVAL CERTIFICATE

Certificate No:
TAE00001ZM
Revision No:
1

This is to certify:

That the Electrical Equipment

with type designation(s)
SIRIUS 3SK1 Safety Relays

Issued to
Siemens AG GWA
Amberg, Bayern, 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.

Temperature	**D**
Humidity	**B**
Vibration	**A**

Issued at **Hamburg** on **2021-08-04**

for **DNV**

This Certificate is valid until **2026-08-03**.
DNV 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.

Product description

3SK111. Standard basic units safety relays with safe relay outputs or semiconductor outputs 3SK112. Advanced basic units multifunctional safety relays with safe relay outputs, semiconductor outputs or time-delayed outputs 3SK121. Output expansion units 3SK122. Input expansion units 3SK1230 Power supplies for supplying 3SK1 advanced basic units at voltage AC/DC 110…240V

Ratings	
Operational voltage Ue	Control supply: AC 115V, 230V DC 24V AC/DC 110-240V Relay outputs: 240V Semiconductor outputs: 24V
Insulation voltage Ui	Relay outputs: 300V Semiconductor outputs: 50V
Impulse withstands voltage Uimp	Relay outputs: 4kV Semiconductor outputs: 0,8kV
Operational current Ie	Relay outputs: AC-15: 240V / up to 10A DC-13: 24V / up to 6A, 125V / 1,1A, 240V / 0,55A Semiconductor outputs: DC-13: 24V / up to 2A
Rated current Ith	Relay outputs: 5A / 10A Semiconductor outputs: 0,5A / 2A
Rated conditional short-circuit	1kA
Frequency	50 / 60Hz, dc
Type of terminals	Screw-type or spring type
Installation	Rail mounting only
Safety integrity level (IEC 61508)	SIL 3
Performance level (ISO 13849-1)	PLe
Further ratings according manufacturer documentation	

Accessories	
3ZY112.-	Tow pole terminals
3ZY113.-	Three pole terminals
3ZY1212-	Device connector
3ZY1321-	Sealing cover
3ZY1440-	Coding Pins

Ratings and mounting locations according manufacturer documentation.

Application/Limitation

Location Classes:
Temperature: D, Humidity: B, Vibration: A, EMC: B, Enclosure: Required protection according DNV-GL rules shall be provided upon installation on ships.

DC24V supply voltage, only with assembled surge protection unit, manufactured by Dehn
Type BVT AVD 24, rated 24V or equivalent

For installation inside switchboards/ enclosures onboard ships and offshore units.

Type Approval documentation

Test Report No.: IECEE CB SCHEME DE1-51461, 15-E006555-BM-A01, 21227406-002_E6534
21227406-002_E6534B, SA84761C, SA85241T

Tests carried out

IEC 60947-1(ed.5);am1, IEC 60947-5-1(ed.3);am1, IEC 61508, ISO 13849-1, cold, dry heat, damp heat, vibration, flame retardancy, EMC

Marking of product

Manufacturers label containing data and manufacturers type number.

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