

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Disconnection Switch

with type designation(s)

Main- and Emergency Stop Switches of type 3LD2 as listed in the certificate

Issued to

**Siemens AG Low Voltage
REGENSBURG, Germany**

is found to comply with

Application :

Main- and Emergency (On-load) Stop Switches for installation onboard ships and offshore units

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

This Certificate is valid until **2016-06-30**.

Issued at **Høvik** on **2015-09-14**

DNV GL local station: **Augsburg**

Approval Engineer: **Nicolay Horn**

for **DNV GL**

**Marit Laumann
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.

Place of manufacturer

DNV customer no.: 110652

Product description

Main- and Emergency (switch disconnectors) Stop Switches for installation inside switchboards / enclosures onboard ships and mobile offshore units of type 3LD2... as specified in the tables below.

Technical data, main contacts:

Protection class:	IP20
Operational voltage, U_e	690 V
Insulation voltage, U_i	690 V
Lightning impulse voltage U_{imp}	6 kV

Technical data, aux contacts:

Protection class:	IP20
Operational voltage, U_e	500 V
Insulation voltage, U_i	500 V
Conventional free air thermal current, I_{th}	10 A

Current / power rating, main contacts:

Type	Utilisation Category	Thermal Current	Operational Current I_e and power kW			
			Rating at Operational Voltage U_e			
			400V	400V	690V	690V
		I_{th}	I_e	kW	I_e	kW
3LD20	AC3	16	11,5	5,5	6,7	5,5
	AC23A	16	15,5	7,5	8,9	7,5
3LD21	AC3	25	16	7,5	9,5	7,5
3LD22	AC3	32	20	9,5	11,5	9,5
3LD25	AC3	63	36	18,5	17,5	15
3LD27	AC3	100	53	30	25,5	22
	AC23A	100	70	37	34	30
3LD28	AC3	125	70	37	35	30
	AC23A	125	84	45	41	37

Current	Type designations		Current	Type designations	
(A)			(A)		
16	3LD2022-0TK11	Panel mounted switch with handle and padlocking device	16	3LD2050-0TK11	Central mounted switch with handle and padlocking device
16	3LD2022-0TK13		16	3LD2050-0TK13	
25	3LD2122-0TK11		25	3LD2150-0TK11	
25	3LD2122-0TK13		25	3LD2150-0TK13	
32	3LD2222-0TK11		32	3LD2250-0TK11	
32	3LD2222-0TK13		32	3LD2250-0TK13	
16	3LD2003-0TK51	Panel mounted detachable rotary actuator and padlocking device	16	3LD2003-1TL51	Panel mounted detachable rotary actuator and padlocking device
16	3LD2003-0TK53		16	3LD2003-1TL53	
25	3LD2103-0TK51		25	3LD2103-1TL51	
25	3LD2103-0TK53		25	3LD2103-1TL53	
32	3LD2203-0TK51		32	3LD2203-1TL51	
32	3LD2203-0TK53		32	3LD2203-1TL53	

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Current	Type designations		Current	Type designations	
16	3LD2003-1TP51	Panel mounted detachable rotary actuator and padlocking device and auxiliary changeover contacts	16	3LD2103-1EP51	Panel mounted detachable rotary actuator and padlocking device and auxiliary changeover contacts
16	3LD2003-1TP53		16	3LD2103-1EP53	
	-			-	
	-			-	
25	3LD2103-1TP51	Central mounted detachable rotary actuator and padlocking device	25	3LD2103-2EP51	Central mounted detachable rotary actuator and padlocking device
25	3LD2103-1TP53		25	3LD2103-2EP53	
16	3LD2054-0TK51	Central mounted detachable rotary actuator and padlocking device	16	3LD2154-1TL51	Central mounted detachable rotary actuator and padlocking device
16	3LD2054-0TK53		16	3LD2154-1TL53	
25	3LD2154-0TK51		25	3LD2154-1TL51	
25	3LD2154-0TK53		25	3LD2154-1TL53	
32	3LD2254-0TK51	Central mounted detachable rotary actuator and padlocking device auxiliary changeover contacts	32	3LD2254-1TL51	Central mounted detachable rotary actuator and padlocking device auxiliary changeover contacts
32	3LD2254-0TK53		32	3LD2254-1TL53	
16	3LD2054-1TK51	Base mounted detachable rotary actuator and padlocking device with interlock	16	3LD2054-2EP51	Base mounted detachable rotary actuator and padlocking device with interlock
16	3LD2054-1TK53		16	3LD2054-2EP53	
	-			-	
	-			-	
25	3LD2154-1TK51	Base mounted detachable rotary actuator (Central mounted) and padlocking device and door coupling with interlock	25	3LD2154-2EP51	Base mounted detachable rotary actuator (Central mounted) and padlocking device and door coupling with interlock
25	3LD2154-1TK53		25	3LD2154-2EP53	
16	3LD2013-0TK51	Base mounted detachable rotary actuator and padlocking device with interlock	16	3LD2013-1TL51	Base mounted detachable rotary actuator and padlocking device with interlock
16	3LD2013-0TK53		16	3LD2013-1TL53	
25	3LD2113-0TK51		25	3LD2113-1TL51	
25	3LD2113-0TK53		25	3LD2113-1TL53	
32	3LD2213-0TK51	Base mounted detachable rotary actuator and padlocking device with interlock		-	Base mounted detachable rotary actuator and padlocking device with interlock
32	3LD2213-0TK53		32	3LD2213-1TL53	
16	3LD2044-0TK51	Base mounted detachable rotary actuator (Central mounted) and padlocking device and door coupling with interlock	16	3LD2044-1TL51	Base mounted detachable rotary actuator (Central mounted) and padlocking device and door coupling with interlock
16	3LD2044-0TK53		16	3LD2044-1TL53	
25	3LD2144-0TK51		25	3LD2144-1TL51	
25	3LD2144-0TK53		25	3LD2144-1TL53	
32	3LD2244-0TK51	Panel mounted detachable rotary actuator and padlocking device		-	Panel mounted detachable rotary actuator and padlocking device
32	3LD2244-0TK53		32	3LD2244-1TL53	
63	3LD2504-0TK51	Base mounted detachable rotary actuator and padlocking device with interlock	63	3LD2555-0TK51	Base mounted detachable rotary actuator and padlocking device with interlock
63	3LD2504-0TK53		63	3LD2555-0TK53	
100	3LD2704-0TK51			-	
100	3LD2704-0TK53			-	
125	3LD2804-0TK51	Base mounted detachable		-	Base mounted detachable
125	3LD2804-0TK53			-	
63	3LD2514-0TK51	Base mounted detachable rotary actuator and padlocking device with interlock		-	Base mounted detachable rotary actuator and padlocking device with interlock
63	3LD2514-0TK53		63	3LD2514-1TL53	
100	3LD2714-0TK51			-	
100	3LD2714-0TK53			-	
125	3LD2814-0TK51	Base mounted detachable		-	Base mounted detachable
125	3LD2814-0TK53			-	
				-	
				-	
63	3LD2545-0TK51	Base mounted detachable		-	Base mounted detachable
63	3LD2545-0TK53		63	3LD2545-0TL53	

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16	3LD2030-0TK11	Din-rail Mounted switch, Installation cover X74 And padlocking Device Z20			
16	3LD2030-0TK13				
25	3LD2130-0TK11				
25	3LD2130-0TK13				
32	3LD2230-0TK11				
32	3LD2230-0TK13				
63	3LD2530-0TK11				
63	3LD2530-0TK13				
100	3LD2730-0TK11				
100	3LD2730-0TK13				
125	3LD2830-0TK11				
125	3LD2830-0TK13				

Application/Limitation

With Uimp = 6 kV the equipment can be used in an ship IT net up to 600 V. It can also be used in a directly earthed net with the voltages 690/400 V.

Type Approval documentation

Tests carried out

IEC 60947-3 / 1999 (main contacts), IEC 60947-5 / 1999 (aux. contacts). Vibration, damp heat, dry heat, cold, insulation resistance and high voltage tests

Marking of product

Siemens AG - Type designation - Rated voltage - Rated current

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