



# DET NORSKE VERITAS

## TYPE APPROVAL CERTIFICATE

**CERTIFICATE NO. E-9047**  
This Certificate consists of 4 pages

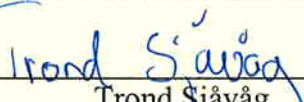
*This is to certify that the*  
**Fused Switch**  
*with type designation(s)*  
**OETL**

*Manufactured by*  
**ABB OY, LOW VOLTAGE PRODUCTS**  
VAASA, Finland

*is found to comply with*  
Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det  
Norske Veritas' Offshore Standards  
IEC 60947-1 (2007-06)  
IEC 60947-3 (2005-06)

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



*Place and date*  
Høvik, 2008-06-17  
for DET NORSKE VERITAS AS

  
Trond Sjøvåg  
Head of Section



*Local Office*  
DNV Helsinki

*This Certificate is valid until*  
2011-12-31

  
Nicolay Horn  
Surveyor 

**Notice: 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.**

If any person suffers loss or damage which is proved to have been caused by any negligent act or omission of Det Norske Veritas, then Det Norske Veritas shall pay compensation to such person for his proved direct loss or damage. However, the compensation shall not exceed an amount equal to ten times the fee charged for the service in question, provided that the maximum compensation shall never exceed USD 2 million. In this provision "Det Norske Veritas" shall mean the Foundation Det Norske Veritas as well as all its subsidiaries, directors, officers, employees, agents and any other acting on behalf of Det Norske Veritas.



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File No.: 823.40

## Product description

Front or side operated switch disconnectors / load break switches in 3 or 4 – pole versions,  
type OETL\_

Size [A]:	200 – 800	1000 – 3150
Rated insulation voltage, $U_i$ [V]:	1000	1000
Rated impulse withstand voltage, $U_{imp}$ [kV]:	12	8

Type	Amp. (According to IEC 60947-1 and 60947-3 <sup>1)</sup> )							
	<i>AC Volts:</i>	AC 21A	AC 22A	AC 23A	<i>DC Volts:</i>	DC 21A	DC 22A	DC 23A
OETL400	Up to 500	500	500	500	Up to 220	400	400	400
	690	500	500	350	440	400	400	400
	1000 <sup>2)</sup>	400	400	125	-	-	-	-
OETL630	Up to 415	630	630	630	Up to 110	630	630	630
	500	630	630	580	220	630	630	630
	690	630	630	350	440	630	630	400
	1000 <sup>2)</sup>	630	630	150	-	-	-	-
OETL800	Up to 415	800	800	720	48	800	800	800
	500	800	800	600	110	800	800	800
	690	800	800	350	220	800	800	630
	1000 <sup>2)</sup>	630	630	150	440	800	800	400
OETL1000	Up to 500	1000	1000	800	Up to 220	1000	-	-
	690	1000	1000	-	-	-	-	-
OETL1250	Up to 500	1250	1250	800	Up to 220	1250	-	-
	690	1250	-	-	-	-	-	-
OETL1600	Up to 500	1600	1600	800	Up to 220	1600	-	-
	690	1600	-	-	-	-	-	-
OETL2500	Up to 500 <sup>3)</sup>	2500	1600	-	Up to 220	-	-	-
	690 <sup>3)</sup>	2500	-	-	-	-	-	-
OETL3150	Up to 500 <sup>3)</sup>	3150	1600	-	Up to 220	-	-	-
	690 <sup>3)</sup>	2500	-	-	-	-	-	-

1) Current ratings are given for an ambient temperature of 40 C in open air. Derating to be performed for the actual installation / use in accordance with instructions from ABB.

2) AC-23B

3) AC-21B, AC-22B, AC-23B



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## Application/Limitation

Current rating to be derated with minimum 5% to fulfil the requirements for an ambient operating temperature of 45°C, for higher ambient temperatures derating to be performed in accordance with instructions from ABB.

## Type Approval documentation

Technical documents:

OT\_OETL 1 GB 03\_05 (page 35 to 42)

Test reports:

9 AFX90-96,	dated 1990-05-02	9 AFX97-293,	dated 1997-11-06
9 AFX90-203,	dated 1990-11-09	224218-2,	dated 2002-08-27
9 AFX90-204,	dated 1990-11-15	224218-3,	dated 2002-08-27
9 AFX90-206,	dated 1990-11-16	224218-4,	dated 2002-08-27
9 AFX90-207,	dated 1990-11-16	224218-5,	dated 2002-11-28
9 AFX90-211,	dated 1990-11-20	X85-302,	dated 1985-10-04
9 AFX90-230,	dated 1990-12-17	X85-399,	dated 1985-11-26
9 AFX91-16,	dated 1991-01-15	X85-400,	dated 1985-11-25
9 AFX97-175,	dated 1997-07-03		

## Tests carried out

Type test according to IEC 60947-1 and IEC 60947-3.

## Marking of product

ABB OETL - type designation.

## Certificate retention survey

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

The main elements of the survey 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



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- Ensuring traceability between manufacturer's product type marking and Type Approval Certificate.

Survey to be performed at least every second year.

END OF CERTIFICATE