



CERTIFICATE NUMBER

DATE

05-YO106406/1-PDA

30 March 2010

ABS TECHNICAL OFFICE

Yokohama Engineering Services

# CERTIFICATE OF DESIGN ASSESSMENT

This is to Certify that a representative of this Bureau did, at the request of  
**MITSUBISHI ELECTRIC CORP. - FUKUYAMA CITY,  
HIROSHIMA PR**

assess design plans and data for the below listed product. This assessment is a representation by the Bureau as to the degree of compliance the design exhibits with applicable sections of the Rules. This assessment does not waive unit certification or classification procedures required by ABS Rules for products to be installed in ABS classed vessels or facilities. This certificate, by itself, does not reflect that the product is Type Approved. The scope and limitations of this assessment are detailed on the pages attached to this certificate. It will remain valid as noted below or until the Rules or specifications used in the assessment are revised (whichever occurs first).

PRODUCT: Low Voltage Circuit Breaker

MODEL: AE-SW & SWA Series

ABS RULE: 2010 Steel Vessel Rules 1-1-4/7.7, 1-1-A3 and 4-8-3/5.3.3

OTHER STANDARD: IEC 60947-2 Ed. 3 (2003);

AMERICAN BUREAU OF SHIPPING

  
Yukiteru Naguchi

Engineering Type Approval Co-ordinator

**Product Design Assessment (PDA) Certificate Attachment for Component Details**

**PDA Certificate No:** 05-YO106406/1-PDA  
**Entry Date:** 30 March 2010  
**Expire Date:** 30 March 2015  
**Company:** Mitsubishi Electric Corporation  
**Factory or Works:** Fukuyama Works  
**Product/Equipment:** Low Voltage Air Circuit Breaker  
**Model:** AE-SW & SWA Series

**Component Rating List for Low Voltage Circuit Breaker, Model: AE Series**

<i>Model</i>	<i>Current Rating A.C. (A)</i>	<i>Rated Voltage A.C. (V)</i>	<i>Breaking Current rms-sym Ics(*10)/Icu(*11) (kA)</i>	<i>Making Current peak-asym Icm (kA)</i>
AE630-SW (*5) (*12)	125 - 630	690	65/65	143.1
AE1000-SW (*5) (*12)	400 - 1000	690	65/65	143.1
AE1250-SW (*5) (*12)	625 - 1250	690	65/65	143.1
AE1600-SW (*5) (*12)	800 - 1600	690	65/65	143.1
AE2000-SWA (*5) (*12)	1000 - 2000	690	65/65	143.1
AE2000-SW (*5) (*12)	625 - 2000	500 690	<b>85/85</b>	<b>195.7</b>
AE2500-SW (*5) (*12)	1250 - 2500	500 690	<b>85/85</b>	<b>195.7</b>
AE3200-SW (*5) (*12)	1600 - 3200	500 690	<b>85/85</b>	<b>195.7</b>
AE4000-SWA (*5) (*12)	2000 - 4000	500 690	<b>85/85</b>	<b>195.7</b>
AE4000-SW (*5) (*12)	2000 - 4000	500 690	138/138 85/85	315.4 188.3
AE5000-SW (*5) (*12)	2500 - 5000	500 690	138/138 85/85	315.4 188.3
AE6300-SW (*5) (*12)	3150 - 6300	500 690	138/138 85/85	315.4 188.3

- Remarks
- (\*1) thermal adjustable (continuous)
  - (\*2) solid state adjustable (continuous)
  - (\*3) adjustable (semi-fixed)
  - (\*4) long-time delay trip & instantaneous trip
  - (\*5) long-time delay trip, short-time delay trip & instantaneous trip
  - (\*6) long-time delay trip & short-time delay trip
  - (\*7) rated short-time current for selective tripping
  - (\*8) rated ultimate short-circuit breaking current Icu (IEC 947-2) with duty O-t-CO, which corresponds to IEC 157-1 Category P1
  - (\*9) making capacity corresponding to Icu
  - (\*10) rated service short-circuit breaking current Ics (See IEC947-2)
  - (\*11) rated ultimate short-circuit breaking current Icu(See IEC947-2)
  - (\*12) digital electronic trip relay