
BROCHURE

ABB UL Naval Breakers

Low-voltage circuit breakers
for naval applications



ABB UL Naval circuit breaker

Safe and Reliable even in the most stressful applications

A modern ship's operational ability is fully dependent on its onboard electrical infrastructure.

Over the years, the growth in the number of electrically powered subsystems on a typical naval vessel has made this infrastructure ever more complex and extensive and has led to a steady increase in power requirements.

For over 50 years, ABB SACE has been building shockproof equipment for navies around the world. The considerable installed base of the

company's products on ships of the world's main navies underlines the reliability of ABB SACE electrical equipment.

Since the 1950s, the company has been manufacturing circuit breakers with special features not available on the same series of equipment destined for general use.

Based on this long experience, ABB SACE is proud to enrich its breakers with new UL1066 SA and UL 489 SB standards.

Common data

Rated maximum voltage	[V]	635	Number of poles	3
Test voltage (1min. 50/60 Hz)	[kV]	2.2	ACBs and XT7	Withdrawable
Frequency	[Hz]	50 - 60	XT2, XT4, XT5	Plug-in

The following picture shows the MCCBs and the ACB where the UL naval can be used: XT2, XT4, XT5, XT7, E1.2, E2.2 and E6.2



ABB UL Naval circuit breakers effectively and simply control naval electrical installations with the highest availability and continuity of service.

These circuit breakers are based on standard versions with design enhancements that guarantee operation in critical environmental conditions.

ABB UL Naval circuit breakers is a family of low-voltage MCCB and ACB compliant to UL 489 SB and UL1066 SA.



ABB UL Naval circuit breaker

Safe and reliability in all conditions

The low-voltage electrical distribution plants inside the modern ship require continuous improvements in order to ensure always more safety and availability and ABB enriches its products with two new certifications:

- **UL 489 SB (MCCB)**: with this certification, ABB products ensure the working temperature up to 50°C (122° F) in an ambient with vibrations (4-33 Hz) certify in the UL 489 standard
- **UL1066 SA (ACB)**: ABB guarantees for the ACB the same working temperature of MCCBs in an ambient with inclination (30°) and vibrations certify in the UL1066 standard.

The SACE® Tmax® XT series of Moulded Case Circuit Breakers (MCCBs) are key elements of the system that give complete flexibility and extreme reliable performances under pressure. They are designed to maximize easy of use and integration, indeed with a breaking capacity up to 800A there is a solution for every purpose.

SACE Emax 2 air circuit breaker is a multifunctional platform able to manage the next generation of electrical plants such as microgrids, evolving into a true Power Manager.

If the smart and plug & play architecture makes SACE Emax 2 easy to use, the cutting-edge connectivity capabilities create a circuit breaker able to evolve during the lifecycle.

SACE Emax 2 sets a new circuit breaker benchmark for the needs of today and tomorrow, leveraging also unmatched electrical performances.

Reliability and service continuity

ABB UL Naval Breakers is the most advanced and

complete solution for ensuring service continuity. With redundant actuators and communication modules built in, ABB UL Naval Breakers takes electrical system reliability to new levels.

ABB Air Circuit Breakers are the only ones available that use both communication bus and electrical connections to prevent, detect and isolate electrical faults. The “digital zone selectivity” function correctly identifies the fault zone faster and isolate it reducing the stress in the remaining active zone. As a result, the electrical protection is more robust and costly shutdowns are more effectively prevented.



CIRCUIT BREAKER
LISTED NAVAL

Dimension and weight optimization

ABB UL Naval Breakers is the most compact circuit breaker on the market, which makes it possible to reduce the size of circuit boxes up to 30%. ABB UL Naval Breakers circuit breakers offer maximum protection, best efficiency and ratings of up to 6000 A.

ABB UL Naval Breakers makes it possible to standardize the circuit-breaker support structures, considerably simplifying construction of the switchboards themselves.

ABB UL Naval Breakers offers the higher performances in the least space. Moreover, it allows optimal sizing of the installation and better protection of cables, busbar ducts and supports. Less space is required in the switchgear and in the metal structures. The result is less oversizing, lower weight and, therefore, higher saving related to space optimization.

Performance

Next-generation ships will use more advanced microgrid technologies to overcome current power distribution challenges. Electrical distribution on a ship is an islanded microgrid, connecting multiple power generators and energy storage systems, that manages directional power flows. By using smart technologies to protect, connect and control the electrical system, ships can operate more efficiently and productively.

ABB UL Naval Breakers low-voltage circuit breaker is the industry's first smart circuit breaker.

For your installations, choose the reliability, quality and experience of ABB.

ABB UL Naval circuit breaker

Safe and reliability in all conditions

The following codes added to the standard products upgrade ACBs and MCCBs to UL1066 SA and UL489 SB:

Upgrade kits for circuit breakers:

Code	Description
1SDA115932R1	Upgrade kit UL489SB for XT2
1SDA115933R1	Upgrade kit UL489SB for XT4
1SDA115934R1	Upgrade kit UL489SB for XT5
1SDA115935R1	Upgrade kit UL489SB for XT7
1SDA115954R1	Upgrade kit UL1066SA for E1.2
1SDA115955R1	Upgrade kit UL1066SA for E2.2
1SDA115956R1	Upgrade kit UL1066SA for E6.2

Upgrade kit for fixed part:

Code	Description
1SDA117235R1	Upgrade kit UL1066SA for FP E6.2

the above extra code can be added to these codes:

Code	Description MCCB MP
1SDA074983R1	XT2L 125 Ekip LSI In=100A 3p F F UL/CSA
1SDA074984R1	XT2L 125 Ekip LSI In=125A 3p F F UL/CSA
1SDA074953R1	XT2N 125 Ekip LSI In=100A 3p F F UL/CSA
1SDA074954R1	XT2N 125 Ekip LSI In=125A 3p F F UL/CSA
1SDA074952R1	XT2N 125 Ekip LSI In=60A 3p F F UL/CSA
1SDA075579R1	XT4L 250 Ekip I In=250A 3p F F MCP-UL/CSA
1SDA075459R1	XT4L 250 Ekip LSI In=250A 3p F F UL/CSA
1SDA075420R1	XT4N 250 Ekip LSI In=100A 3p F F UL/CSA
1SDA075423R1	XT4N 250 Ekip LSI In=250A 3p F F UL/CSA
1SDA075419R1	XT4N 250 Ekip LSI In=60A 3p F F UL/CSA
1SDA102685R1	XT5L 400 BREAKING PART 3p F F UL/CSA
1SDA102686R1	XT5L 600 BREAKING PART 3p F F UL/CSA
1SDA102452R1	XT5N 400 Ekip Dip LSI In300 3p F F UL/CSA
1SDA102453R1	XT5N 400 Ekip Dip LSI In400 3p F F UL/CSA
1SDA103442R1	XT7L M 800 Ekip Dip LSI In800A 3p F F UL

Code	Description ACB MP
1SDA077069R1	E1.2B-A 800 Ekip Dip LSI 3p WMP
1SDA077569R1	E2.2B-A 1600 Ekip Dip LSI 3p WMP
1SDA077629R1	E2.2N-A 2000 Ekip Dip LSI 3p WMP
1SDA077709R1	E2.2V-A 1200 Ekip Dip LSI 3p WMP
1SDA077719R1	E2.2V-A 1600 Ekip Dip LSI 3p WMP
1SDA079069R1	E6.2H-A 4000 Ekip Dip LSI 3p WMP
1SDA079129R1	E6.2V-A 4000 Ekip Dip LSI 3p WMP
1SDA079139R1	E6.2V-A 5000 Ekip Dip LSI 3p WMP
1SDA079149R1	E6.2V-A 6000 Ekip Dip LSI 3p WMP

Code	Description ACB FP
1SDA079709R1	E6.2-A W FP Iu=6000 3p VR VR UL

Additional information

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB AG does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB AG.



—
ABB SACE
A division of ABB S.p.A.
L.V. Breakers
Via Pescaria 5,
24123 Bergamo - Italy
Phone: +39 035 395.111
Fax: +39 035 395.306-433

abb.com/lowvoltage

