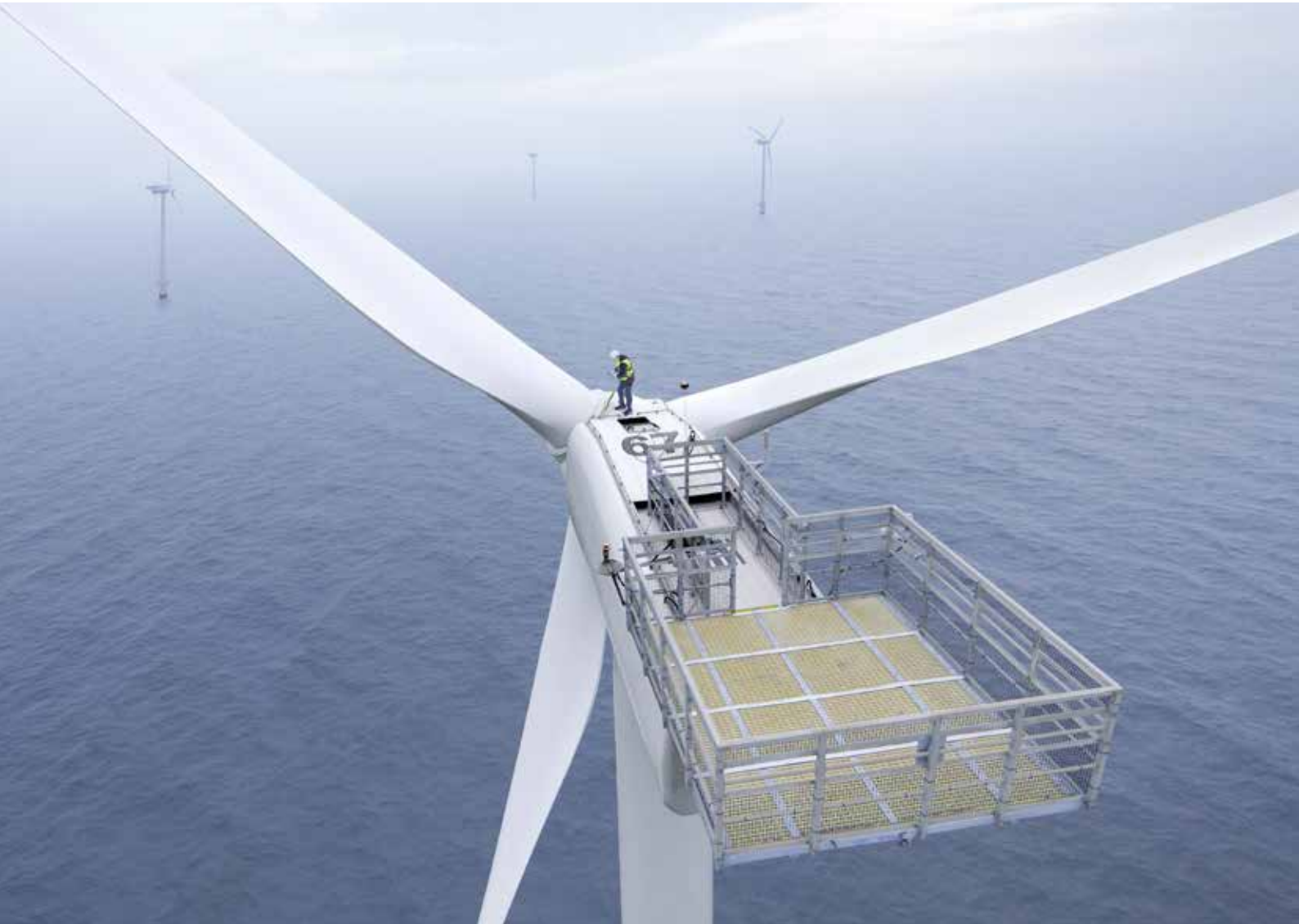
BROCHURE

SACE Emax 2 up to 900Vac

Optimal performance and reliability for wind and solar applications



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Emax 2/E9
Optimal Performance and reliability up to 900V

ABB SACE Emax 2/E9 circuit breakers can effectively and simply control all wind and solar applications - with the highest availability and continuity of service.

The world of renewable energy is evolving rapidly causing major changes in electrical power distribution. This causes an increased focus on:

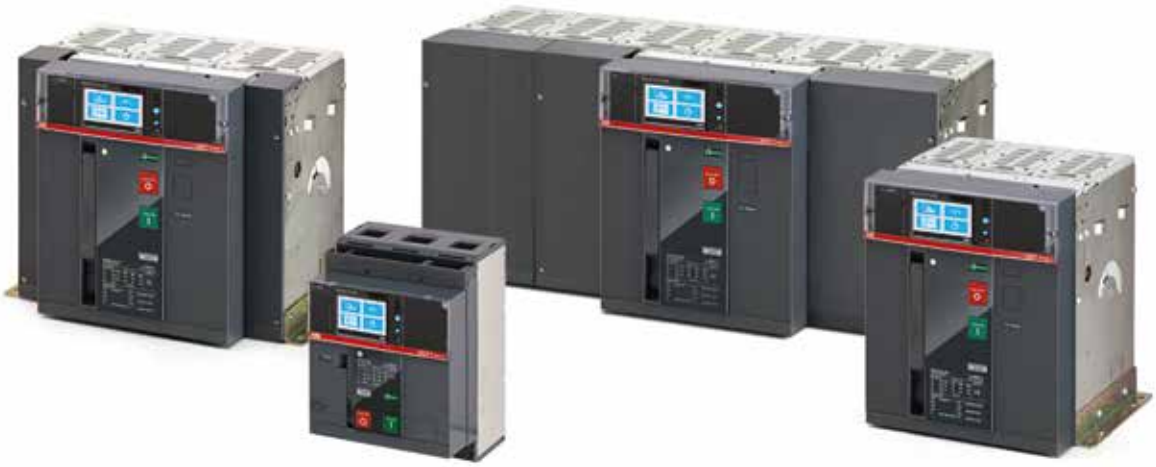
- Power continuity with very high performance requirements, even at high altitudes
- Smarter and faster maintenance
- Optimized footprint

These trends lead to new customer and application demands.As a result, ABB has further enhanced the innovative Emax 2/E9 product line. Together with the new ratings and the all-in-one software offering, the ABB SACE Emax 2/E9 is able to manage the next generation of electrical plants such as microgrids.

Emax 2/E9 all-in-one is the first smart circuit breaker that enables direct communication with the new energy management cloud-computing platform ABB Ability™ Electrical Distribution Control System. Smart and plug-and-play architecture makes Emax 2/E9 all-in-one easy to use.

With the best performance up to 900 V of any device on the market, Emax 2/E9 is ready to control and protect all applications with voltages from 690-900Vac.

Emax 2/E9 sets a new circuit-breaker benchmark for the electrical power distribution systems of today and tomorrow.



Emax 2/E9 - distinctive features

Performance
Best performance in the market at 900V in compliance with IEC 60947 and at 730V in compliance with UL1066.

Next-generation wind turbine and solar plants have power ratings and efficiencies significantly higher than their predecessors.
Emax 2/E9 is the first circuit breaker able to perform an Icu of 90 kA at 900 V.
Moreover, these market segments will use more advanced microgrid technologies to overcome power distribution challenges. By using Emax 2/E9 smart technologies to protect, connect and control the electrical system, these renewable plants can operate more efficiently and productively.

Monitoring and Control
Operate more efficiently and productively.

Actionable analytical and predictive data is always available from our cloud based ABB Ability Electrical Distribution Control System.

- **Monitor:**
  Discover plant performance, supervise the electrical system and allocate costs.
- **Optimize:**
  Analyze the relevant information, improve the use of assets and take the right business decision.
- **Control:**
  Set up alerts and notify key personnel, and remotely implement an effective power management strategy to achieve energy savings in a simple way.

Ease of use
Simple and safe

The entire range is available in fixed and withdrawable versions, with double insulation between the front of the switchgear and the live parts to ensure operation in complete safety.
The circuit breakers can either be powered from above or below.

All essential information is available in the central area of the front plate, which enables immediate identification of the status of the circuit breaker: open, closed, ready-to-close, charged and discharged spring.

Moreover, all mechanical and electronic accessories are the same of the standard range.

More features

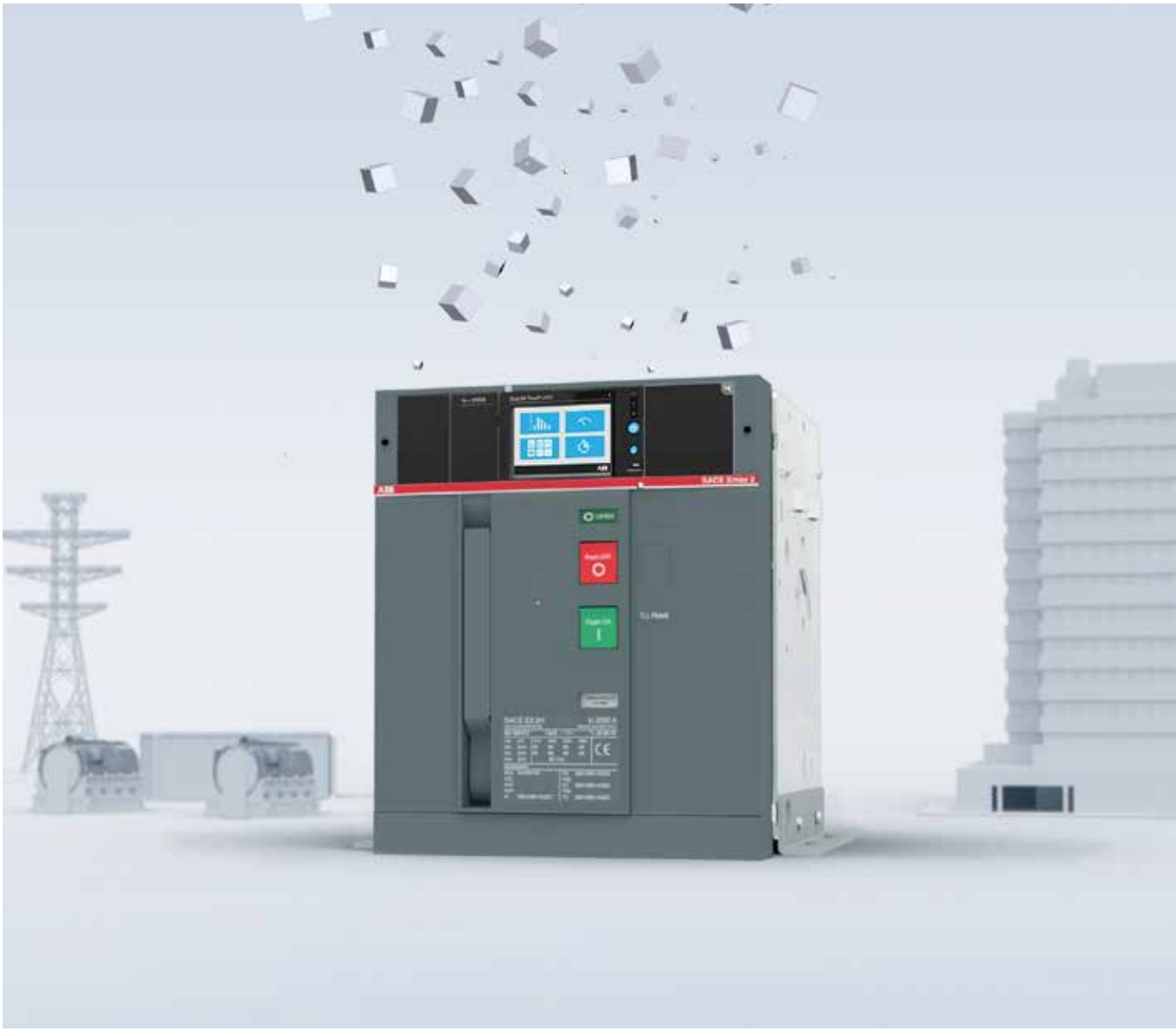
Connectivity
SACE Emax 2/E9 series circuit breakers can be integrated into all automation and energy management systems to improve productivity and energy consumption, and to carry out remote service. All circuit breakers can be equipped with embedded communication modules that offer Modbus, Profibus, and DeviceNet™ protocols as well as the modern Modbus TCP, Profinet, EtherNet/IP™. Redundancy or multiple protocols are also possible.

Furthermore, the integrated IEC 61850 communication module enables connection to automation systems widely used in medium-voltage power distribution to create intelligent networks (smart grids). All circuit breaker functions are also accessible via the Internet, in complete safety, through the Ekip Link switchgear supervision system and the Ekip Control Panel.

Energy Efficiency
Full compatibility with ABB Ability Electrical Distribution Control System allows data processing from the site's electrical equipment to deliver analyses and make recommendations for optimizing the electrical system's performance. This allows remote monitoring of plants, energy consumption and costs at a glance, making implementation of energy management strategies easier and faster.

Space Saving
ABB SACE Emax 2/E9 is the most compact circuit breaker on the market. ABB SACE Emax 2/E9 offers the highest performance in the smallest space. Its compact dimensions allow the size of switchboards to be reduced by up to 30 percent, compared to a standard solution.


In = 1600A
Ekip Hi-Touch LSIG
ABB
S/N
S/N
CLOSED



Reliable in extreme conditions

SACE Emax 2/E9 circuit breakers have been designed and tested in accordance with major international standards that pertain to electrical plants

Temperature range
Emax 2/E9 circuit breakers can be used in ambient conditions where air temperature varies between -25 °C and +70 °C (-13 °F and +158 °F). Highly suitable for wind and solar installations that have to endure extreme conditions. The devices can be installed in industrial environments with pollution level 3, according to IEC 60947. SACE Emax 2/E9 circuit breakers also comply with:

- IEC 60721-3-6 class 6C3
- IEC 60721-3-3 class 3C2

Altitude
SACE Emax 2/E9 product line has been designed with high altitude applications in mind.
Above 2000 m, the properties of the atmosphere in terms of composition, dielectric capacitance, cooling power and pressure can highly vary. Therefore, the performance of the circuit breakers is subject to derating, which can be measured by means of the variation in maximum rated service voltage and rated uninterrupted current.

ABB provides instructions for the use of circuit breakers in nonstandard environments. For example: personalized maintenance program or installation solutions aimed at increasing performances and extending the life cycle of the circuit breaker.

Altitude		**[m]**	**2,000**	**3,000**	**4,000**	**5,000**
Rated service voltage Ue	Versions 690V	[V]	690	607	538	470
	Versions 730V	[V]	730	642	569	497
	Versions 900V	[V]	900	792	702	612
Rated current		[% In]	100	98	93	90

SACE Emax 2/E9			**E1.2****		**E2.2**			**E4.2 *****			**E6.2**		
		[Iu]	**<1000**	**1250**	**<2000**	**2000**	**< 2500**	**<3200**	**3200**	**4000**	**4000**	**5000**	**6300**
Mechanical life*		[No. cycles x 1000]	20	20	25	25	20	20	20	15	12	12	12
	Frequency	[Oper./Hour]	60	60	60	60	60	60	60	60	60	60	60
Electrical life	900 V	[No. cycles x 1000]	0,5	0,5	2	2	2	1	1	1	1	1	1
	Frequency	[Oper./Hour]	30	30	30	30	30	10	10	10	10	10	10

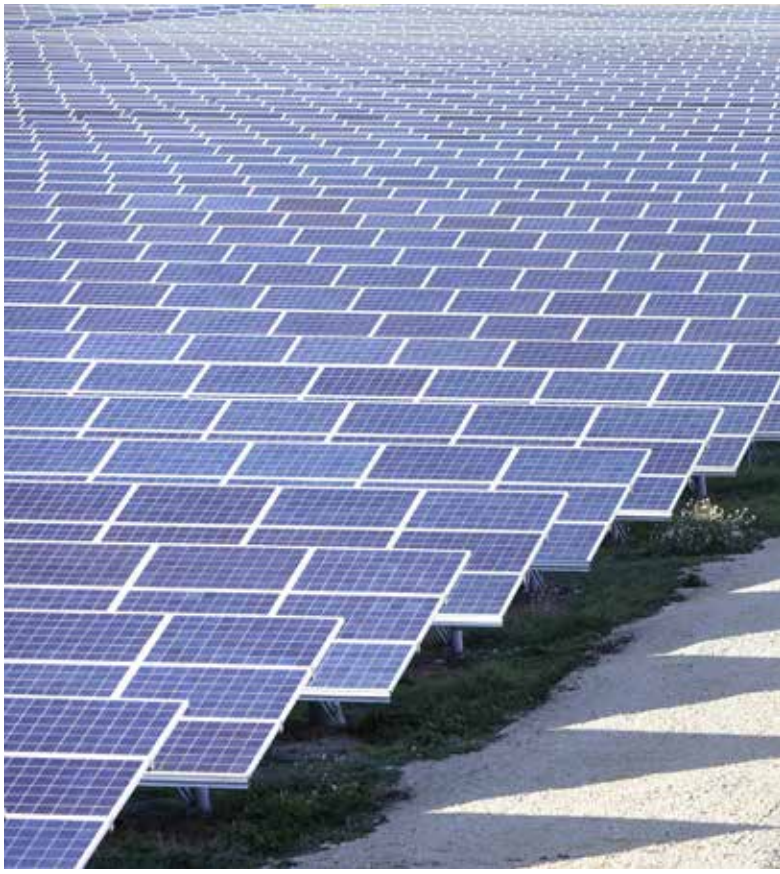
* with regular ordinary maintenance prescribed by the manufacturer.
** For E1.2 electrical life is at 800V
*** for the E4.2 UL1066 the electrical life is at 730V and reach 400 operations up to 3600A with a frequency of 30 operations/hours
For the temperature derating please refer to the Emax 2 standard version's technical catalogue 1SDC200023D0209 for IEC and 1SXU200040C0201 for the UL 1066

The applications for Emax 2/E9

ABB Emax 2/E9 quality and experience guarantees excellent reliability in many different market segments

Emax 2/E9 is the perfect solution for:
- Wind turbines
- Solar plants

For your installations, choose the performance, quality and experience of ABB



DATA
IEC 60947 portfolio

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ABB SACE is proud to present the new Emax 2/E9

Rated service voltage Ue	[V]	900	Number of poles	3 - 4
Rated insulation voltage Ui	[V]	1000	Version	Withdrawable - fixed
Rated impulse withstand voltage Uimp	[kV]	12	Automatic circuit-breakers suitable for isolation according to	IEC 60947-2
Frequency	[Hz]	50 - 60		

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Automatic circuit breakers

SACE Emax 2/E9			**E1.2**	**E2.2**		**E4.2**		**E6.2**	
Performance levels			N/E9	S/E9	H/E9	S/E9	H/E9	H/E9	X/E9
Rated uninterrupted current Iu @ 40°C		[A]	1250	1250	1250	3200	3200	5000	5000
		[A]		2000	2000	4000	4000	6300	6300
		[A]		2500	2500				
Neutral pole current-carrying capacity for 4-pole CBs		[%Iu]	100	100	100	100	100	50-100	50-100
Rated ultimate short-circuit breaking capacity Icu	800V	[kA]	35	50	65	65	90	90	100
	900V	[kA]		50	65	65	75	75	90
Rated service short-circuit breaking capacity Ics		[%Icu]	100	100	100	100	100	100	100
Rated short-time withstand current Icw	(1s) 800V	[kA]	35	50	65	65	75	75	90
	(3s) 800V	[kA]	30	50	65	65	75*	75	90
	(1s) 900V	[kA]		50	65	65	75	75	90
	(3s) 900V	[kA]		50	65	65	75*	75	90
Rated short-circuit making capacity (peak value) Icm	800V	[kA]	73.5	105	143	143	200	200	220
	900V	[kA]		105	143	143	165	165	198
Utilization category (according to IEC 60947-2)			B	B	B	B	B	B	B

* E4.2H 3200A: 66 Icw (3s)

Trip unit / Set-up	**Ekip Dip**		**Ekip Touch**		**Ekip Hi-Touch**
Trip unit type					
Protection Set-up	LSI	LSIG	LSI	LSIG	LSIG

For the complete protection functions diagrams, availability description for each version, as well as for more information, please refer to the Emax 2 standard version's technical catalogue 1SDC200023D0209

DATA
UL 1066 portfolio

ABB SACE is proud to present the new Emax 2/E9

Rated maximum voltage Ui	[V]	730	Number of poles	3 - 4
Test voltage (1 min 50/60 Hz)	[kV]	2.2	Version	Withdrawable - fixed
Frequency	[Hz]	50 - 60	Automatic circuit-breakers suitable for isolation according to	UL 1066

Automatic circuit breakers

SACE Emax 2/E9			E4.2
Performance levels			H-A
Rated uninterrupted current Iu @ 40°C		[A]	3200
		[A]	3600 *
Neutral pole current-carrying capacity for 4-pole CBs		[%Iu]	100
Rated ultimate short-circuit breaking capacity Icu	730V	[kA]	85
Rated service short-circuit breaking capacity Ics		[%Icu]	100

* Fixed version only

Trip unit / Set-up	Ekip Dip		Ekip Touch	
Trip unit type				
Protection Set-up	LSI	LSIG	LSI	LSIG

For the complete protection functions diagrams, availability description for each version, as well as for more information, please refer to the Emax 2 standard version's technical catalogue 1SXU200040C0201

IEC 60947
IEC 60947 portfolio

Size	Performance	Iu range	Type of terminal	Type	3 Poles	4 Poles
E1.2	N	250 - 1600	HR - HR	E1.2 W FP Iu=1600 HR HR	1SDA073907R1	1SDA073908R1
E2.2	S, H	800 - 2000	HR - HR	E2.2 W FP Iu=2000 HR HR	1SDA073909R1	1SDA073910R1
	S, H	2500	HR - HR	E2.2 W FP Iu=2500 HR HR	1SDA073911R1	1SDA073912R1
E4.2	S, H	3200	HR - HR	E4.2 W FP Iu=3200 HR HR	1SDA073913R1	1SDA073914R1
	S, H	4000	HR - HR	E4.2 W FP Iu=4000 HR HR	1SDA073915R1	1SDA073916R1
E6.2	H	4000-5000	HR - HR	E6.2 W FP Iu=5000 HR HR	1SDA073917R1	1SDA073918R1
	H, X	4000-6300	HR - HR	E6.2 W FP Iu=6300 or X version HR HR	1SDA073920R1	1SDA073921R1

For Emax 2/E9 phase separators are mandatory.
For circuit breakers in withdrawable version, phase separators have to be ordered as loose part.
For circuit breakers in fixed version, phase separators are provided with the breaker.

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Separators - PB*

Size	Type	Code
E1.2	PB Separators 2 pz W FP 3P	1SDA076164R1
	PB Separators 3 pz W FP 4P	1SDA076165R1
E2.2...E6.2	PB Separators 2 pz E2.2..E6.2 W FP 3P	1SDA076168R1
	PB Separators 3 pz E2.2..E6.2 W FP 4P	1SDA076169R1

*Only as loose part

Automatic circuit-breakers
IEC 60947 fixed version

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SACE Emax 2 E2.2 Fixed

Size	Iu	Icu (900 V) *	Type	3 Poles	4 Poles
E1.2N	1250	35	E1.2N/E9 1250 Ekip Dip LSI 3p F F	1SDA104274R1	1SDA104284R1
			E1.2N/E9 1250 Ekip Dip LSIG 3p F F	1SDA104275R1	1SDA104285R1
			E1.2N/E9 1250 Ekip Touch LSIG 3p F F	1SDA104276R1	1SDA104286R1
			E1.2N/E9 1250 Ekip Hi-Touch LSIG 3p F F	1SDA104277R1	1SDA104287R1
			E1.2N/E9 1250 Ekip Touch LSI 3p F F	1SDA104278R1	1SDA104288R1
E2.2H	1250	65	E2.2H/E9 1250 Ekip Dip LSI FHR	1SDA104347R1	1SDA104362R1
			E2.2H/E9 1250 Ekip Dip LSIG FHR	1SDA104348R1	1SDA104363R1
			E2.2H/E9 1250 Ekip Touch LSI FHR	1SDA104351R1	1SDA104366R1
			E2.2H/E9 1250 Ekip Touch LSIG FHR	1SDA104349R1	1SDA104364R1
			E2.2H/E9 1250 Ekip Hi-Touch LSIG FHR	1SDA104350R1	1SDA104365R1
	2000	65	E2.2H/E9 2000 Ekip Dip LSI FHR	1SDA104352R1	1SDA104367R1
			E2.2H/E9 2000 Ekip Dip LSIG FHR	1SDA104353R1	1SDA104368R1
			E2.2H/E9 2000 Ekip Touch LSI FHR	1SDA104356R1	1SDA104371R1
			E2.2H/E9 2000 Ekip Touch LSIG FHR	1SDA104354R1	1SDA104369R1
			E2.2H/E9 2000 Ekip Hi-Touch LSIG FHR	1SDA104355R1	1SDA104370R1
	2500	65	E2.2H/E9 2500 Ekip Dip LSI FHR	1SDA104357R1	1SDA104372R1
			E2.2H/E9 2500 Ekip Dip LSIG FHR	1SDA104358R1	1SDA104373R1
			E2.2H/E9 2500 Ekip Touch LSI FHR	1SDA104361R1	1SDA104376R1
			E2.2H/E9 2500 Ekip Touch LSIG FHR	1SDA104359R1	1SDA104374R1
			E2.2H/E9 2500 Ekip Hi-Touch LSIG FHR	1SDA104360R1	1SDA104375R1
E2.2S	1250	50	E2.2S/E9 1250 Ekip Dip LSI FHR	1SDA104317R1	1SDA104332R1
			E2.2S/E9 1250 Ekip Dip LSIG FHR	1SDA104318R1	1SDA104333R1
			E2.2S/E9 1250 Ekip Touch LSI FHR	1SDA104321R1	1SDA104336R1
			E2.2S/E9 1250 Ekip Touch LSIG FHR	1SDA104319R1	1SDA104334R1
			E2.2S/E9 1250 Ekip Hi-Touch LSIG FHR	1SDA104320R1	1SDA104335R1
	2000	50	E2.2S/E9 2000 Ekip Dip LSI FHR	1SDA104322R1	1SDA104337R1
			E2.2S/E9 2000 Ekip Dip LSIG FHR	1SDA104323R1	1SDA104338R1
			E2.2S/E9 2000 Ekip Touch LSI FHR	1SDA104326R1	1SDA104341R1
			E2.2S/E9 2000 Ekip Touch LSIG FHR	1SDA104324R1	1SDA104339R1
			E2.2S/E9 2000 Ekip Hi-Touch LSIG FHR	1SDA104325R1	1SDA104340R1
	2500	50	E2.2S/E9 2500 Ekip Dip LSI FHR	1SDA104327R1	1SDA104342R1
			E2.2S/E9 2500 Ekip Dip LSIG FHR	1SDA104328R1	1SDA104343R1
			E2.2S/E9 2500 Ekip Touch LSI FHR	1SDA104331R1	1SDA104346R1
			E2.2S/E9 2500 Ekip Touch LSIG FHR	1SDA104329R1	1SDA104344R1
			E2.2S/E9 2500 Ekip Hi-Touch LSIG FHR	1SDA104330R1	1SDA104345R1

*) For E1.2 Icu at 800V

Automatic circuit-breakers
IEC 60947 withdrawable version

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SACE Emax 2 E4.2 and E6.2 Fixed

Size	Iu	Icu (900 V)	Type	3 Poles	4 Poles
E4.2H	3200	75	E4.2H/E9 3200 Ekip Dip LSI FHR	1SDA104397R1	1SDA104407R1
			E4.2H/E9 3200 Ekip Dip LSIG FHR	1SDA104398R1	1SDA104408R1
			E4.2H/E9 3200 Ekip Touch LSI FHR	1SDA104401R1	1SDA104411R1
			E4.2H/E9 3200 Ekip Touch LSIG FHR	1SDA104399R1	1SDA104409R1
			E4.2H/E9 3200 Ekip Hi-Touch LSIG FHR	1SDA104400R1	1SDA104410R1
	4000	75	E4.2H/E9 4000 Ekip Dip LSI FHR	1SDA104402R1	1SDA104412R1
			E4.2H/E9 4000 Ekip Dip LSIG FHR	1SDA104403R1	1SDA104413R1
			E4.2H/E9 4000 Ekip Touch LSI FHR	1SDA104406R1	1SDA104416R1
			E4.2H/E9 4000 Ekip Touch LSIG FHR	1SDA104404R1	1SDA104414R1
			E4.2H/E9 4000 Ekip Hi-Touch LSIG FHR	1SDA104405R1	1SDA104415R1
E4.2S	3200	65	E4.2S/E9 3200 Ekip Dip LSI FHR	1SDA104377R1	1SDA104387R1
			E4.2S/E9 3200 Ekip Dip LSIG FHR	1SDA104378R1	1SDA104388R1
			E4.2S/E9 3200 Ekip Touch LSI FHR	1SDA104381R1	1SDA104391R1
			E4.2S/E9 3200 Ekip Touch LSIG FHR	1SDA104379R1	1SDA104389R1
			E4.2S/E9 3200 Ekip Hi-Touch LSIG FHR	1SDA104380R1	1SDA104390R1
	4000	65	E4.2S/E9 4000 Ekip Dip LSI FHR	1SDA104382R1	1SDA104392R1
			E4.2S/E9 4000 Ekip Dip LSIG FHR	1SDA104383R1	1SDA104393R1
			E4.2S/E9 4000 Ekip Touch LSI FHR	1SDA104386R1	1SDA104396R1
			E4.2S/E9 4000 Ekip Touch LSIG FHR	1SDA104384R1	1SDA104394R1
			E4.2S/E9 4000 Ekip Hi-Touch LSIG FHR	1SDA104385R1	1SDA104395R1
E6.2H	5000	75	E6.2H/E9 5000 Ekip Dip LSI FHR	1SDA104605R1	1SDA104615R1
			E6.2H/E9 5000 Ekip Dip LSIG FHR	1SDA104606R1	1SDA104616R1
			E6.2H/E9 5000 Ekip Touch LSI FHR	1SDA104609R1	1SDA104619R1
			E6.2H/E9 5000 Ekip Touch LSIG FHR	1SDA104607R1	1SDA104617R1
			E6.2H/E9 5000 Ekip Hi-Touch LSIG FHR	1SDA104608R1	1SDA104618R1
	6300	75	E6.2H/E9 6300 Ekip Dip LSI FHR	1SDA104610R1	1SDA104620R1
			E6.2H/E9 6300 Ekip Dip LSIG FHR	1SDA104611R1	1SDA104621R1
			E6.2H/E9 6300 Ekip Touch LSI FHR	1SDA104614R1	1SDA104624R1
			E6.2H/E9 6300 Ekip Touch LSIG FHR	1SDA104612R1	1SDA104622R1
			E6.2H/E9 6300 Ekip Hi-Touch LSIG FHR	1SDA104613R1	1SDA104623R1
E6.2X	5000	90	E6.2X/E9 5000 Ekip Dip LSI FHR	1SDA104417R1	1SDA104427R1
			E6.2X/E9 5000 Ekip Dip LSIG FHR	1SDA104418R1	1SDA104428R1
			E6.2X/E9 5000 Ekip Touch LSI FHR	1SDA104421R1	1SDA104431R1
			E6.2X/E9 5000 Ekip Touch LSIG FHR	1SDA104419R1	1SDA104429R1
			E6.2X/E9 5000 Ekip Hi-Touch LSIG FHR	1SDA104420R1	1SDA104430R1
	6300	90	E6.2X/E9 6300 Ekip Dip LSI FHR	1SDA104422R1	1SDA104432R1
			E6.2X/E9 6300 Ekip Dip LSIG FHR	1SDA104423R1	1SDA104433R1
			E6.2X/E9 6300 Ekip Touch LSI FHR	1SDA104426R1	1SDA104436R1
			E6.2X/E9 6300 Ekip Touch LSIG FHR	1SDA104424R1	1SDA104434R1
			E6.2X/E9 6300 Ekip Hi-Touch LSIG FHR	1SDA104425R1	1SDA104435R1

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SACE Emax 2 E2.2 Withdrawable

Size	Iu	Icu (900 V) *	Type	3 Poles	4 Poles
E1.2N	1250	35	E1.2N/E9 1250 Ekip Dip LSI 3p WMP	1SDA104294R1	1SDA104304R1
			E1.2N/E9 1250 Ekip Dip LSIG 3p WMP	1SDA104295R1	1SDA104305R1
			E1.2N/E9 1250 Ekip Touch LSIG 3p WMP	1SDA104296R1	1SDA104306R1
			E1.2N/E9 1250 Ekip Hi-Touch LSIG 3p WMP	1SDA104297R1	1SDA104307R1
			E1.2N/E9 1250 Ekip Touch LSI 3p WMP	1SDA104298R1	1SDA104308R1
E2.2H	1250	65	E2.2H/E9 1250 Ekip Dip LSI WMP	1SDA104467R1	1SDA104482R1
			E2.2H/E9 1250 Ekip Dip LSIG WMP	1SDA104468R1	1SDA104483R1
			E2.2H/E9 1250 Ekip Touch LSI WMP	1SDA104471R1	1SDA104486R1
			E2.2H/E9 1250 Ekip Touch LSIG WMP	1SDA104469R1	1SDA104484R1
			E2.2H/E9 1250 Ekip Hi-Touch LSIG WMP	1SDA104470R1	1SDA104485R1
	2000	65	E2.2H/E9 2000 Ekip Dip LSI WMP	1SDA104472R1	1SDA104487R1
			E2.2H/E9 2000 Ekip Dip LSIG WMP	1SDA104473R1	1SDA104488R1
			E2.2H/E9 2000 Ekip Touch LSI WMP	1SDA104476R1	1SDA104491R1
			E2.2H/E9 2000 Ekip Touch LSIG WMP	1SDA104474R1	1SDA104489R1
			E2.2H/E9 2000 Ekip Hi-Touch LSIG WMP	1SDA104475R1	1SDA104490R1
	2500	65	E2.2H/E9 2500 Ekip Dip LSI WMP	1SDA104477R1	1SDA104492R1
			E2.2H/E9 2500 Ekip Dip LSIG WMP	1SDA104478R1	1SDA104493R1
			E2.2H/E9 2500 Ekip Touch LSI WMP	1SDA104481R1	1SDA104496R1
			E2.2H/E9 2500 Ekip Touch LSIG WMP	1SDA104479R1	1SDA104494R1
			E2.2H/E9 2500 Ekip Hi-Touch LSIG WMP	1SDA104480R1	1SDA104495R1
E2.2S	1250	50	E2.2S/E9 1250 Ekip Dip LSI WMP	1SDA104437R1	1SDA104452R1
			E2.2S/E9 1250 Ekip Dip LSIG WMP	1SDA104438R1	1SDA104453R1
			E2.2S/E9 1250 Ekip Touch LSI WMP	1SDA104441R1	1SDA104456R1
			E2.2S/E9 1250 Ekip Touch LSIG WMP	1SDA104439R1	1SDA104454R1
			E2.2S/E9 1250 Ekip Hi-Touch LSIG WMP	1SDA104440R1	1SDA104455R1
	2000	50	E2.2S/E9 2000 Ekip Dip LSI WMP	1SDA104442R1	1SDA104457R1
			E2.2S/E9 2000 Ekip Dip LSIG WMP	1SDA104443R1	1SDA104458R1
			E2.2S/E9 2000 Ekip Touch LSI WMP	1SDA104446R1	1SDA104461R1
			E2.2S/E9 2000 Ekip Touch LSIG WMP	1SDA104444R1	1SDA104459R1
			E2.2S/E9 2000 Ekip Hi-Touch LSIG WMP	1SDA104445R1	1SDA104460R1
	2500	50	E2.2S/E9 2500 Ekip Dip LSI WMP	1SDA104447R1	1SDA104462R1
			E2.2S/E9 2500 Ekip Dip LSIG WMP	1SDA104448R1	1SDA104463R1
			E2.2S/E9 2500 Ekip Touch LSI WMP	1SDA104451R1	1SDA104466R1
			E2.2S/E9 2500 Ekip Touch LSIG WMP	1SDA104449R1	1SDA104464R1
			E2.2S/E9 2500 Ekip Hi-Touch LSIG WMP	1SDA104450R1	1SDA104465R1

*) For E1.2 Icu at 800V

Automatic circuit-breakers
IEC 60947 withdrawable version

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SACE Emax 2 E4.2 and E6.2 Withdrawable

Size	Iu	Icu (900 V)	Type	3 Poles	4 Poles
E4.2H	3200	75	E4.2H/E9 3200 Ekip Dip LSI WMP	1SDA104517R1	1SDA104527R1
			E4.2H/E9 3200 Ekip Dip LSIG WMP	1SDA104518R1	1SDA104528R1
			E4.2H/E9 3200 Ekip Touch LSI WMP	1SDA104521R1	1SDA104531R1
			E4.2H/E9 3200 Ekip Touch LSIG WMP	1SDA104519R1	1SDA104529R1
			E4.2H/E9 3200 Ekip Hi-Touch LSIG WMP	1SDA104520R1	1SDA104530R1
	4000	75	E4.2H/E9 4000 Ekip Dip LSI WMP	1SDA104522R1	1SDA104532R1
			E4.2H/E9 4000 Ekip Dip LSIG WMP	1SDA104523R1	1SDA104533R1
			E4.2H/E9 4000 Ekip Touch LSI WMP	1SDA104526R1	1SDA104536R1
			E4.2H/E9 4000 Ekip Touch LSIG WMP	1SDA104524R1	1SDA104534R1
			E4.2H/E9 4000 Ekip Hi-Touch LSIG WMP	1SDA104525R1	1SDA104535R1
E4.2S	3200	65	E4.2S/E9 3200 Ekip Dip LSI WMP	1SDA104497R1	1SDA104507R1
			E4.2S/E9 3200 Ekip Dip LSIG WMP	1SDA104498R1	1SDA104508R1
			E4.2S/E9 3200 Ekip Touch LSI WMP	1SDA104501R1	1SDA104511R1
			E4.2S/E9 3200 Ekip Touch LSIG WMP	1SDA104499R1	1SDA104509R1
			E4.2S/E9 3200 Ekip Hi-Touch LSIG WMP	1SDA104500R1	1SDA104510R1
	4000	65	E4.2S/E9 4000 Ekip Dip LSI WMP	1SDA104502R1	1SDA104512R1
			E4.2S/E9 4000 Ekip Dip LSIG WMP	1SDA104503R1	1SDA104513R1
			E4.2S/E9 4000 Ekip Touch LSI WMP	1SDA104506R1	1SDA104516R1
			E4.2S/E9 4000 Ekip Touch LSIG WMP	1SDA104504R1	1SDA104514R1
			E4.2S/E9 4000 Ekip Hi-Touch LSIG WMP	1SDA104505R1	1SDA104515R1
E6.2H	5000	75	E6.2H/E9 5000 Ekip Dip LSI WMP	1SDA104625R1	1SDA104635R1
			E6.2H/E9 5000 Ekip Dip LSIG WMP	1SDA104626R1	1SDA104636R1
			E6.2H/E9 5000 Ekip Touch LSI WMP	1SDA104629R1	1SDA104639R1
			E6.2H/E9 5000 Ekip Touch LSIG WMP	1SDA104627R1	1SDA104637R1
			E6.2H/E9 5000 Ekip Hi-Touch LSIG WMP	1SDA104628R1	1SDA104638R1
	6300	75	E6.2H/E9 6300 Ekip Dip LSI WMP	1SDA104630R1	1SDA104640R1
			E6.2H/E9 6300 Ekip Dip LSIG WMP	1SDA104631R1	1SDA104641R1
			E6.2H/E9 6300 Ekip Touch LSI WMP	1SDA104634R1	1SDA104644R1
			E6.2H/E9 6300 Ekip Touch LSIG WMP	1SDA104632R1	1SDA104642R1
			E6.2H/E9 6300 Ekip Hi-Touch LSIG WMP	1SDA104633R1	1SDA104643R1
E6.2X	5000	90	E6.2X/E9 5000 Ekip Dip LSI WMP	1SDA104537R1	1SDA104547R1
			E6.2X/E9 5000 Ekip Dip LSIG WMP	1SDA104538R1	1SDA104548R1
			E6.2X/E9 5000 Ekip Touch LSI WMP	1SDA104541R1	1SDA104551R1
			E6.2X/E9 5000 Ekip Touch LSIG WMP	1SDA104539R1	1SDA104549R1
			E6.2X/E9 5000 Ekip Hi-Touch LSIG WMP	1SDA104540R1	1SDA104550R1
	6300	90	E6.2X/E9 6300 Ekip Dip LSI WMP	1SDA104542R1	1SDA104552R1
			E6.2X/E9 6300 Ekip Dip LSIG WMP	1SDA104543R1	1SDA104553R1
			E6.2X/E9 6300 Ekip Touch LSI WMP	1SDA104546R1	1SDA104556R1
			E6.2X/E9 6300 Ekip Touch LSIG WMP	1SDA104544R1	1SDA104554R1
			E6.2X/E9 6300 Ekip Hi-Touch LSIG WMP	1SDA104545R1	1SDA104555R1

Fixed part
UL 1066 portfolio

Size	Performance	Iu range	Type of terminal	Type	3 Poles	4 Poles
E4.2	H-A	3200	VR - VR	E4.2-A W FP Iu=3200 VR VR UL	1SDA079702R1	1SDA079703R1

For Emax 2/E UL 1066 phase separators are mandatory.
For circuit breakers in withdrawable version, phase separators have to be ordered as loose part.
For circuit breakers in fixed version, phase separators are provided with the breaker.

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Separators - PB*

Size	Type	Code
E4.2	PB Separators 2 pz E2.2..E6.2 W FP 3P	1SDA076168R1
	PB Separators 3 pz E2.2..E6.2 W FP 4P	1SDA076169R1

*Only as loose part

Automatic circuit-breakers
UL 1066 version

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SACE Emax 2 E4.2H Fixed

Size	Iu	Icu (730V)	Type	3 Poles	4 Poles
E4.2-H	3200	85	E4.2H-A/E 3200 Ekip Dip LSI 3p FVR	1SDA113758R1	
			E4.2H-A/E 3200 Ekip Dip LSIG 3p FVR	1SDA113759R1	
			E4.2H-A/E 3200 Ekip Touch LSI 3p FVR	1SDA113760R1	
			E4.2H-A/E 3200 Ekip Touch LSIG 3p FVR	1SDA113761R1	
	3600	85	E4.2H-A/E 3600 Ekip Dip LSI 3p FVR	1SDA113754R1	1SDA113762R1
			E4.2H-A/E 3600 Ekip Dip LSIG 3p FVR	1SDA113755R1	1SDA113763R1
			E4.2H-A/E 3600 Ekip Touch LSI 3p FVR	1SDA113756R1	1SDA113764R1
			E4.2H-A/E 3600 Ekip Touch LSIG 3p FVR	1SDA113757R1	1SDA113765R1

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SACE Emax 2 E4.2H Withdrawable

Size	Iu	Icu (730V)	Type	3 Poles	4 Poles
E4.2-H	3200	85	E4.2H-A/E 3200 Ekip Dip LSI 3p WMP	1SDA113766R1	1SDA113770R1
			E4.2H-A/E 3200 Ekip Dip LSIG 3p WMP	1SDA113767R1	1SDA113771R1
			E4.2H-A/E 3200 Ekip Touch LSI 3p WMP	1SDA113768R1	1SDA113772R1
			E4.2H-A/E 3200 Ekip Touch LSIG 3p WMP	1SDA113769R1	1SDA113773R1

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