

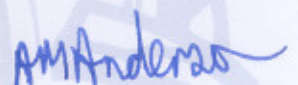
Type Approval Certificate Extension

This is to certify that Certificate No. 98/00073(E5) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	ABB Sace S.p.A. Via Baioni, 35 24123 Bergamo Italy
PLACE OF PRODUCTION	Via Enrico Fermi 14 03100 Frosinone Italy
DESCRIPTION	Low Voltage Air Circuit Breakers
TYPE	EMAX ⁽¹⁾ ⁽¹⁾ All units fitted with, PR111, PR112, PR113, PR121, PR122 and PR123 microprocessor based overcurrent release providing protection against overload, short circuit and earth faults.
APPLICATION	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in LR Test Specification No. 1: 1996.
SPECIFIED STANDARDS	IEC 60947-1 IEC 60947-2

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RATINGS

Type	Normal Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit		Withstand Current for 1 sec (kA)
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)	
EI B 800	250-800	440	.25	94.5	45	36	36
		690	.25	75.6	36	36	36
EI B 1250	250-1250	440	.25	94.5	45	36	36
		690	.25	75.6	36	36	36
E1N 800	400 - 800	440	.25	105	50	50	50
		690	.25	105	50	50	50
E1N 1000	400 - 1000	440	.25	105	50	50	50
		690	.25	105	50	50	50
E1N 1250	400 - 1250	440	.25	105	50	50	50
		690	.25	105	50	50	50
E1N 1600	400 - 1600	440	.25	105	50	50	50
		690	.25	105	50	50	50
E2 B 1600	250 -1600	440	.25	94.5	45	45	45
		690	.25	94.5	45	45	45
E2 B 2000	250 -2000	440	.25	94.5	45	45	45
		690	.25	94.5	45	45	45
E2 N 1000	400 - 1000	440	.2	143	65	65	55
		690	.2	121	55	55	55
E2 N 1250	250 - 1250	440	.2	143	65	65	55
		690	.2	121	55	55	55
E2 N 1600	250 - 1600	440	.2	143	65	65	55
		690	.2	121	55	55	55
E2 N 2000	250 - 2000	440	.2	143	65	65	55
		690	.2	121	55	55	55

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RATINGS (cont.)

Type	Normal Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit		Withstand Current for 1 sec (kA)
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)	
E2 L 1250	250 - 1250	440	.25	242	110	110	10
		690	.25	187	85	65	10
E2 L 1600	250 - 1600	440	.25	242	110	110	10
		690	.25	187	85	65	10
E2 S 800	400 - 800	440	.2	187	85	85	65
		690	.2	143	65	65	65
E2 S 1000	400 - 1000	440	.2	187	85	85	65
		690	.2	143	65	65	65
E2 S 1250	400 - 1250	440	.2	187	85	85	65
		690	.2	143	65	65	65
E2 S 1600	400 - 1600	440	.25	187	85	85	65
		690	.25	143	65	65	65
E2 S 2000	400 - 2000	440	.25	187	85	85	65
		690	.25	143	65	65	65
E3 N 2500	250 - 2500	440	.2	143	65	65	65
		690	.2	143	65	65	65
E3 N 3200	250 - 3200	440	.2	143	65	65	65
		690	.2	143	65	65	65
E3 S 1000	400 - 1000	440	.2	187	85	85	75
		690	.2	165	75	75	75
E3 S 1250	250 - 1250	440	.2	187	85	85	75
		690	.2	165	75	75	75
E3 S 1600	250 - 1600	440	.2	187	85	85	75
		690	.2	165	75	75	75
E3 S 2000	250 - 2000	440	.2	187	85	85	75
		690	.2	165	75	75	75
E3 S 2500	250 - 2500	440	.2	187	85	85	75
		690	.2	165	75	75	75

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RATINGS (cont.)

Type	Normal Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit		Withstand Current for 1 sec (kA)
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)	
E3 S 3200	250 - 3200	440	.2	187	85	85	75
		690	.2	165	75	75	75
E3 H 800	400 - 800	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 1000	400 - 1000	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 1250	250 - 1250	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 1600	250 - 1600	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 2000	250-2000	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 2500	250 - 2500	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 H 3200	250 - 3200	440	.2	220	100	85	75
		690	.2	187	85	85	75
E3 L 2000	250 - 2000	440	.2	242	110	110	15
		690	.2	187	85	65	15
E3 L 2500	250 - 2500	440	.2	242	110	110	15
		690	.2	187	85	65	15
E3 V 800	400 - 800	440	.2	286	130	100	85
		690	.2	220	100	85	85
E3 V 1250	400 - 1250	440	.2	286	130	100	85
		690	.2	220	100	85	85
E3 V 1600	400 - 1600	440	.2	286	130	100	85
		690	.2	220	100	85	85

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RATINGS (cont.)

Type	Normal Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit		Withstand Current for 1 sec (kA)
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)	
E3 V 2000	400 - 2000	440	.2	286	130	100	85
		690	.2	220	100	85	85
E3 V 2500	400 - 2500	440	.2	286	130	100	85
		690	.2	220	100	85	85
E3 V 3200	400 - 3200	440	.2	286	130	100	85
		690	.2	220	100	85	85
E4 S 4000	800 - 4000	440	.2	187	85	85	85
		690	.2	187	85	85	85
E4 H 3200	800 - 3200	440	.2	220	100	100	100
		690	.2	187	85	85	85
E4 H 4000	800 - 4000	440	.2	220	100	100	100
		690	.2	187	85	85	85
E4 V 3200	800 - 3200	440	.2	330	150	150	100
		690	.2	220	100	100	100
E4 V 4000	800 - 4000	440	.2	330	150	150	100
		690	.2	220	100	100	100
E6 H 4000	800 - 4000	440	.2	220	100	100	100
		690	.2	220	100	100	100
E6 H 5000	800 - 5000	440	.2	220	100	100	100
		690	.2	220	100	100	100
E6 H 6300	800 - 6300	440	.2	220	100	100	100
		690	.2	187	85	85	85
E6V 3200	800 - 3200	440	.2	330	150	125	100
		690	.2	220	100	100	100
E6V4000	800 - 4000	440	.2	330	150	125	100
		690	.2	220	100	100	100

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RATINGS (cont.)

Type	Normal Current In (A)	Voltage 50/60Hz (V)	Power Factor	Peak Making Icm (kA)	Short Circuit		Withstand Current for 1 sec (kA)
					Ultimate S/C Breaking Capacity Icu (kA)	Service S/C Breaking Capacity Ics (kA)	
E6 V 5000	800 - 5000	440	.2	330	150	125	100
		690		220	100	100	100
E6 V 6300	800 - 6300	440	.2	330	150	125	100
		690		220	100	100	100

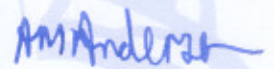
Note: PR111, PR112, PR113 In min = 250 A
 PR121, PR122, PR123 In min = 400 A
 E1N only with PR121-122-123
 E1B only with PR111-112-113 up to In = 1250 A

"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 98/00073(E6) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 98/00073(E5) to which this extension should be attached.

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