



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	LS ELECTRIC Co., Ltd.
Address	95, Beakbong-ro, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do, South Korea
Place of Production	DAU INDUSTRY CO.LTD 468 Osangajwa-ro Oksan-myeon Heungdeok-gu Cheongju-si, Chungcheongbuk-do, 28101, South Korea
Type	Motor Starters
Description	Manual Motor Starter
Trade Name	MMS Series
Application	Marine, offshore applications for use in environmental categories ENV2 and ENV3 as defined in LR Type Approval System Test Specification No.1-2021 where the Test Specification is satisfactory for the intend operation
Specified Standard	IEC60947-2 (2016)/AMD1:2019
Ratings	Rated Operational Voltage : Up to 690V Rated Frequency : 50/60Hz See the Appendix

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

Gun-Nam Park

Senior Specialist to Lloyd's Register Asia
A member of the Lloyd's Register group

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Other Conditions

Type approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

(In case of applications other than marine) The application of the type approval certificate will be limited to the relevant scope of the specified standard and acceptance thereof by the local authorities.

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 Asia of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 19-40018(E3)-02

The Design Appraisal Document LR23330606TA and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Appendix

Type	Rated Current at 40°C (A)	Breaking Capacity (kA)					Utilization Category
		Icu / Ics					
		240V	415V	460V	525V	690V	
MMS-32S	0.1-0.16	100/100	100/100	100/100	100/100	100/100	A
	0.16-0.25	100/100	100/100	100/100	100/100	100/100	
	0.25-0.4	100/100	100/100	100/100	100/100	100/100	
	0.4-0.63	100/100	100/100	100/100	100/100	100/100	
	0.63-1	100/100	100/100	100/100	100/100	100/100	
	1-1.6	100/100	100/100	100/100	100/100	3/3	
	1.6-2.5	100/100	100/100	100/100	50/38	3/3	
	2.5-4	100/100	100/100	50/38	15/11	3/3	
	4-6	100/100	100/100	15/11	10/8	3/3	
	5-8	100/100	100/100	15/11	10/8	3/3	
	6-10	100/100	50/38	15/11	6/5	3/3	
	9-13	100/100	50/38	10/8	6/5	3/3	
	11-17	50/38	20/15	10/8	6/5	3/3	
	14-22	40/30	15/11	8/6	6/5	3/3	
	18-26	40/30	15/11	8/6	5/4	3/3	
22-32	30/22	15/11	6/4	5/4	3/3		
28-40	20/15	10/8	5/3	4/3	2/2		
MMS-32H	0.1-0.16	100/100	100/100	100/100	100/100	100/100	A
	0.16-0.25	100/100	100/100	100/100	100/100	100/100	
	0.25-0.4	100/100	100/100	100/100	100/100	100/100	
	0.4-0.63	100/100	100/100	100/100	100/100	100/100	
	0.63-1	100/100	100/100	100/100	100/100	100/100	
	1-1.6	100/100	100/100	100/100	100/100	100/100	
	1.6-2.5	100/100	100/100	100/100	100/100	8/8	
	2.5-4	100/100	100/100	100/100	100/100	8/8	
	4-6	100/100	100/100	100/100	100/100	6/6	
	5-8	100/100	100/100	50/38	50/38	6/6	
	6-10	100/100	100/100	50/38	50/38	6/6	
	9-13	100/100	100/100	50/38	42/32	6/6	
	11-17	100/100	50/38	25/15	10/8	4/4	
	14-22	100/100	50/38	25/15	10/8	4/4	
	18-26	100/100	50/38	25/15	10/8	4/4	
22-32	100/100	50/38	25/15	10/8	4/4		
28-40	100/100	40/30	15/11	8/6	3/3		

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Type	Rated Current at 40°C (A)	Breaking Capacity (kA)					Utilization Category
		Icu / Ics					
		240V	415V	460V	525V	690V	
MMS-32HI	0.16	100/100	100/100	100/100	100/100	100/100	A
	0.25	100/100	100/100	100/100	100/100	100/100	
	0.4	100/100	100/100	100/100	100/100	100/100	
	0.63	100/100	100/100	100/100	100/100	100/100	
	1	100/100	100/100	100/100	100/100	100/100	
	1.6	100/100	100/100	100/100	100/100	100/100	
	2.5	100/100	100/100	100/100	100/100	8/8	
	4	100/100	100/100	100/100	100/100	8/8	
	6	100/100	100/100	100/100	100/100	6/6	
	8	100/100	100/100	50/38	50/38	6/6	
	10	100/100	100/100	50/38	50/38	6/6	
	13	100/100	100/100	50/38	42/32	6/6	
	17	100/100	50/38	25/15	10/8	4/4	
	22	100/100	50/38	25/15	10/8	4/4	
	26	100/100	50/38	25/15	10/8	4/4	
32	100/100	50/38	25/15	10/8	4/4		
40	100/100	40/30	15/11	8/6	3/3		
MMS-63S	6-10	100/100	100/100	15/12	10/8	4/3	
	9-13	100/100	50/38	10/8	6/5	4/3	
	11-17	100/100	25/19	10/8	6/5	4/3	
	14-22	50/38	25/19	10/8	6/5	4/3	
	18-26	50/38	25/19	10/8	6/5	4/3	
	22-32	50/38	25/19	10/8	6/5	4/3	
	28-40	50/38	25/19	10/8	6/5	4/3	
	34-50	50/38	25/19	10/8	6/5	4/3	
	45-63	50/38	25/19	10/8	6/5	4/3	
	47-65	50/38	25/19	10/8	6/5	4/3	
MMS-63H	6-10	100/100	100/100	50/38	50/38	6/5	
	9-13	100/100	100/100	50/38	42/32	6/5	
	11-17	100/100	50/50	50/38	12/9	5/5	
	14-22	100/100	50/50	50/38	12/9	5/5	
	18-26	100/100	50/50	35/27	12/9	5/5	
	22-32	100/100	50/50	35/27	10/8	5/5	
	28-40	100/100	50/50	35/27	10/8	5/5	
	34-50	100/100	50/50	35/27	10/8	5/5	
	45-63	100/100	50/50	35/27	10/8	5/5	
	47-65	75/50	35/27	25/19	6/5	3/3	

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Type	Rated Current at 40°C (A)	Breaking Capacity (kA)					Utilization Category
		Icu / Ics					
		240V	415V	460V	525V	690V	
MMS-63HI	10	100/100	100/100	50/38	50/38	6/5	A
	13	100/100	100/100	50/38	42/32	6/5	
	117	100/100	50/50	50/38	12/9	5/5	
	122	100/100	50/50	50/38	12/9	5/5	
	26	100/100	50/50	35/27	12/9	5/5	
	32	100/100	50/50	35/27	10/8	5/5	
	40	100/100	50/50	35/27	10/8	5/5	
	50	100/100	50/50	35/27	10/8	5/5	
	63	100/100	50/50	35/27	10/8	5/5	
65	75/50	35/27	25/19	6/5	3/3		
MMS-100S	11-17	100/100	50/38	40/30	25/19	10/8	
	14-22	100/100	50/38	40/30	25/19	10/8	
	18-26	100/100	50/38	40/30	25/19	10/8	
	22-32	100/100	50/38	40/30	15/11	10/8	
	28-40	100/100	50/38	40/30	15/11	6/5	
	34-50	100/100	50/38	40/30	12/9	6/5	
	45-63	100/100	50/38	40/30	12/9	6/5	
	55-75	100/100	50/38	40/30	8/6	5/4	
	70-90	100/100	50/38	40/30	8/6	5/4	
80-100	100/100	50/38	40/30	8/6	5/4		
MMS-100H	11-17	100/100	100/100	50/38	35/27	12/9	
	14-22	100/100	100/50	50/38	35/27	12/9	
	18-26	100/100	100/50	50/38	35/27	12/9	
	22-32	100/100	100/50	50/38	25/19	12/9	
	28-40	100/100	100/50	50/38	20/15	12/9	
	34-50	100/100	100/50	50/38	15/11	10/8	
	45-63	100/100	100/50	50/38	15/11	8/6	
	55-75	100/100	75/50	50/38	12/9	6/6	
	70-90	100/100	75/50	50/38	12/9	6/6	
80-100	100/100	75/50	50/38	12/9	6/6		

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Type	Rated Current at 40°C (A)	Breaking Capacity (kA) Icu / Ics					Utilization Category
		240V	415V	460V	525V	690V	
MMS-100HI	17	100/100	100/100	50/38	35/27	12/9	A
	22	100/100	100/50	50/38	35/27	12/9	
	26	100/100	100/50	50/38	35/27	12/9	
	32	100/100	100/50	50/38	25/19	12/9	
	40	100/100	100/50	50/38	20/15	12/9	
	50	100/100	100/50	50/38	15/11	10/8	
	63	100/100	100/50	50/38	15/11	8/6	
	75	100/100	75/50	50/38	12/9	6/6	
	90	100/100	75/50	50/38	12/9	6/6	
	100	100/100	75/50	50/38	12/9	6/6	

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