



Type Approval Certificate Extension

This is to certify that Certificate No. 09/10058 for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Danfoss Drives A/C DK-6300, Graasten, Denmark
PLACE OF PRODUCTION	AuCom Electronics Limited 123 Wrights Road, Christchurch, 8440, New Zealand
DESCRIPTION	MCD500 Series Soft Starters for three Phase Electric Motors
TYPE	MCD5-nnnn v-Tw-GxX-yy-CVz Where:- nnnn : Designates the nominal current rating in Amps v : Designates the utilisation category; B = Bypassed Tw : Designates the mains supply voltage; T5 = 200 ~ 525 Va.c. T7 = 380 ~ 690 Va.c. GxX : Designates the frame size; G1X, G2X, G3X or G4X yy : Designates IP rating; CVz : Designates the control supply voltage; CV1 = 24 Vd.c. CV2 = 110 Va.c. or 220 Va.c.

APPLICATION Soft starter for three phase electric motors for Marine and Offshore applications for use in environmental categories ENV2 in "Bridge and Deck Zone" as defined in LR Type Approval System Test Specification No. 1-2002 where the Test Specification is satisfactory for the intended operation.

Certificate No.	09/10058(E1)
Issue Date	5 August 2014
Expiry Date	4 August 2019
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S. Fujii
Yokohama Technical Support Office
Lloyd's Register Group Limited

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71 Fenchurch Street, London EC3M 4BS



ADDITIONAL TEST

- Low temperature test at -10°C
- Dry heat test at 60°C

**DESIGN CODE
STANDARD**

IEC 60947-4-2 Ed. 2.2 (2007)
UL 508.17
- Identical with EMX3 Series Soft Starters for three Phase Electric Motors in LR Type Approval Certificate No. 09/10042(E3) issued to AuCom Electronics Limited.
- Letter of AuCom Electronics Limited dated 2 September 2009.

RATINGS

Type	Motor			Frame size	IP rating	Remark
	Operational Voltage (V)	kW	Operational Current (A)			
MCD5-0021B	T5 = 200~525 Va.c. T7 = 380~690 Va.c.	7.5	21	G1X	20	Control Voltage: CV1 = 24 Vd.c. CV2 = 110 Va.c. or 220 Va.c.
MCD5-0037B		15	37	G1X	20	
MCD5-0043B		18	43	G1X	20	
MCD5-0053B		22	53	G1X	20	
MCD5-0068B		30	68	G1X	20	
MCD5-0084B		37	84	G1X	20	
MCD5-0089B		45	89	G1X	20	
MCD5-0105B		55	105	G1X	20	
MCD5-0131B		60	131	G2X	00	
MCD5-0141B		75	141	G2X	00	
MCD5-0195B		90	195	G2X	00	
MCD5-0215B		110	215	G2X	00	
MCD5-0245B		132	245	G3X	00	
MCD5-0331B		160	331	G3X	00	
MCD5-0396B		185	396	G3X	00	
MCD5-0469B		220	469	G4X	00	
MCD5-0525B		300	525	G4X	00	
MCD5-0632B		315	632	G4X	00	
MCD5-0744B		355	744	G4X	00	
MCD5-0826B		400	826	G4X	00	
MCD5-0961B	500	961	G4X	00		

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OTHER CONDITIONS

- Suitability of the software and system configuration is subject to a separate plan appraisal according to the Lloyd's Register Rules and Regulations when placed on Lloyd's Register classed vessels.
- The certificate attests to the hardware's suitability for the environmental categories stated.

"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 Group Limited of any modification or changes to the equipment in order to obtain a valid certificate."

The attached Design Appraisal Document No. 09/10058(E1) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 09/10058 to which this extension should be attached.

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Motor Starters

Producer/Licence No.	Type	Standard	Utilization Category or Mechanical Duty Class	Motor Rating 3 phase, 50/60Hz a.c.			Category/ Additional Tests	Remarks	Cert. No.
				Operational Voltage Ue	kW or HP	Operational current Ie Amperes			
Danfoss Drives A/C DK-6300, Graasten, Denmark	MCD500 Series Soft Starters for three Phase Electric Motors MCD5-nnnn v-Tw-GxX-yy- CVz Where:- nnnn: Nominal current rating in Amps v: Utilisation category; B = Bypassed Tw: Mains supply voltage; T5 = 200 ~ 525 V.a.c. T7 = 380 ~ 690 V.a.c. GxX: Frame size; G1X, G2X, G3X or G4X yy: IP rating; CVz: Control supply voltage; CV1 = 24 Vd.c. CV2 = 110 V.a.c. or 220 V.a.c.	IEC 60947-4-2 Ed. 2.2 (2007)	---	200~525V.a.c.	7.5 kW	21	ENW2 (2002) in "Bridge and Deck Zone" - Low temperature test at -10°C - Dry heat test at 60°C	Expires: 04 August 2019 Standard: UL 508:17 Identical with EMX3 Series Soft Starters for three Phase Electric Motors in LR Type Approval Certificate No. 09/10042(E3) issued to AuCom Electronics Limited. See: Letter of AuCom Electronics Limited dated 17 June 2009. - Suitability of the software and system configuration is subject to a separate plan appraisal according to the Lloyd's Register Rules and Regulations when placed on Lloyd's Register classed vessels. - The certificate attests to the hardware's suitability for the environmental categories stated.	09/10058(E1)
				380~690V.a.c.	15	37			
				Control: 24 Vd.c.	18	43			
					110 V.a.c. or 220 V.a.c	22			
					30	68			
					37	84			
					45	89			
					55	105			
					60	131			
					75	141			
					90	195			
					110	215			
					132	245			
					160	331			
					185	396			
	220	469							
	300	525							
	315	632							
	355	744							
	400	826							
	500	961							

