



## 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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Lloyd's Register Group Limited

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**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. 110 V.a.c.or 220 V.a.c	18	43			
					22	53			
				30	68	84			
				37	84	89			
				45	105	131			
				55	131	141			
				60	141	195			
				75	195	215			
				90	215	245			
				110	245	331			
				132	331	396			
				160	396	469			
				185	469	525			
220	525	632							
300	632	744							
315	744	826							
355	826	961							
400									
500									



**Lloyd's Register Group Limited**  
**AUG. 5. 2014**  
**Yokohama Technical Support Office**