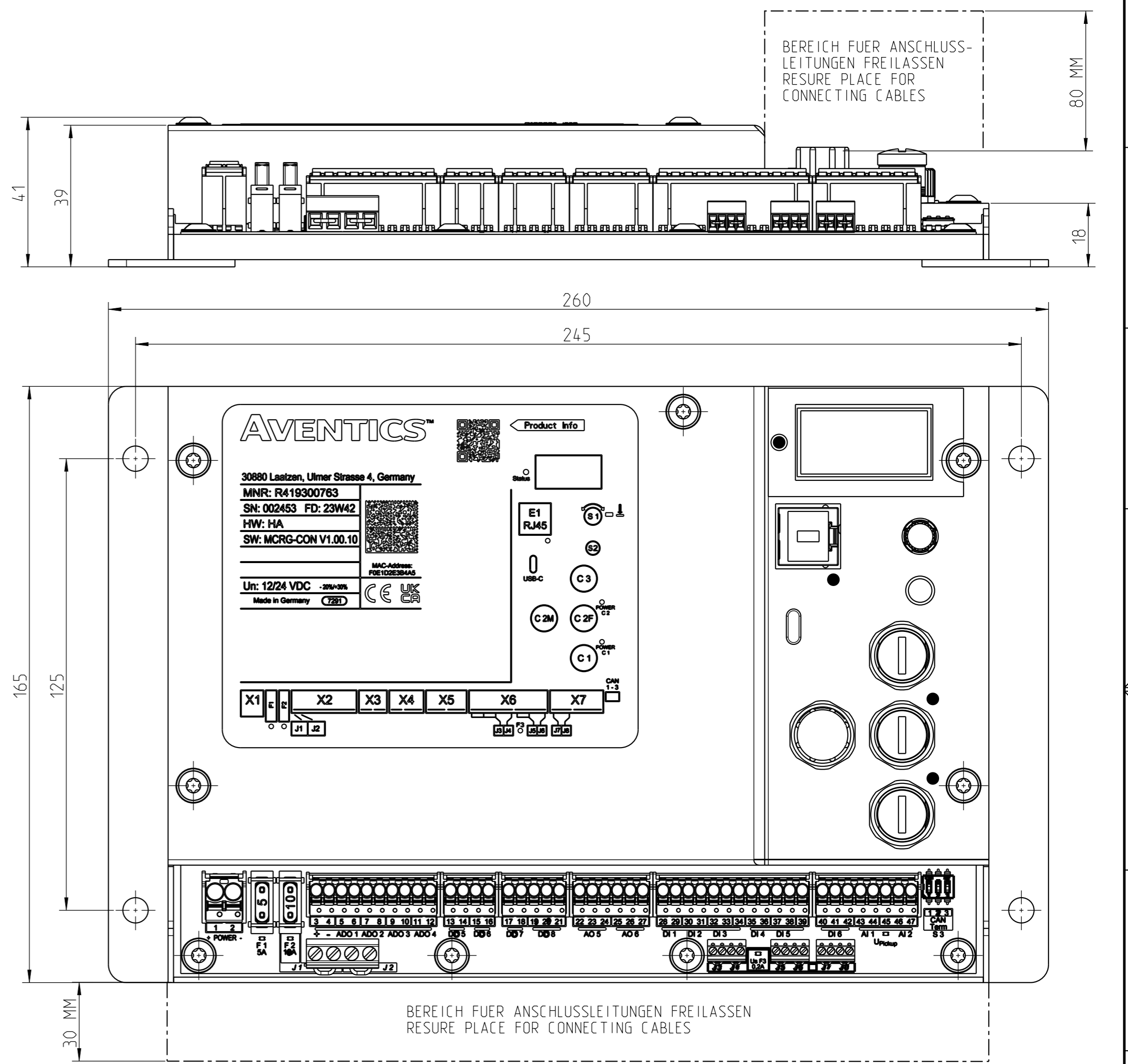


TECHNISCHE DATEN / TECHNICAL DATA

VERSORGUNGSSPANNUNG SUPPLY VOLTAGE	24V DC -25%/+30% 12V DC -20%/+30%
NENNSTROMAUFNAHME NOMINAL CURRENT CONSUMPTION	24V: 3A 12V: 6A
SICHERUNG FUSE	F1: 5A (T) ELECTRONIC F2: 10A (T) ADO 1 ... ADO 4
ARBEITSTEMPERATUR OPERATING TEMPERATURE	-25...+70°C 248...343 K
LAGERTEMPERATUR STORAGE TEMPERATURE	-40...+85°C 233...358 K
RELATIVE LUFTFEUCHTIGKEIT RELATIVE HUMIDITY	0,95%
VIBRATIONSFESTIGKEIT VIBRATION SOLIDITY	4G, (2...100HZ), IEC 60068-2-6, TEST FC
ISOLATIONSFESTIGKEIT ISOLATION STRENGTH	500 VAC
ANGEWANDTE EMV-NORMEN APPLIED EMC STANDARTS	EN 60945:2002 MARITIME NAVIGATION AND RADIOCOMMUNICATION EQUIPMENT AND SYSTEMS -GENERAL REQUIREMENTS- METHODS OF TESTING AND REQUIRED TEST RESULTS
EINBAULAGE MOUNTING POSITION	BELIEBIG, VORZUGSWEISE WIE GEZEICHNET OPTIONAL, PREFERABLY AS DRAWN
SCHUTZART PROTECTION CATEGORY	IP20, IEC 60529
GEHÄUSE HOUSING	EDELSTAHL STAINLESS STEEL
GEWICHT WEIGHT	1,6 KG
ERSATZTEILE SPARE PARTS	BATTERIE FUER ECHZEITUHR TYP: CR 2032 LEBENSDAUER CA. 10 Jahre BATTERY FOR REAL TIME CLOCK TYPE: CR 2032 LIFE TIME APPROX. 10 years
MAX. LEITERQUERSCHNITT DER KLEMMEN MAX. CONDUCTOR CROSS-SECTION OF TERMINALS	1,5 mm ² 2,5 mm ² (ONLY FOR TERMINALS 1 AND 2)
MAX. STROMBELASTUNG DER KLEMMEN MAX. CURRENT LOAD OF TERMINALS	10 A 15 A (ONLY FOR TERMINALS 1 AND 2)



BEREICH FUER ANSCHLUSSE-LEITUNGEN FREILASSEN
 RESURE PLACE FOR CONNECTING CABLES

BEREICH FUER ANSCHLUSSELEITUNGEN FREILASSEN
 RESURE PLACE FOR CONNECTING CABLES

general tolerances act.to/	
dimensional tol./	tol.class/
ISO 2768-1:1989-11	v
geom.tol./	tol.class/
ISO 2768-2:1989-11	K
geometrical specifications according to/	
ISO 8015:2011-05	

Released	R419300763	1.6 kg	309.0 cm	ECN Desc.	411351	2024-01-19	ANJAQUAS	AVMT
State	Item Number	Weight	Volume	ECN Number	Date	By	ECN Loc.	
CONTROL UNIT MPC3-BASIS-AVTS				STEUERGERAET MPC3-BASIS-AVTS				
mm Unit	CREO System	Project Number	2024-01-19	ANJAQUAS	N/A	RAINHENK		
			Date	Drawn	Checked	Approved	MGR.	
EMERSON 30880 LAATZEN GERMANY		AVMT	AGZ - OFFER DRAWING Document Type			1:1 Scale	A2 Format	
Division	Repl. for	R419300763-AGZ			AA Revision	1/3 Sheet		
						Ref. No.		

RoHS
 2011/65/EU + (EU)2015/863
 Article or material is compliant to the EU RoHS directive 2011/65/EU + (EU)2015/863 and all subsequent revisions.
 (ALL material of construction including braze, adhesives, plating, painting, colorants, inks etc)

* CONFIDENTIAL: This document/program, including the content, is property of AVENTICS GmbH and must be held in strict confidence and property safeguarded by the recipient. It is intended for internal use only. Any reproduction, distribution, or disclosure of this document/program, in whole or in part, without the prior written consent of AVENTICS GmbH is strictly prohibited. The recipient must use the same only for the purpose for which AVENTICS GmbH has provided it to the recipient. The document must be returned to AVENTICS GmbH upon request. By accepting this document/program, the recipient agrees to the foregoing.

* DRAW ING: R419300763-AGZ / Released / AA.9 // MODEL: R419300763-MOD / Released / AA.23

Hinweise

Die Marex-Antriebssteuerung darf nur in spritzwassergeschützter Umgebung betrieben werden, wie z.B. Schaltschrank oder Pult.

Die Marex-Antriebssteuerung darf erst dann in Betrieb genommen werden, wenn sichergestellt ist, dass das Antriebssystem, in das sie eingebaut werden soll, den geltenden nationalen Vorschriften oder/und den Regeln der entsprechenden Klassifikationsgesellschaft entspricht.

Die Versorgung und die Versorgungsleitungen der Baugruppe müssen mindestens so ausgelegt werden, dass bei kurzzeitigen Stromspitzen von bis zu 15A die Spannung an der Baugruppe innerhalb der angegebenen Toleranzen bleibt.

Darüber hinaus muss die Führung der Versorgungsleitung so gewählt werden, dass durch Zuschalten anderer Verbraucher, wie z.B. Anlasser, Pumpen, Lüfter, usw., die Versorgungsspannung am Steuergerät nicht kurzzeitig unterhalb der angegebenen Grenzen sinkt.

Bei Beschaltung einer der Relaisausgänge DO 5...8 mit induktiven Lasten muss zum Schutz des Relaiskontaktes eine ausreichend dimensionierte Freilaufdiode nahe der Last vorgesehen werden.

Bei Beschaltung der digitalen Ausgänge ADO 1...4 mit induktiven Lasten in der Betriebsart ON/OFF wird empfohlen eine ausreichend dimensionierte Freilaufdiode nahe der Last vorzusehen, um andere empfindliche Signale nicht zu stören.

NOTES

The Marex Propulsion Controller may only be used in a splash-proof environment, as e. g. in a cabinet or panel.

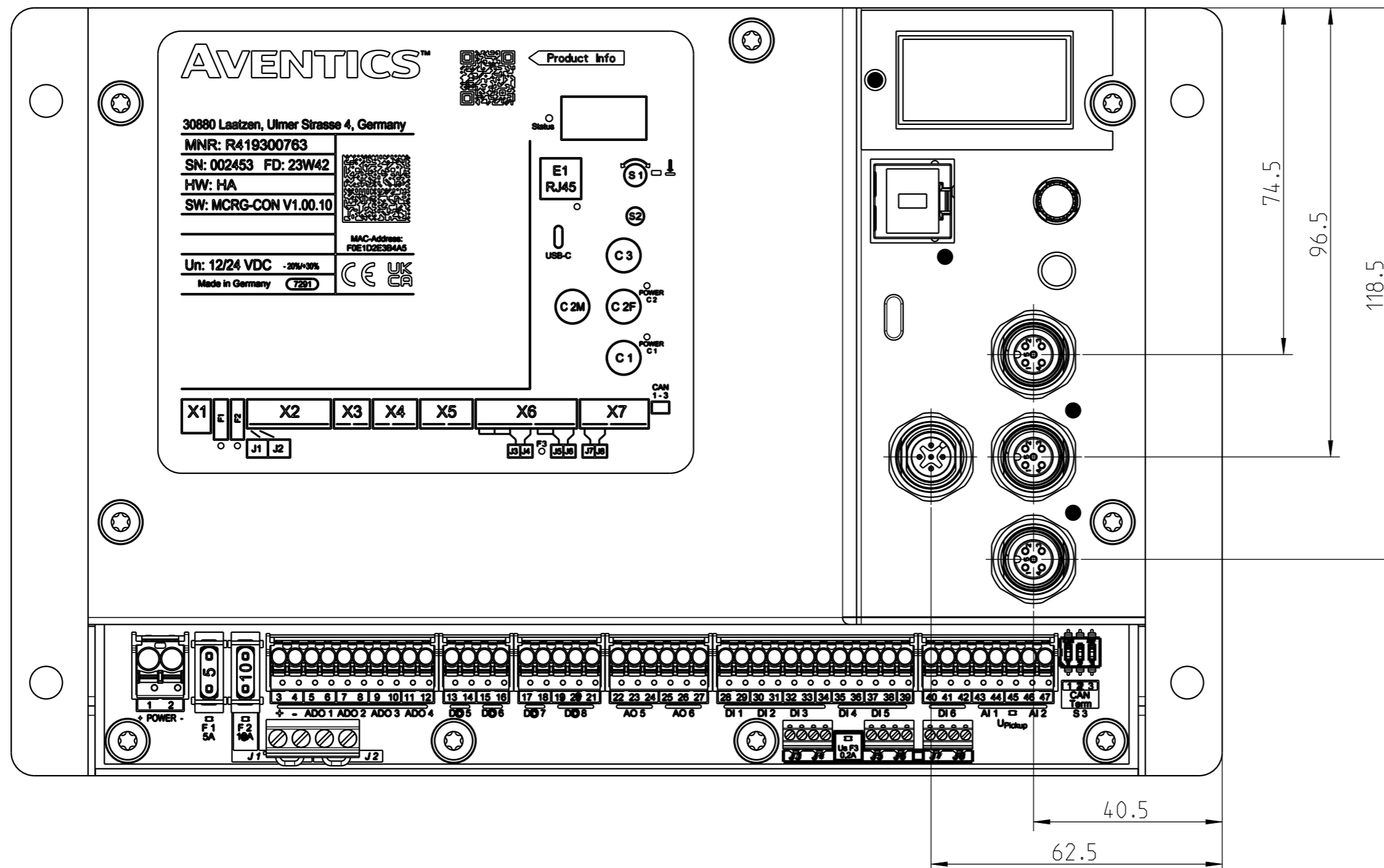
The Marex Propulsion Controller must only be taken into operation after it has been ascertained that the propulsion system into which it shall be integrated corresponds to the applicable national regulations of rules or/and the corresponding classification society.

The supply and the feeder of the device have to be designed at least so that in case of short current peaks up to 15A the voltage at the device remains within the given limits.

Furthermore, the laying of the supply line must be selected in such a way that by switch-on of other consumers, as for instance starters, pumps, ventilators etc., the supply voltage at the control unit does not sink temporary below the given limits.

When connecting inductive loads to the relay outputs DO 5...8, an adequately dimensioned freewheeling diode must be provided close to the load to protect the relay contact.

When connecting inductive load to the digital outputs ADO 1...4 in ON/OFF operating mode, we recommended providing a sufficiently dimensioned freewheeling diode close to the load in order not to disturb other sensitive signals.



Released	R419300763	1.6 kg	309.0 cm	ECN Desc.	411351	2024-01-19	ANJAQUAS	AVMT
State	Item Number	Weight	Volume	ECN Number	Date	By	ECN Loc.	
CONTROL UNIT MPC3-BASIS-AVTS				STEUERGERAET MPC3-BASIS-AVTS				
	mm Unit	CREO System	Project Number	2024-01-19	ANJAQUAS	N/A	RAINHENK	
				Date	Drawn	Checked	Approved	MGR.
EMERSON 30880 LAATZEN GERMANY		AVMT	AGZ - OFFER DRAWING Document Type				1:1 Scale	A2 Format
Division		Repl. for	R419300763-AGZ				AA Revision	2/3 Sheet
							Ref. No.	

CONFIDENTIAL: This document/program, including the content, is property of AVENTICS GmbH and must be held in strict confidence and property safeguarded by the recipient. It is intended for the use of the recipient only for the purpose for which AVENTICS GmbH has provided it. Any reproduction, distribution, copying, modification, or use for other purposes without the written consent of AVENTICS GmbH is prohibited. The recipient must return this document/program, including the content, to AVENTICS GmbH upon request. By accepting this document/program, the recipient agrees to the foregoing.

Terminal Klemmen	Plug ¹⁾ Stecker	Channel-No. Kanal-Nr.	Polarity Polarität	Intended function Vorgesehene Funktion	Specification Spezifikation		
1	X1	UB	+U _B Power Supply		24V DC -25%/+30%		
2			-U _B Power Supply		12V DC -20%/+30%		
3	X2	ADO 1-4	+U _B ADO 1-4 ¹⁾		Power supply for ADO 1-4 / Versorgungsspannung für ADO 1-4		
4			-U _B ADO 1-4 ¹⁾			24V DC -25%/+30% or/oder 12V DC -25%/+30%	
5			ADO 1 signal	Gear ahead Getriebe voraus	Digital Output / Digitalausgang 8 - 32V DC, 2A, short circuit proof / kurzschlussfest, wire break detection / Kabelbrucherkennung		
6			-U _B ADO 1 ¹⁾				
7			ADO 2 signal			Gear astern Getriebe zurück	
8			-U _B ADO 2 ¹⁾				
9			ADO 3 signal	Trolling on Trolling off	Analog Output (PWM) / Analogausgang (PWM) **) 8 - 32V DC, 1A, 10 - 1000 Hz, PWM (12-bit) resolution / Auflösung short circuit proof / kurzschlussfest, wire break detection / Kabelbrucherkennung, closed loop for current / Stromregelung		
10			-U _B ADO 3 ¹⁾				
11			ADO 4 signal	Trolling proportional valve Trolling Proportionalventil			
12			-UB ADO 4 ¹⁾				
13			X3	Relais DO 5	DO 5 Relais NO	Start interlock	Switching voltage / Schaltspannung: 32V DC Max. switching current / Max. Schaltstrom: 2A DC Min. switching current / Min. Schaltstrom: 10 mA DC (for inductive loads an L/R > 7ms, a freewheeling diode must be connected to the load / bei induktiver Last und L/R > 7ms muss eine Freilaufdiode an der Last angeschlossen werden)
14					DO 5 Relais CO		
15	Relais DO 6	DO 6 Relais NO		Engine start Motorstart			
16		DO 6 Relais CO					
17	X4	Relais DO 7	DO 7 Relais NO	Engine stop Motorstop			
18			DO 7 Relais CO				
19	X4	Relais DO 8	DO 8 Relais Alarm NO	Alarm			
20			DO 8 Relais Alarm CO				
21			DO 8 Relais Alarm NC				
22	X5	AO 5	+AO 5 PWM	Throttle (4-20mA) Drehzahlvorgabe (4-20mA)	0-20mA / 4-20mA R _{MAX} 500 Ohm, 12-bit resolution / Auflösung, wire break detection / Kabelbrucherkennung (4-20mA only)		
23			+AO 5 U/I				
24			GND AO 5				
25	X5	AO 6	+AO 6 PWM	Trolling signal (U/I) Trollingsignal (U/I)	I _{MAX} 10mA, 12-bit resolution / Auflösung, short circuit beak detection / Kabelbrucherkennung, short circuit proof / kurzschlussfest PWM U _{MAX} 40V, f: 100-1000Hz, 12-bit resolution / Auflösung, short cicuit proof /kurzschlussfest		
26			+AO 6 U/I				
27			GND AO 6				
28	X6	DI 1-3	+U _B DI 1-3 ²⁾	Feedback gear ahead Rückmeldung Getriebe voraus	U _{IN,LOW} : 0 - 1,5V DC U _{IN,HIGH} : 5 - 32V DC R _{IN} : > 1,5 kOhm P _{IN} : < 150 mW		
29			DI 1				
30			+U _B DI 1-3 ²⁾	Feedback gear astern Rückmeldung Getriebe zurück			
31			DI 2				
32			+U _B DI 1-3 ²⁾	spare Ersatz			
33			DI 3				
34		GND DI 1-3 ²⁾	DI 4-5	+U _B DI 4-5 ³⁾		spare Ersatz	
35		DI 4					
36		+U _B DI 4-5 ³⁾		spare Ersatz			
37		DI 5					
38		+U _B DI 4-5 ³⁾		spare Ersatz			
39		GND DI 4-5 ³⁾					
40	X7	DI 6	+U _B DI 6 ⁴⁾	spare Ersatz			
41			DI 6				
42			GND DI 6 ⁴⁾				
43	X7	AI 1/AI 2	AI1	Engine RPM Motordrehzal	U _{IN,AI} : 1 - 50 V f _{in} : 20 - 13000 Hz, resolution / Auflösung: 12 bit 8V DC, 100mA, short circuit proof / kurzschlussfest		
44			GND AI 1-2				
45			+U _{out} AI 1-2	Shaft speed sensor Wellendrehzalsensor			
46			AI 2				
47	GND AI 1-2						

	electrically isolated from other functions / galvanisch von anderen Funktionen getrennt
	galvanisch von anderen Funktionen getrennt
	preset functions / voreingestellte Funktionen

- Not electrically isolated with factory settings
and connected to the supply voltage at X1
Im Werksauslieferungszustand nicht galvanisch getrennt
und mit der Versorgungsspannung an X1 verbunden
- 1) ... 4)
- 1) open Jumper J1/J2 to use ADO 1-4 electrically isolated
Jumper J1/J2 öffnen, um ADO 1-4 galvanisch getrennt zu
verwenden
- 2) open Jumper J3/J4 to use DI 1-3 electrically isolated
Jumper J3/J4 öffnen, um DI 1-3 galvanisch getrennt zu verwenden
- 3) open Jumper J5/J6 to use DI 4-5 electrically isolated
Jumper J5/J6 öffnen, um DI 4-5 galvanisch getrennt zu verwenden
- 4) open Jumper J7/J8 to use DI 6 electrically isolated
Jumper J5/J6 öffnen, um DI 6 galvanisch getrennt zu verwenden
- *) Specification connection terminals
Spezifikation Anschlussklemmen
Power Supply Terminal
Versorgungsspannungsklemme
X1: max. 2,5 mm², 15A
Signal Terminals / Signalklemmen
X2-X7: max. 1,5mm², 10A
- **) only one output of ADO 1-4 may be operated in
PWM mode at any one time
Es darf immer nur ein Ausgang ADO 1-4 zur gleichen
Zeit im PWM-Modus betrieben werden

Released	R419300763	1.6 Kg	309.0 cm	ECN Desc.				
State	Item Number	Weight	Volume	411351	2024-01-19	ANJAQUAS	AVMT	
CONTROL UNIT MPC3-BASIS-AVTS				ECN Number	Date	By	ECN Loc.	
				2024-01-19	ANJAQUAS	N/A	RAINHENK	
				Date	Drawn	Checked	Approved	
				AGZ - OFFER DRAWING Document Type			1:1 Scale	A2 Format
				R419300763-AGZ			AA Revision	3/3 Sheet
				Division	Repl. for		Ref. No.	