THE NETHERLANDS
(N E D E R L A N D)

E4

JE MAINTIENDRAI

COMMUNICATION

Concerning [1]:

- approval granted
- ~~approval extended~~
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of ~~electrical~~/electronic sub-assembly [1] with regard to Regulation number 10.

Approval number: E4*10R05/01*3994*00

1.	Make (trade name of manufacturer)	: MASTERVOLT
2.	Type and general commercial description(s)	: Mac Plus 12/12-50, Mac Plus 12/24-30, Mac Plus 24/12-50, Mac Plus 24/24-30
3.	Means of identification of type, if marked on the ~~vehicle~~/~~component~~/ separate technical unit [1]	: By means of a sticker indentification label.
3.1.	Location of that marking	: On the top side.
4.	Category of vehicle	: All
5.	Name and address of manufacturer	: Mastervolt B.V. , Snijdersbergweg 93, 1105 AN, Amsterdam Z.O., Netherlands
6.	In the case of components and separate technical units, location and method of affixing of the approval mark	: A sticker (identification label) on the front side.
7.	Address(es) of assembly plant(s)	:

-- Confidential information --

P.O. Box 777
2700 AT Zoetermeer
The Netherlands

Tel. + 31 (0)79 345 83 02
E-mail ttv@rdw.nl
www.rdw.nl

Vehicle Admission & Surveillance

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Approval number: E4*10R05/01*3994*00

8.	Additional information (where applicable)	: see Appendix below
9.	Technical service responsible for carrying out the tests	: DARE!! Measurements
10.	Date of test report	: 2017 December, 15
11.	Number of test report	: 17C01251RPT01
12.	Remarks (if any)	: see Appendix
13.	Place	: Zoetermeer
14.	Date	: 25-JAN-2018
15.	Signature	:

L. Vellekoop

RDW

16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

17. Reasons for extension : --

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(1) Strike out what does not apply.

APPENDIX

to type-approval communication form number: E4*10R05/01*3994*00

concerning the type-approval of an ~~electrical~~/electronic sub-assembly [1] under Regulation number 10.

1.	Additional information	: --
1.1.	Electrical system rated voltage	: 12V, 24V ~~pos~~./neg. ground [1]
1.2.	This ESA can be used on any vehicle type with the following restrictions	: Installation of and work on the Mac Plus, may be carried out only by a qualified, authorised and trained technician or electrician, consistent with the locally applicable standards and regulations.
1.2.1.	Installation conditions, if any	: Installation of and work on the Mac Plus, may be carried out only by a qualified, authorised and trained technician or electrician, consistent with the locally applicable standards and regulations.
1.3.	This ESA can be used only on the following vehicle types	: All
1.3.1.	Installation conditions, if any	: See 1.2.1.
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were	: Bulk Current Injection (BCI), 20 – 200 MHz Radiated immunity, 200 MHz – 2 GHz Electrical disturbance test on voltage supply lines
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests	: DARE!! Measurements
2.	Remarks	: --

[1] Strike out what does not apply.

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СВИДЕТЕЛЬСТВО О ТИПОВОМ ОДОБРЕНИИ
TYPE APPROVAL CERTIFICATE

Изготовитель
Manufacturer

MASTERVOLT B.V., VAT No.(BTW): NL 800113275B01

Адрес
Address

Snijdersbergweg 93,1105 AN Amsterdam, The Netherlands
Тел./Tel: +31 (0)20 34 22 100; Факс/Fax: +31 (0)20 69 71 006
E-mail: info@mastervolt.com

Изделие*
Product*

Преобразователь постоянного тока в постоянный DC/DC типов:
DC/DC converter of types:
Magic 12/12-20, Magic 12/24-10, Magic 24/12-20, Magic 24/24-20, DC Master 12/12-3A, DC Master 12/12-6A, DC Master 12/24-3A, DC Master 12/24-7A, DC Master 24/12-3A, DC Master 24/12-6A, DC Master 24/12-12A, DC Master 24/12-24A, DC Master 24/12-50A, DC Master 24/24-3A, DC Master 24/24-7A, DC Master 48/12-3A, DC Master 48/12-6A, DC Master 48/12-9, DC Master 48/12-20, Mac Plus 12/12-50, Mac Plus 12/24-30, Mac Plus 24/12–50, Mac Plus 24/24-30, MAC 24/12-20.

Код номенклатуры
Code of nomenclature ***11030501, 11030502***

На основании освидетельствования и проведенных испытаний удостоверяется, что вышеупомянутое(ые) изделие(я) удовлетворяет(ют) требованиям Российского морского регистра судоходства.

This is to certify that on the basis of the survey and tests carried out the above mentioned item(s) complies(ly) with the requirements of Russian Maritime Register of Shipping.

Части XI "Правил классификации и постройки морских судов" (2017 г. Издания), Части IV "Правил технического наблюдения за постройкой судов и изготовлением материалов и изделий для судов" (2019 г. Издания).

Part XI of the "Rules for the Classification and Construction of Sea-going Ships" (Edition 2017), Part IV of the "Rules for Technical Supervision During Construction of Ships and Manufacture of Materials and Product for Ships" (Edition 2019).

Настоящее Свидетельство о типовом одобрении действительно до ***07.09.2023***
This Type Approval Certificate is valid until

Настоящее Свидетельство о типовом одобрении теряет силу в случаях, установленных в Правилах технического наблюдения за постройкой судов и изготовлением материалов и изделий для судов.

This Type Approval Certificate becomes invalid in cases stipulated in Rules for the Technical Supervision during Construction of Ships and Manufacture of Shipboard Materials and Products.

Дата выдачи
Date of issue ***17.10.2019***

№ ***19.20038.271***

Российский морской регистр судоходства
Russian Maritime Register of Shipping

М.П.
L.S.

(подпись
signature)

Рыц С.Ю. / Stanislav Rits
(фамилия, инициалы
name)

*Дополнительную информацию смотри на обороте.
Additional information see overleaf.

Технические данные
Technical data

Номинальное входное напряжение / Rated input voltage:	***12/24 В/VDC***
Максимальная мощность на выходе / Max output power:	***300/580 Вт/W***
Стабилизированное выходное напряжение / Stabilized output voltage:	***13,6/27,2 В/V DC***
Максимальный выходной ток / Max output current:	***3/20 А***
Диапозон окружающей температуры / Ambient temperature range:	***-20 ... +60 °С***
Степень защиты / Degree of protection:	***IP23***

Техническая документация и дата ее одобрения Российским морским регистром судоходства
Technical documentation and the date of its approval by Russian Maritime Register of Shipping

Руководство пользователя/User Manual: 12/12-20, 12-24-10, 24/12-20, 24/24-20
Техническая документация одобрена письмом РС № 381-09-246446 от 07.09.2017.
Technical documentation was approved by RS letter No. 381-09-246446 dd 07.09.2017.

Образец изделия испытан под техническим наблюдением Российского морского регистра судоходства.
Product's specimen has been tested under the technical supervision of Russian Maritime Register of Shipping.

Акт № ***19.00217.271*** от ***17.10.2019***
Report No. of

Область применения и ограничения
Application and limitations

Изделия предназаначены для установки на суда морского и смешанного (река-море) плавания, плавучие сооружения и стационарные платформы в качестве стабилизационного источника питания постоянного тока.
Products are intended for sea-going ships and ships of river-sea navigation, floating constructions and fixed offshore platforms as stabilized power supply source.

Вид документа, выдаваемого на изделие
Type of document issued for product

Преобразователи с номинальным током равным или менее 25 А должны поставляться со Свидетельством по форме 6.5.30 (С), или по форме 6.5.31 (С3) при наличии Свидетельства СКК 1.
Преобразователи с номинальным током более 25 А должны поставляться со Свидетельством по форме 6.5.30 (С).

Converters with rated current 25 A and less shall be delivered with Certificate form 6.5.30 (C), or form 6.5.31 (C3) if CKK 1 Certificate is available.
Converters with rated current rated current over 25 A shall be delivered with Certificate form 6.5.30 (C).

EU declaration of conformity

EU-conformiteitsverklaring
EU-Konformitätserklärung
Déclaration UE de conformité
Declaración UE de conformidad
Dichiarazione di conformità UE

Declaration No: 10000021971_00.docx

Name and address of the manufacturer: Naam en adres van de fabrikant: Name und Anschrift des Herstellers: Nom et adresse du fabricant: Nombre y dirección del fabricante: Nome e indirizzo del fabbricante	**Navico Group EMEA B.V.** Snijdersbergweg 93, 1105 AN Amsterdam The Netherlands

This declaration of conformity is issued under the sole responsibility of the manufacturer.
Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant.
Die alleinige Verantwortung für die Ausstellung dieser Konformitätserklärung trägt der Hersteller
La présente déclaration de conformité est établie sous la seule responsabilité du fabricant.
La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante.
La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante

Object of the declaration:
Voorwerp van de verklaring:
Gegenstand der Erklärung:
Objet de la déclaration :
Objeto de la declaración
Oggetto della dichiarazione:

Mastervolt	**81205105**	**MAC PLUS 12/12-50 IP23 (+CZone)**
Mastervolt	**81205205**	**MAC PLUS 24/12-50 IP23 (+CZone)**
Mastervolt	**81205305**	**MAC PLUS 12/24-30 IP23 (+CZone)**
Mastervolt	**81205405**	**MAC PLUS 24/24-30 IP23 (+CZone)**
Mastervolt	**81205505**	**MAC PLUS 24/24-50 IP23 (+CZone)**
Mastervolt	**81203105**	**MAC PLUS 48/12-50 IP23 (+CZone)**
Mastervolt	**81203205**	**MAC PLUS 12/48-15 IP23 (+CZone)**
Mastervolt	**81203305**	**MAC PLUS 48/24-30 IP23 (+CZone)**
Mastervolt	**81203405**	**MAC PLUS 24/48-15 IP23 (+CZone)**

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
Het hierboven beschreven voorwerp is in overeenstemming met de desbetreffende harmonisatiewetgeving van de Unie:
Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union:
L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable :
El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión:
L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione:

- **2014/30/EU** — **EMC Directive**
- **2011/65/EU and amendment (EU) 2015/863** — **RoHS directive**

References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
Vermelding van de toegepaste relevante geharmoniseerde normen of van de overige technische specificaties waarop de conformiteitsverklaring betrekking heeft:
Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der anderen technischen Spezifikationen, in Bezug auf die die Konformität erklärt wird:
Références des normes harmonisées pertinentes appliquées ou des autres spécifications techniques par rapport auxquelles la conformité est déclarée:
Referencias a las normas armonizadas pertinentes utilizadas, o referencias a las otras especificaciones técnicas respecto a las cuales se declara la conformidad:
Riferimento alle pertinenti norme armonizzate utilizzate o riferimenti alle altre specifiche tecniche in relazione alle quali è dichiarata la conformità:

- **EN 61000-6-3: 2007 + A1:2011 + AC:2012** — Emission for residential, commercial and light-industrial environments
- **EN 61000-6-2: 2005 + AC:2005** — Immunity for industrial environments

27 October 2023



H.A. Poppelier
IPD Manager, Navico Group EMEA B.V., The Netherlands

UK declaration of conformity

Declaration No: 10000021972_00.docx

Name and address of the manufacturer:

Navico Group EMEA B.V.
Snijdersbergweg 93,
1105 AN Amsterdam
The Netherlands

This declaration of conformity is issued under the sole responsibility of the manufacturer.

Object of the declaration:

Mastervolt	**81205105**	**MAC PLUS 12/12-50 IP23 (+CZone)**
Mastervolt	**81205205**	**MAC PLUS 24/12-50 IP23 (+CZone)**
Mastervolt	**81205305**	**MAC PLUS 12/24-30 IP23 (+CZone)**
Mastervolt	**81205405**	**MAC PLUS 24/24-30 IP23 (+CZone)**
Mastervolt	**81205505**	**MAC PLUS 24/24-50 IP23 (+CZone)**
Mastervolt	**81203105**	**MAC PLUS 48/12-50 IP23 (+CZone)**
Mastervolt	**81203205**	**MAC PLUS 12/48-15 IP23 (+CZone)**
Mastervolt	**81203305**	**MAC PLUS 48/24-30 IP23 (+CZone)**
Mastervolt	**81203405**	**MAC PLUS 24/48-15 IP23 (+CZone)**

Name and address of the authorized Representative:

Navico Group UK
Munster Simms Engineering Ltd (Whale)
2 Enterprise Road, Bangor, BT19 7TA
Northern Ireland (UK)

The object of the declaration described above is in conformity with the relevant UK legislation:

- **SI 2016 No 1091** — **EMC Regulations 2016**
- **SI 2012 No 3032** — **RoHS Regulations 2012**

References to the relevant designated standards used or references to the other technical specifications in relation to which conformity is declared:

- **EN 61000-6-3: 2007 + A1:2011 + AC:2012** — EMC Emissions
- **EN 61000-6-2: 2005 + AC:2005** — EMC Immunity

27 October 2023



H.A. Poppelier
IPD Manager, Navico Group EMEA B.V., The Netherlands

RDW

Division Vehicle Regulation & Admission

E4

THE NETHERLANDS

COMMUNICATION

Concerning [1]:

- ~~approval granted~~
- approval extended
- ~~approval refused~~
- ~~approval withdrawn~~
- ~~production definitely discontinued~~

of a type of ~~electrical~~/electronic sub-assembly [1] with regard to Regulation number 10.

Approval number: E4*10R06/02*3994*02

1.	Make (trade name of manufacturer)	: MASTERVOLT
2.	Type and general commercial description(s)	: Mac Plus 12/12-50, Mac Plus 12/24-30, Mac Plus 24/12-50, Mac Plus 24/24-30
3.	Means of identification of type, if marked on the ~~vehicle~~/~~component~~/ separate technical unit [1]	: Mac Plus 12/12-50, Mac Plus 12/24-30, Mac Plus 24/12-50, Mac Plus 24/24-30 Adding variant: Mac Plus 24/24-50
3.1.	Location of that marking	: On the top side.
4.	Category of vehicle	: N.A.
5.	Name and address of manufacturer	: Navico Group EMEA B.V. (Mastervolt B.V.) Snijdersbergweg 93 1105 AN Amsterdam Z.O. The Netherlands
6.	In the case of components and separate technical units, location and method of affixing of the approval mark	: Sticker (identification label) on the front side.
7.	Address(es) of assembly plant(s)	: Confidential information
8.	Additional information (where applicable)	: see Appendix below

JE MAINTIENDRAI RDW

Type-approval Department

P.O. Box 777
2700 AT Zoetermeer
The Netherlands

Tel. + 31 88 008 74 77
E-mail typeapproval@rdw.nl
www.rdw.nl

Approval number: E4*10R06/02*3994*02

9.	Technical service responsible for carrying out the tests	:	Kiwa Dare B.V. Vijzelmolenlaan 7 3447 GX Woerden The Netherlands
10.	Date of test report	:	2024 January, 9
11.	Number of test report	:	20230510RPT02
12.	Remarks (if any)	:	see Appendix
13.	Place	:	Zoetermeer
14.	Date	:	**21 March 2024**
15.	Signature	:	Uwe Löbig

16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.

17.	Reasons for extension	:	Adding variant: Mac Plus 24/24-50. A minor product modification:10 dipswitches instead of 8. Update to the latest revision of the standard.

(1) Strike out what does not apply.

APPENDIX

to type-approval communication form number: E4*10R06/02*3994*02

concerning the type-approval of an ~~electrical~~/electronic sub-assembly [1] under Regulation number 10.

1.	Additional information	: The Mac Plus 24/24-50 is a new model. The hardware is identical to other models Mac Plus 12/12-50, 24/12-50, 12/24-30, 24/24-30. The Mac Plus 24/24-50, with the highest power, is fully tested, as well as the voltage transient emission and electrical disturbance voltage test (pulse 2b and pulse 4) at the Mac Plus 12/12-50, ensuring coverage for the worst-case combination.
1.1.	Electrical system rated voltage	: 12V, 24V ~~pos~~./neg. ground [1]
1.2.	This ESA can be used on any vehicle type with the following restrictions	: N.A.
1.2.1.	Installation conditions, if any	: N.A.
1.3.	This ESA can be used only on the following vehicle types	: All
1.3.1.	Installation conditions, if any	: Installation of, and work on the Mac Plus, may be carried out only by a qualified, authorised and trained technician or electrician, consistent with the locally applicable standards and regulations.
1.4.	The specific test method(s) used and the frequency ranges covered to determine immunity were	: Radiated immunity 200MHz – 2GHz Bulk current injection (BCI) 20 – 200MHz Electrical disturbance test on voltage supply lines
1.5.	Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests	: Kiwa Dare B.V.
2.	Remarks	: Documentation: Certificate Type approval mark example Annex 2B Report Schematic power/communication PCB power/communication BOM power/communication

[1] Strike out what does not apply.

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