

Victron Energy B.V.

Almere Haven

The quality management system of **Victron Energy B.V.** and the application thereof complies with the requirements as stipulated in the standard:

NEN-EN-ISO 9001:2015

Evaluation of the quality management system took place in accordance with TÜV Nederland's certification regulations for the field of application:

**Development, delivery and repair of chargers, inverters, converters,
and electrical devices.**

This certification is subject to annual evaluation by TÜV Nederland.

Registration number: 24574/2.2
Start date certificate: 16-07-2018
Certificate valid until: 06-07-2021
Date of first certificate: 06-07-2015
Date audit: 05-04-2018
Previous certificate valid until: 06-07-2018

Managing Director
Mr. E.W.A.C. Franken





Certificate of Conformity

Certificate: 16906-1S

Master Contract: LC 1231751

Project: 16906

Date Issued: May 03, 2018

Certification System Type 3
(ISO / IEC Guide 67)

The products listed below are eligible to bear the LabTest Certification Mark with adjacent indicators 'C' and 'US', and the subject area as shown below.



Issued by:

Certification Manager

PRODUCTS

- Component type Photovoltaic Battery Charge Controller

- Models:

BlueSolar MPPT100|50; BlueSolar MPPT150|35; SmartSolar MPPT100|50; SmartSolar MPPT150|35; BlueSolar MPPT100|15; BlueSolar MPPT100|30; SmartSolar MPPT100|15; SmartSolar MPPT100|20; SmartSolar MPPT100|20_48V; SmartSolar MPPT100|30; BlueSolar MPPT75|10; BlueSolar MPPT75|15; SmartSolar MPPT75|10; SmartSolar MPPT75|15; BlueSolar MPPT150|45-tr; BlueSolar MPPT150|45-MC4; BlueSolar MPPT150|60-tr; BlueSolar MPPT150|60-MC4; BlueSolar MPPT150|70-tr; BlueSolar MPPT150|70-MC4; SmartSolar MPPT150|85-tr; SmartSolar MPPT150|85-MC4; SmartSolar MPPT150|100-tr; SmartSolar MPPT150|100-MC4

- Ratings:

Model Number	Max input voltage	Battery Voltage (V)	Max Power@ Batt 12V (W)	Max Power@ Batt 24V (W)	Max Power@ Batt 36V (W)	Max Power@ Batt 48V (W)	Rated charge current (A)
BlueSolar MPPT75 10	75	12; 24	145	290	--	--	10
SmartSolar MPPT75 10	75	12; 24	145	290	--	--	10
BlueSolar MPPT75 15	75	12; 24	220	440	--	--	15
SmartSolar MPPT75 15	75	12; 24	220	440	--	--	15
BlueSolar MPPT100 15	100	12; 24	220	440	--	--	15
SmartSolar MPPT100 15	100	12; 24	220	440	--	--	15
SmartSolar MPPT100 20	100	12; 24	290	580	--	--	20

SmartSolar MPPT100 20_48V	100	12; 24; 36; 48	290	580	870	1160	20
BlueSolar MPPT100 30	100	12; 24	440	880	--	--	30
SmartSolar MPPT100 30	100	12; 24	440	880	--	--	30
BlueSolar MPPT100 50	100	12; 24	700	1400	--	--	50
SmartSolar MPPT100 50	100	12; 24	700	1400	--	--	50
BlueSolar MPPT150 35	150	12; 24; 36; 48	500	1000	1500	2000	35
SmartSolar MPPT150 35	150	12; 24; 36; 48	500	1000	1500	2000	35
BlueSolar MPPT 150/45-Tr	150	12; 24; 36; 48	650	1300	1950	2600	45
BlueSolar MPPT 150/45-MC4	150	12; 24; 36; 48	650	1300	1950	2600	45
BlueSolar MPPT 150/60-Tr	150	12; 24; 36; 48	860	1720	2580	3440	60
BlueSolar MPPT 150/60-MC4	150	12; 24; 36; 48	860	1720	2580	3440	60
BlueSolar MPPT 150/70-Tr	150	12; 24; 36; 48	1000	2000	3000	4000	70
BlueSolar MPPT 150/70-MC4	150	12; 24; 36; 48	1000	2000	3000	4000	70
SmartSolar MPPT 150 85 – Tr	150	12; 24; 36; 48	1200	2400	3600	4900	85
SmartSolar MPPT 150 85 – MC4	150	12; 24; 36; 48	1200	2400	3600	4900	85
SmartSolar MPPT 150 100 – Tr	150	12; 24; 36; 48	1450	2900	4350	5800	100
SmartSolar MPPT 150 100 - MC4	150	12; 24; 36; 48	1450	2900	4350	5800	100

APPLICABLE REQUIREMENTS & SUBJECT AREA

- CAN/CSA C22.2 No. 107.1-16
- UL 1741: 2016

CONDITIONS OF ACCEPTABILITY

- These devices are built-in type components, where the final acceptance is dependent upon their installation and use in complete equipment submitted to LabTest Certification Inc.
- There is no isolation between input and output and no isolation between communication ports and display.
- These units are suitable for factory wiring only.
- The product was evaluated for a maximum ambient of 40°C with derating to 60°C possible.
- End installation shall comply with applicable parts of NEC, CE Code, Building Codes and requirements from authority holding jurisdictions.
- All units are potted for functional reasons.
- A protective electrical and fire enclosure shall be provided in the end product.
- A suitably rated external disconnect and overcurrent protection shall be provided in the end application.
- Maximum PV open circuit voltage: 150V.
- The units were evaluated for indoor use, Pollution Degree 3, Overvoltage Category: III
- The acceptability of the bonding of the unit to the protective grounding shall be evaluated in the end product.

The 'C' and 'US' indicators adjacent to the LabTest Certification Mark shall signify that the product has been evaluated by an accredited laboratory to the applicable CSA and UL Standards respectively. The subject area shall be displayed with the LabTest Certification Mark to identify the Standard Number, and Revision Level.

Declaration of Conformity

Applicant: Victron Energy B.V.
Solar Charger

Product type: BlueSolar MPPT 100|15

Model: BlueSolar MPPT 100|30
SmartSolar MPPT 100|15 SmartSolar
MPPT 100|30 SmartSolar MPPT 100|
20
SmartSolar MPPT 100|20_48V

See Page 2

Rating:

A representative test sample of above stated model passed the tests according to:

Standard: IEC 62109-1:2010
EN 62109-1:2010

Report no: 15PP038-01_3

Certificate no:

Date of issue: 15-108-02

2018-05-04

Raphael Rader



Technical Data

Model /Type reference	BlueSolar MPPT 100 15	BlueSolar MPPT 100 30
Max. input voltage:	100Vdc	100Vdc
Battery voltage (autoselect)	12Vdc/24Vdc	12Vdc/24Vdc
Max. PV Power 12Vdc	220W	440W
Max. PV Power 24Vdc	440W	880W
Rated charge current:	15A	30A
SmartSolar MPPT 100 15	SmartSolar MPPT 100 20	SmartSolar MPPT 100 30
100Vdc	100Vdc	100Vdc
12Vdc/24Vdc	12Vdc/24Vdc	12Vdc/24Vdc
220W	290W	440W
440W	580W	880W
15A	20A	30A
Model /Type reference	SmartSolar MPPT 100 40_48V	
Max. input voltage:	100Vdc	
Battery voltage (autoselect)	12Vdc/24Vdc/36Vdc/48Vdc	
Max. PV Power 12Vdc	290W	
Max. PV Power 24Vdc	580W	
Max. PV Power 36Vdc	870W	
Max. PV Power 48Vdc	1160W	
Rated charge current:	20A	

Declaration of Conformity

Applicant: Victron Energy B.V.

Product type: Solar Charger

Model: BlueSolar MPPT 100|50
(SCC020050200)

BlueSolar MPPT 150|35
(SCC020035000)

SmartSolar MPPT 100|50
(SCC110050210)

SmartSolar MPPT 150|35
(SCC115035210)

See page 2

Rating:

A representative test sample of above stated model passed the tests according to:

Standard: IEC 62109-1:2010
EN 62109-1:2010

Report no: 15PP005-01_2

Certificate no:

15-057-01

Date of issue:

2018-02-08



Raphael Rader



Technical Data

Model /Type reference	BlueSolar MPPT 150 35	BlueSolar MPPT 100 50
Max. input voltage:	100Vdc	100Vdc
Battery voltage (autoselect)	12Vdc/24Vdc	12Vdc/24Vdc
Max. PV Power 12Vdc	500W	700W
Max. PV Power 24Vdc	1000W	1400W
Max. PV Power 36Vdc	1500W	-
Max. PV Power 48Vdc	2000W	-
Rated charge current:	35A	50A
Model /Type reference	SmartSolar MPPT 100 35	SmartSolar MPPT 100 50
Max. input voltage:	100Vdc	100Vdc
Battery voltage (autoselect)	12Vdc/24Vdc	12Vdc/24Vdc
Max. PV Power 12Vdc	500W	700W
Max. PV Power 24Vdc	1000W	1400W
Max. PV Power 36Vdc	1500W	-
Max. PV Power 48Vdc	2000W	-
Rated charge current:	35A	50A



APPROVALS®

Certificate of Suitability

Certificate No.: SAA152178

Certificate Holder: Victron Energy B.V.

Class Description: Non-Declared
Product Description: Solar Battery Charger (Built-in component)
Brand Name: Victron
Model No.: MPPT100|15
Markings: Max Input Voltage: 100Vdc
Battery voltage (autoselect): 12 / 24Vdc
Max PV Power 12Vdc: 200W
Max PV Power 24Vdc: 400W
Rated charge current: 15A

Standard: IEC 62109-1 Ed. 1.0
Conditions: All models approved under this Certificate must comply with the Standard requirements of the end product when installed.

Certification Mark: SAA152178 or RCM

Date First Registered: 12 November 2015
Date of Expiry: 12 November 2020

A handwritten signature in black ink, appearing to be 'D.K.', written over a horizontal line.

For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd certifies that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.



Issued: 03-07-18 152178/1a
Certificate Reissued



APPROVALS®

Certificate of Suitability


Addendum

Certificate No.: SAA152178

Date of Issue: 25 January 2018

Class Description: Non-Declared
Product Description: Solar Battery Charger (Built-in component)

Additional Models	Description
BlueSolar MPPT100 30	100Vdc Max Battery Voltage (auto Select) 12/24Vdc Max PV Power 12Vdc: 440W Max PV Power 24Vdc: 880W Charging Current: 30A
SmartSolar MPPT100 15	100Vdc Max Battery Voltage (auto Select) 12/24Vdc Max PV Power 12Vdc: 220W Max PV Power 24Vdc: 440W Charging Current: 15A
SmartSolar MPPT100 20	100Vdc Max Battery Voltage (auto Select) 12/24Vdc Max PV Power 12Vdc: 290W Max PV Power 24Vdc: 580W Charging Current: 20A
SmartSolar MPPT100 30	100Vdc Max Battery Voltage (auto Select) 12/24Vdc Max PV Power 12Vdc: 440W Max PV Power 24Vdc: 880W Charging Current: 30A


For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd certifies that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.



Issued: 03-07-18 152178/3a
Certificate Reissued



APPROVALS®

Certificate of Suitability

Addendum

Certificate No.: SAA152178

Date of Issue: 14 May 2018

Class Description: Non-Declared
Product Description: Solar Battery Charger (Built-in component)

Additional Models

SmartSolar MPPT100|20_48V

Description

100Vdc
Max Battery Voltage (auto Select) 12/24/36/48Vdc
Max PV Power 12Vdc: 290W
Max PV Power 24Vdc: 580W
Max PV Power 36Vdc: 870W
Max PV Power 48Vdc: 1160W
Charging Current: 20A

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For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd certifies that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.



Issued: 03-07-18 152178/4a
Certificate Reissued



APPROVALS®

Certificate of Suitability

Certificate No.: SAA152176

Certificate Holder: Victron Energy B.V.

Class Description: Non-Declared
Product Description: Solar Battery Charger (Built-in component)
Brand Name: Victron
Model No.: MPPT100|50
Markings:

Max Input Voltage: 100Vdc
Battery voltage (autoselect): 12 / 24Vdc
Max PV Power 12Vdc: 700W
Max PV Power 24Vdc: 1400W
Rated charge current: 50A

**Standard:
Conditions:**

IEC 62109-1 Ed. 1.0
All models approved under this Certificate must comply with the Standard requirements of the end product when installed.

Certification Mark: SAA152176 or RCM

Date First Registered: 12 November 2015
Date of Expiry: 12 November 2020

A handwritten signature in black ink, appearing to be 'D. K.', written over a horizontal line.

For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd certifies that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.



Issued: 03-07-18 152176/1a
Certificate Reissued



APPROVALS®

Certificate of Suitability

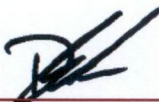
Addendum

Certificate No.: SAA152176

Date of Issue: 29 January 2018

Class Description: Non-Declared
Product Description: Solar Battery Charger (Built-in component)

Additional Models	Description
BlueSolar MPPT150 35	150Vdc Max Battery voltage (autoselect) 12/24/36/48Vdc Max PV Power 12Vdc: 500W Max PV Power 24Vdc: 1000W Max PV Power 36Vdc: 1500W Max PV Power 48Vdc: 2000W Charge Current:30A
SmartSolar MPPT100 50	150Vdc Max Battery voltage (autoselect) 12/24Vdc Max PV Power 12Vdc: 700W Max PV Power 24Vdc: 1400W Charge Current:50A
SmartSolar MPPT150 35	150Vdc Max Battery voltage (autoselect) 12/24/36/48Vdc Max PV Power 12Vdc: 500W Max PV Power 24Vdc: 1000W Max PV Power 36Vdc: 1500W Max PV Power 48Vdc: 2000W Charge Current:35A


For and on Behalf of
SAA Approvals Pty Ltd

SAA Approvals Pty Ltd certifies that the product nominated in this certificate complies with standard/s listed.

When using the RCM the requirements of all relevant parts of AS/NZS 4417 applicable to the article must be fulfilled.



Issued: 03-07-18 152176/3a
Certificate Reissued

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

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*4364*00 Cor.01**

1. Make (trade name of manufacturer) : Victron Energy B.V.
2. Type and general commercial description(s) : SmartSolar MPPT ???/??
3. Means of identification of type, if marked on the ~~vehicle~~/component/~~separate technical unit~~ ⁽¹⁾ : SmartSolar MPPT 100/30
- 3.1. Location of that marking : Top Side of housing of Product
4. Category of vehicle : All
5. Name and address of manufacturer : Victron Energy B.V.
De Paal 35
1351 JG Almere
The Netherlands
6. In the case of components and separate technical units, location and method of affixing of the approval mark : Screen printing on Top Side of housing of Product
7. Address(es) of assembly plant(s) :

Type-approval Department



Approval number: E4*10R05/01*4364*00 Cor.01

8. Additional information (where applicable) : see Appendix below
9. Technical service responsible for carrying out the tests : TÜV Rheinland Nederland B.V.
10. Date of test report : August 2, 2019
11. Number of test reports : 19050302.A01
12. Remarks (if any) : see Appendix
13. Place : Zoetermeer
14. Date : 05 November 2019
15. Signature :
16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.
17. Reasons for extension : N/A



L. Vellekoop

The image shows a handwritten signature in blue ink over a circular blue stamp. The stamp features a coat of arms with two lions and the text 'RDW' at the bottom. The name 'L. Vellekoop' is printed below the signature.

⁽¹⁾ Strike out what does not apply.

APPENDIX

to type-approval communication form number: E4*10R05/01*4364*00 Cor.01

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

1. Additional information : ---
- 1.1. Electrical system rated voltage : 12 V or 24V... ~~pos./neg.~~ ground ⁽¹⁾
- 1.2. This ESA can be used on any vehicle type with the following restrictions : None
- 1.2.1. Installation conditions, if any : Not applicable
- 1.3. This ESA can be used only on the following vehicle types : All
- 1.3.1. Installation conditions, if any : Not applicable
- 1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were : ESA is Not Safety Related. Radiated Immunity Tests not applicable
- 1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests : TÜV Rheinland Nederland B.V.
Eiberkamp 10
9351 VT Leek
The Netherlands
2. Remarks : Valid for left-hand drive and right hand drive vehicles
Attached to this Type Approval:
Application form
1 Annex 2B form
1 EMC Testreport
Photo's
BOM's
Schematic Diagrams
PCB Layouts

⁽¹⁾ Strike out what does not apply.



THE NETHERLANDS
(N E D E R L A N D)**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*4362*00 Cor.01**

1. Make (trade name of manufacturer) : Victron Energy B.V.
2. Type and general commercial description(s) : SmartSolar MPPT ???/??
3. Means of identification of type, if marked on the ~~vehicle~~/component/
~~separate technical unit~~ ⁽¹⁾ :
 - SmartSolar MPPT 100/50
 - SmartSolar MPPT 150/35
- 3.1. Location of that marking : Top Side of housing of Product
4. Category of vehicle : All
5. Name and address of manufacturer : Victron Energy B.V.
De Paal 35
1351 JG Almere
The Netherlands
6. In the case of components and separate technical units, location and method of affixing of the approval mark : Screen printing on Top Side of housing of Product
7. Address(es) of assembly plant(s) :

Type-approval Department

Approval number: E4*10R05/01*4362*00 Cor.01

8. Additional information (where applicable) : see Appendix below
9. Technical service responsible for carrying out the tests : TÜV Rheinland Nederland B.V.
Eiberkamp 10
9351 VT Leek
The Netherlands
10. Date of test report : August 2, 2019
11. Number of test reports : 19050303.A01
12. Remarks (if any) : see Appendix
13. Place : Zoetermeer
14. Date : 23 October 2019
15. Signature :
16. The index to the information package lodged with the approval authority, which may be obtained on request, is attached.
17. Reasons for extension : N/A



L. Vellekoop

⁽¹⁾ Strike out what does not apply.

APPENDIX

to type-approval communication form number: E4*10R05/01*4362*00 Cor.01

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

1. Additional information : ---
- 1.1. Electrical system rated voltage : 12 V or 24 V ... ~~pos./neg.~~ ground ⁽¹⁾
- 1.2. This ESA can be used on any vehicle type with the following restrictions : None
- 1.2.1. Installation conditions, if any : Not applicable
- 1.3. This ESA can be used only on the following vehicle types : All
- 1.3.1. Installation conditions, if any : Not applicable
- 1.4. The specific test method(s) used and the frequency ranges covered to determine immunity were : ESA is Not Safety Related. Radiated Immunity Tests not applicable
- 1.5. Laboratory accredited to ISO 17025 and recognized by the Approval Authority responsible for carrying out the tests : TÜV Rheinland Nederland B.V.
Eiberkamp 10
9351 VT Leek
The Netherlands
2. Remarks : Valid for left-hand drive and right hand drive vehicles
Attached to this Type Approval:
Application form
1 Annex 2B form
1 EMC Testreport
Photo's
BOM's
Schematic Diagrams
PCB Layouts

⁽¹⁾ Strike out what does not apply.



DECLARATION OF CONFORMITY



COMPANY : Victron Energy B.V.

Declares that the following products:

PRODUCT TYPE : SmartSolar Charge Controllers
BRAND : Victron Energy
MODELS :

SmartSolar MPPT 75/10, 75/15 and 100/15	SmartSolar MPPT 150/70-Tr and 150/70-MC4
SmartSolar MPPT 100/20	SmartSolar MPPT 150/85-Tr and 150/85-MC4
SmartSolar MPPT 100/30	SmartSolar MPPT 150/100-Tr and 150/100-MC4
SmartSolar MPPT 100/50	SmartSolar MPPT 250/60-Tr and 250/60-MC4
SmartSolar MPPT 150/35	SmartSolar MPPT 250/70-Tr and 250/70-MC4
SmartSolar MPPT 150/70	SmartSolar MPPT 250/85-Tr and 250/85-MC4
SmartSolar MPPT 150/85	SmartSolar MPPT 250/100-Tr and 250/100-MC4
SmartSolar MPPT 150/45-Tr and 150/45-MC4	SmartSolar Pluggable Display
SmartSolar MPPT 150/60-Tr and 150/60-MC4	

Are in conformity with the requirements of the following Directives of the European Union:

EMC Directive 2014/30/EU with the following harmonized standards:

EN 61000-6-1:2007
EN 61000-6-2:2005/AC:2005
EN 61000-6-3:2007/A1:2011/AC:2012
EN 55014-1:2006/A1:2009/A2:2011
EN 55014-2:1997/A1:2001/A2:2008

Low Voltage Directive 2014/35/EU with the following harmonized standards:

EN 60950-23:2006/AC:2008
EN 62109-1:2010

Restriction of the use of certain hazardous substances RoHS (2011/65/EU and 2015/863/EU) with the following harmonized standards:

EN-IEC 63000:2018

CE MARK DATE: September 1st, 2017

Signed: Reinout Vader

Authority: Managing Director
Date: 22 July 2019