

Wels, am 11.01.2017

SETTINGS REQUIRED BY CEZ DISTRIBUCE

Fronius International GmbH

hereby confirms that the following inverters fulfill EN 50438:2013:

- / Fronius Primo 3.0-1 to 8.2-1
- / Fronius Symo 3.0-3 to 8.2-3
- / Fronius Symo 10.0-3 to 20.0-3
- / Fronius Symo Hybrid 3.0-3 to 5.0-3
- / Fronius Eco 25.0-3 to 27.0-3
- / Fronius Galvo 1.5-1 to 3.1-1

The current country setup CZ includes the default settings of EN 50438:2013 of the interface protection that is equivalent to the required settings of TAB. 1 in the document "PŘÍLOHA 4 PPDS: PRAVIDLA PRO PARALELNÍ PROVOZ ZDROJŮ SE SÍŤÍ PROVOZOVATELE DISTRIBUČNÍ SOUSTAVY; květen 2016"

Table 4 — Default interface protection performance

Parameter	Maximum disconnection time	Minimum operate time	Trip value
Over-voltage – stage 1 ^a	3 s	-	230 V + 10 %
Over-voltage – stage 2	0,2 s	0,1 s	230 V + 15 %
Under-voltage	1,5 s	1,2 s	230 V – 15 %
Over-frequency	0,5 s	0,3 s	52 Hz
Under-frequency	0,5 s	0,3 s	47,5 Hz
LoM (if required)	See Annex A		See Annex A.
The stated voltages are 'true r.m.s.' or fundamental component -values.			
^a Over-voltage – stage 1: 10-min-value corresponding to EN 50160. The calculation of the 10 min value shall comply with the 10 min aggregation of EN 61000-4-30, class S. The function shall be based on the calculation of the square root of the arithmetic mean of the squared input values over 10 min. In deviation from EN 61000-4-30, a moving window shall be used. The calculation of a new 10-min value at least every 3 s is sufficient, which is then to be compared with the trip value. Tolerances on disconnection time are ± 10 %.			

TAB. 1

Parametr	Maximální vypínací čas [s]	Nastavení pro vypnutí
nadpětí 1. stupeň ⁽¹⁾	3	230 V + 10-%
nadpětí 2. stupeň	0,2	230 V + 15-%
podpětí	1,5	230 V - 15-%
nadfrekvence	0,5	52Hz
podfrekvence	0,5	47,5 Hz

(1) Pro 1. stupeň nadpětí se používají 10-minutové hodnoty odpovídající ČSN EN 50160. Výpočet 10- minutové hodnoty musí odpovídat 10 minutové agregaci podle ČSN EN 61000-4-30, třídy S. Tato funkce musí být založena na průměrné efektivní hodnotě napětí v intervalu 10 minut. Odchylna od ČSN EN 61000-4-30 spočívá v klouzavém měřicím okně. Pro porovnání s vypínací mezí postačí výpočet nové 10-minutové hodnoty nejméně každé 3 s.

Additional requirements of "PŘÍLOHA 4 PPDS: PRAVIDLA PRO PARALELNÍ PROVOZ ZDROJŮ SE SÍŤÍ PROVOZOVATELE DISTRIBUČNÍ SOUSTAVY; květen 2016" are fulfilled as explained:

- Active power reduction at over-frequency (9.3.1) is fulfilled as required with the CZ setup without any need for parameterization.
- LVRT (9.2.2.1) is fulfilled by all inverter series with inverters >16A as required in TS 50549-1

- Q(U) function can be set to the values of figure 1 by following the service manual.

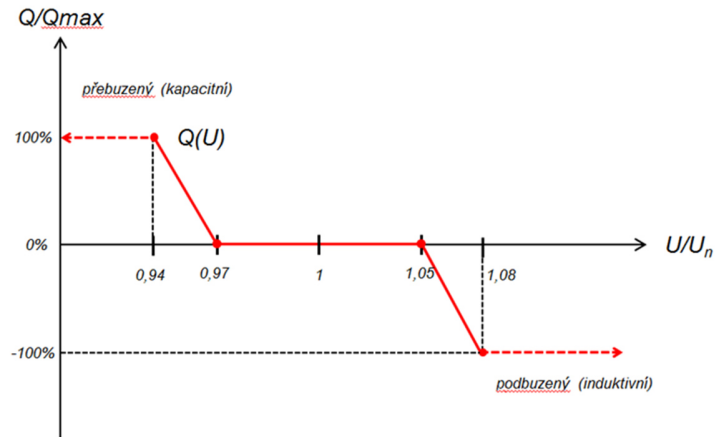


Figure 1

- P(U) function can be set to the values of figure 2 by following the service manual.

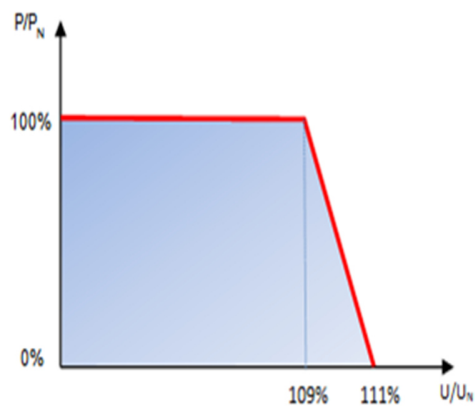


Figure 2

Fronius International GmbH
Solar Energy Division
Froniusplatz 1
A-4600 Wels



DI Thomas Mühlberger
Head of Solution Management

C E R T I F I C A T E
of Conformity



Registration No.: AK 60104859 0001

Report No.: 28108203 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria

Product: PV-Inverter
Solar Grid Tied Inverter

Identification: Trademark: FRONIUS
Model: FRONIUS ECO 27.0-3-S
FRONIUS ECO 25.0-3-S

Attachment: Annex to Certificate

Tested acc. to: EN 50438:2013

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Date 30.09.2015

Certification Body

Marco Piva


The stamp is circular with a blue border. Inside the border, the text "LGA Products GmbH" is at the top, "TÜV Rheinland" is at the bottom, and "Zertifizierungsstelle" is at the very bottom. In the center of the stamp is the TÜV Rheinland logo.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

C E R T I F I C A T E
of Conformity



Registration No.: AK 60104858 0001

Report No.: 28108201 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria

Product: PV-Inverter
Solar grid tied inverter

Identification: Trademark: FRONIUS
Models: Fronius Galvo 3.1-1
Fronius Galvo 3.0-1
Fronius Galvo 2.5-1
Fronius Galvo 2.0-1
Fronius Galvo 1.5-1

Attachment: Annex to Certificate

Tested acc. to: EN 50438:2013

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Date 30.09.2015

Certification Body

Marco Piva


The stamp is circular with the text "TÜV Rheinland LGA Products GmbH" around the top and "TÜV Rheinland Zertifizierungsstelle" around the bottom. In the center is the TÜV Rheinland logo.

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C E R T I F I C A T E
of Conformity



Registration No.: AK 60104856 0001

Report No.: 28108202 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria

Product: PV-Inverter
Solar grid tied inverter

Identification: Trademark: FRONIUS
Model: Fronius Primo 3.0-1 ; Fronius Primo 3.5-1
Fronius Primo 3.6-1 ; Fronius Primo 4.0-1
Fronius Primo 4.6-1 ; Fronius Primo 5.0-1
Fronius Primo 5.0-1 AUS
Fronius Primo 6.0-1 ; Fronius Primo 8.2-1

Attachment: Annex to Certificate

Tested acc. to: EN 50438:2013

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Date 29.09.2015

Certification Body


Marco Piva
The stamp is circular with the text 'TÜV Rheinland LGA Products GmbH' around the top and 'TÜV Rheinland Zertifizierungsstelle' around the bottom. In the center is the TÜV Rheinland logo.

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C E R T I F I C A T E
of Conformity



Registration No.: AK 60104855 0001

Report No.: 28108200 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria



Product: PV-Inverter
Solar grid tied inverter

Identification: Trademark: FRONIUS
Model: FRONIUS SYMO 8.2-3-M ; FRONIUS SYMO 8.0-3-M
FRONIUS SYMO 7.0-3-M ; FRONIUS SYMO 6.7-3-M
FRONIUS SYMO 6.0-3-M ; FRONIUS SYMO 5.5-3-M
FRONIUS SYMO 5.0-3-M ; FRONIUS SYMO 4.5-3-M
FRONIUS SYMO 3.7-3-M ; FRONIUS SYMO 3.0-3-M
FRONIUS SYMO 3.0-3-S ; FRONIUS SYMO 3.7-3-S
FRONIUS SYMO 4.5-3-S
Attachment: Annex to Certificate

Tested acc. to: EN 50438:2013

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Date 29.09.2015

Certification Body

Marco Piva


The stamp is circular with the text "TÜV Rheinland LGA Products GmbH" around the top and "TÜV Rheinland Zertifizierungsstelle" around the bottom. In the center is the TÜV Rheinland logo.

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C E R T I F I C A T E
of Conformity



Registration No.: AK 60104854 0001

Report No.: 28108199 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria

Product: PV-Inverter
Solar grid tied inverter

Identification: Trademark: FRONIUS
Model: FRONIUS SYMO 20.0-3-M
FRONIUS SYMO 17.5-3-M
FRONIUS SYMO 15.0-3-M
FRONIUS SYMO 12.5-3-M
FRONIUS SYMO 10.0-3-M

Attachment: Annex to Certificate

Tested acc. to: EN 50438:2013

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Date 29.09.2015

Certification Body

A handwritten signature in blue ink, appearing to read 'Marco Piva'.

Marco Piva



TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg

C E R T I F I C A T E
of Conformity



Registration No.: AK 60103318 0001

Report No.: 28108080 001

Holder: Fronius International GmbH
Guenter Fronius-Str. 1
4600 Wels - Thalheim
Austria

Product: PV-Inverter
Grid Tied Energy Storage Inverter

Identification: Trademark: FRONIUS
Model: Fronius Symo Hybrid 3.0-3-S
Fronius Symo Hybrid 4.0-3-S
Fronius Symo Hybrid 5.0-3-S


Remarks: Compliant to A.20 - Sweden


Tested acc. to: EN 50438:2013

The certificate of conformity refers to the above mentioned product. This is to certify that the specimen is in conformity with the assessment requirement mentioned above. This certificate does not imply assessment of the production of the product and does not permit the use of a TÜV Rheinland mark of conformity.

Date 24.07.2015

Certification Body


Marco Piva

A circular blue stamp with the text 'TÜV Rheinland LGA Products GmbH' around the top edge and 'TÜVRheinland' and 'Zertifizierungsstelle' around the bottom edge. In the center is the TÜV Rheinland logo.

TÜV Rheinland LGA Products GmbH - Tillystraße 2 - 90431 Nürnberg