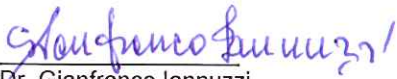


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VDE-AR-N 4105 Certificate of conformity for the NS protection integrated in the inverters	
Manufacturer	Power-One Italy S.p.A. Via S. Giorgio, 642 52028 Terranuova Bracciolini (AR) – Italy
Type of NS protection	See Table 1
Integrated NS protection assigned to power generation unit type	See Table 1
Network connection rule	VDE-AR-N 4105 “Power generation systems connected to the low-voltage network” Technical minimum requirements for connection and parallel operation of power generation systems connected to the low-voltage network
The network and system protection integrated in the power generation units listed in Table 1 meets the requirements of VDE-AR-N 4105.	
The setting values and disconnection times (total break times) of the protective functions are as follows:	
Voltage drop protection U < :	184 V < 200ms
Rise-in-voltage protection U > (*):	253 V < 200ms
Rise-in-voltage protection U >>:	264,5 V < 200ms
Frequency decrease protection f <:	47,5 Hz < 200ms
Frequency increase protection f >:	51,5Hz < 200ms
(*) moving 10-minute average protection according EN 50160	
- All requirements of VDE-AR-N 4105 are fulfilled and have been confirmed via type tests conducted in Power One and witnessed by an accredited certification institute. - The conformity is ensured for all Power One inverter products with model name and firmware version as listed in Table 1.	
Terranuova Bracciolini, 30.10.2015  Dr. Gianfranco Iannuzzi (Coordinator Product Safety)	
This certificate of conformity of two pages shall not be used in parts.	

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VDE-AR-N 4105 Certificate of conformity for the NS protection integrated in the inverters

Inverter model	Maximum active power P_{Emax}	Maximum apparent power S_{Emax}	AC reference voltage	Fulfill VDE-AR-N 4105 requirements from firmware version
UNO-2.0-I-OUTD-Y(*) UNO-2.0-I-OUTD-W	2.0 kW	no reactive power management	230 V	A.5.7.E ; B.0.9.F ; C.0.7.3
UNO-2.5-I-OUTD-Y(*) UNO-2.5-I-OUTD-W	2.5 kW	no reactive power management	230 V	A.5.7.E ; B.0.9.F ; C.0.7.3
PVI-3.0-TL-OUTD-Y(*) PVI-3.0-TL-OUTD-W	3.0 kW	3.33 kVA	230 V	A.3.0.1 ; B.3.0.B ; C.0.3.3
REACT-UNO-3.6-TL	3.6 kW	4.0 kVA	230 V	Update ver.1518C
PVI-3.6-TL-OUTD-Y(*) PVI-3.6-TL-OUTD-W	3.6 kW	4.00 kVA	230 V	A.3.0.1 ; B.3.0.B ; C.0.3.3
PVI-3.8-I-OUTD-Y(*)	3.8 kW	4.22 kVA	230 V	A.3.7.4 ; B.A.2.E ; C.2.1.E
PVI-4.2-TL-OUTD-Y(*) PVI-4.2-TL-OUTD-W	4.2 kW	4.67 kVA	230 V	A.3.0.1 ; B.3.0.B ; C.0.3.3
REACT-UNO-4.6-TL	4.6 kW	5.1 kVA	230 V	Update ver.1518C
PVI-4.6-I-OUTD-Y(*)	4.6 kW	5.11 kVA	230 V	A.3.7.4 ; B.A.2.E ; C.2.1.E
PVI-6.0-TL-OUTD-Y(**)	6.0 kW	6.7 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-8.0-TL-OUTD-Y(**)	8.0 kW	8.9 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-10.0-TL-OUTD-Y(**)	10.0 kW	11.5 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-12.5-TL-OUTD-Y(**) PVI-12.5-TL-OUTD-W	12.5 kW	13.8 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-10.0-OUTD-Y-DE(**)	10.0 kW	11.1 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-12.5-OUTD-Y-DE(**) PVI-12.5-OUTD-DE-W	12.5 kW	13.8 kVA	230 / 400 V	A.0.9.6; B.1.4.F; C.0.0.6
PVI-10.0-I-OUTD-Y-400(*)	10.0 kW	11.1 kVA	230 / 400 V	A.5.1.C; B.4.4.0; C.2.2.1
PVI-12.0-I-OUTD-Y-400(*)	12.0 kW	13.3 kVA	230 / 400 V	A.5.1.C; B.4.4.0; C.2.2.1
TRIO-5.8-TL-OUTD-Y(*)-400	5.8 kW	5.8 kVA	230 / 400 V	Update ver.1328C
TRIO-7.5-TL-OUTD-Y(*)-400	7.5 kW	7.5 kVA	230 / 400 V	Update ver.1328C
TRIO-8.5-TL-OUTD-Y(*)-400	8.5 kW	8.5 kVA	230 / 400 V	Update ver.1328C
TRIO-20.0-TL-OUTD-400-W	20.0 kW	22.2 kVA	230 / 400 V	A.0.3.E; B.0.F.D; C.1.2.1.
TRIO-20.0-TL-OUTD-Y-400(**)	20.0 kW	22.2 kVA	230 / 400 V	A.0.3.7; B.0.C.4; C.0.9.F
TRIO-27.6-TL-OUTD-400-W	27.6 kW	30.0 kVA	230 / 400 V	A.0.3.E; B.0.F.D; C.1.2.1.
TRIO-27.6-TL-OUTD-Y-400(**)	27.6 kW	30.0 kVA	230 / 400 V	A.0.3.7; B.0.C.4 ; C.0.9.F
PRO-33-TL-OUTD-400 PRO-33-TL-OUTD-S-400 PRO-33-TL-OUTD-SX-400	33 kW	33 kVA	230 / 400 V	KLUFO v 1.61

Table 1: Power One String inverters in compliance with VDE-AR-N 4105.

Notes:

(*) where Y may be "blank" or "S"

(**) where Y may be "blank" or "S" or "DS" or "DSC" or "FS" or "FSC"

(***) where Y may be "blank" or "S2" or "S2X" or "S2F" or "S1J" or "S2J"

the letter "-W" identifies the wind inverter version