



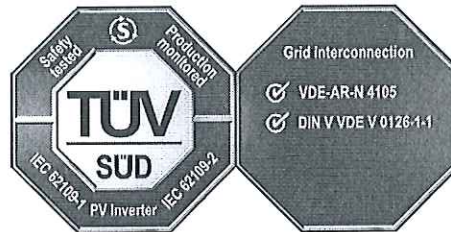
Product Service

# CERTIFICATE

No. Z2 14 08 83296 016

**Holder of Certificate:** Northern Electric & Power Co., Ltd.


No. 1 Anhe Road, Hetao Street  
 Qingdao Export Processing Zone  
 Chengyang District  
 266113 Qingdao, Shandong  
 PEOPLE'S REPUBLIC OF CHINA

**Certification Mark:****Product:** Converter  
(PV grid-connected inverter)

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

**Test report no.:** 64290140193201**Date,** 2014-08-25

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 ( Billy Qiu )




Product Service

**CERTIFICATE****No. Z2 14 08 83296 016****Model(s): BDM-300-EU, BDM-R-300-EU****Parameters:**

Maximum rated d.c. input voltage/Vmax PV(V):	60Vd.c.
Maximum total PV array s-c current/Isc PV (A):	14.0Ad.c.
PV input operating voltage range (V):	22-55Vd.c.
Maximum operating PV input current (A):	12.0 Ad.c.
Nominal a.c. output voltage (V):	230Va.c.
Nominal a.c. output frequency (Hz):	50Hz
Nominal active output power (Pn)(W):	250W
Nominal a.c. output current(A):	1.1Aa.c.
Maximum continuous a.c. output current(A):	1.2Aa.c.
Maximum active power of the power generation unit (PEMax)(W):	252W
Maximum apparent power of a power generation unit (SEmax)(VA):	255VA
Power factor (cos phi):	Fixed, >0.99 (full load)

Protection class:	I
IP code:	IP66/IP67
Overvoltage category (OVC):	II (PV), III (Grid)
Pollution degree:	PD3 (External)

Remarks: The general description and tables F.3 & F.4 of VDE-AR-N 4105: 2011 are refer to technical report No.: 64.290.14.01932.01

See page 3 for license condition

**Tested according to:**

IEC 62109-1:2010  
EN 62109-1:2010  
IEC 62109-2:2011  
EN 62109-2:2011  
DIN VDE 0126-1-1(VDE V 0126-1-1) :2013  
VDE-AR-N 4105:2011  
DIN VDE V 0124-100:2012

**Production Facility(ies):**

83296

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# CERTIFICATE



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License condition:

1. The units are isolated type PV grid-connected inverters inverting the DC output of one PV module, and are intended to be connected in parallel to the public grid;
2. The assembly of the unit is secured by screws and filled with potting inside, it is not designed for service with any maintenance of parts and components inside the enclosure;
3. The inverters are isolated type with high frequency transformer and the residual current is limited within 30mA. According to IEC 62109-2, RCD or RCM for residual current protection is not necessary and is not provided in the inverter. However, to protect against the earth fault in the external power line of a.c. output of the PV inverter, a RCD is required in the AC distribution board. And considering the DC component of injection power, the RCD is required as type B;
4. The grid connection protection system is evaluated according to VDE 0126-1-1 new edition and VDE-AR-N 4105. Some features required by VDE-AR-N 4105 are described as follows:
  - a) Multiple units are allowed to inter-connected to constitute a PV plant with limited capacity up to 3.68kVA. The unit provide fixed displacement factor larger than 0.95;
  - b) The inverter is capable to decrease the active power output when the grid frequency goes up between 50.2Hz and 51.5Hz. However, the remote active power control function is not provided in the unit;
  - c) The information of status and fault condition report is transmitted via PLC from the micro inverter to the gateway. The gateway identifies the micro inverter with IP address. The gateway is installed for each plant and considered as necessary unit of a PV plant.
  - d) For other countries, the local grid code shall be further considered and not evaluated in this report.
5. The inverters are designed for indoor and outdoor use. It is fixed mounted on rack or other reliable fixing and the environmental parameter shall meet its rating as specification;
6. The PLC is not evaluated in term of subject standards;
7. The firmware version is BDM-300-01.

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Date, 2014-08-25

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