NEP MICROINVERTER PORTFOLIO

- MLPE Rising Star
- www.northernep.com

2023

WHO WE ARE

Northern Electric Power (NEP) has been using innovation and cutting-edge technology to shape the future of solar energy for over a decade.

From the USA to many countries across the globe, NEP's MLPE products have revolutionized renewable energy solutions.

Safety, reliability, cost efficiency and customer focus are at the core of NEP's commitment to providing sustainable solutions that not only bring value to its shareholders but enable people around the world to benefit from clean energy sources. As a Benefit Corporation, NEP strives to achieve positive environmental, social and financial outcomes.

WHO WE ARE

2009
NEP founded

2011
Launch of BDM-250
microinverters on the market

2013
Northern Electric & Power
Inc founded in Japan

BDM-300 microinverter
acquires UL certification

2015
Northern Electric & Power Inc.
acquires Japanese certification, the
only microinverter for sale in Japan

BDM-600 launched

2017
Rapid Shutdown Device
achieves UL certification

2018
NEP repositioned to the
research design and application
of MLPE (Module Level Power
Electronics)

2020
NEP reformulated as a Benefit
Corporation in America

BDM-800 launched

2021
Launch of globalization program

Second headquarter established
in Suzhou

Series-A Equity funding

2022
Production facility
established in Thailand

Globalized NEP

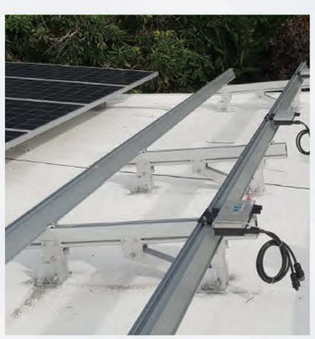
With years of development, NEP has two global headquarters in San Jose U.S. and Suzhou China. NEP has also reached out and set branches to provide localized service to clients.


BDM-300/400
Micro Inverter
BDM-2000
Micro Inverter
BDM-800/1000
Micro Inverter
BDM-500/600/600X
Micro Inverter

CASE SHARE

Industrial Project, Fukuoka Japan

340kW Floating PV, with BDM-300



NEP Monitoring Platform
NEPViewer

Web-based & mobile app monitoring

Data point plotted every 1 minute

BDM-300/400/600X/800

Micro Inverter

BUILT-IN WIFI INSTANT PV

Balcony Solution

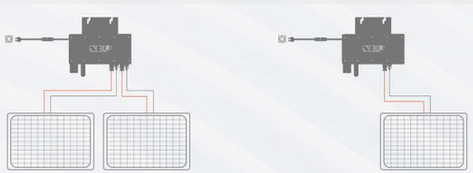
Features

Instant enjoy

- Built-in WIFI module
- Plug-and-Play connection, flexible installation position
- Designed for DIY, without electricians, without approval
- Customized Output Socket, OCD friendly
- NEPViewer provides an appropriate amount of monitoring information

Robust, reliable, and Durable

- IP67 isolation
- Top-tier components
- Ten years standard warranty and extendable up to 25 years
- Secondary Landing, double secure
- Low voltage PV system



Model BDM-300/400/600X/800

Input | DC	BDM-300	BDM-400	BDM-600X	BDM-800
Recommended PV Module Power Range /W	450	600	450 x 2	600 x 2
MPPT Voltage Range /V	22-55			
Startup Voltage /V	24			
Max. Input Voltage /V	60			
Max. Input Current /A	14		18 x 2	17 x 2
Overvoltage Protection Category	II			
Output | AC				
Peak Output Power /VA	350	400	650	800
Max. Continous Output Power /VA	300	350	600	750
Rated Output Voltage /V	230			
Nominal Output Voltage Range /V	207 ~ 253			
Max. Continous Output Current /A	1.3	1.52	2.61	3.26
Nominal Frequency / Range /Hz	50 / Configurable			
Power Factor (Nominal/Adjustable Range)	1.0/0.8 leading...0.8 lagging			
AC Short Circuit Fault Current Over 3 cycles /Arms	2.2	2.4	4.4	8.2
THDi@Rated Power	<3%			
Overvoltage Protection Category	III			
Efficiency				
Peak Efficiency	97.1%	97.3%	97.1%	97.3%
MPPT Efficiency	>99.5%			
Night Power Consumption /mW	80		110	
General Data				
Operating Ambient Temperature Range /℃	-40~65			
Relative Humidity Range	0-100%			
Dimensions (W x H x D) /mm	180 x 186 x 25		227 x 132 x 50	268 x 250 x 42
Weight /kg	1.5		2.9	
Communication Method	WiFi			
Protection Class	IP-67			

*For some models don't have built-in relay assembled, accessory BDM-BR-20A is required for external NA protection per VDE 4105 (Patent Pending).

BDM-300/400

Micro Inverter

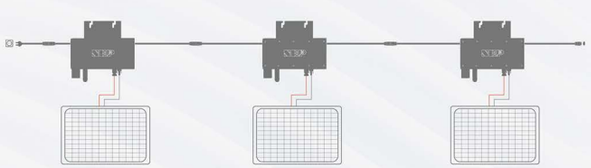
Features

Convenient
- DC overload up to 50%
- Inter-connectable with other NEP microinverter models
- Built-in PLC or WiFi

Safe and Reliable
- Integrated gounding for easy installation
- IP-67 enclosure rating

Global Certified
- U.S. California Rule 21 Certified
- "UL1741, SAA, TUV, VDE-AR-N 4105, VDE, 0126, G83/2, CEI 0-21, IEC 61727, EN50438, Tor Erzeuger Typ A"

Efficient
- MPPT activated for each panel
- High efficiency with 97.1%



More effective	Max. Efficiency 97.1%
Global Certification	C-ETL-us, SAA, TUV, VDE-AR-N 4105, VDE 0126, G83
More secure	Built-in grounding Lightning protection 6000V
More Reliability	IP67

Model

BDM-300/400

Input | DC	BDM-300	BDM-400
Recommended PV Module Power Range /W	450	600
MPPT Voltage Range /V	22-55	
Startup Voltage /V	24	
Max. Input Voltage /V	60	
Max. Input Current /A	14	
Overvoltage Protection Category	II	
Output | AC		
Peak Output Power /VA	350	400
Max. Continous Output Power /VA	300	350
Rated Output Voltage /V	230	
Nominal Output Voltage Range /V	Configurable	
Max. Continous Output Current /A	1.3	1.52
Nominal Frequency / Range /Hz	50 / Configurable	
Power Factor (Nominal/Adjustable Range)	1.0/0.8 leading…0.8 lagging	
AC Short Circuit Fault Current Over 3 cycles /Arms	2.2	2.4
THDi@Rated Power	<3%	
Max. Units per 20A Branch	12	10
Overvoltage Protection Category	III	
Efficiency		
Peak Efficiency	97.1%	97.3%
MPPT Efficiency	>99.5%	
Night Power Consumption /mW	80	
General Data		
Operating Ambient Temperature Range/℃	-40~65	
Relative Humidity Range	0-100%	
Dimensions (W x H x D) /mm	180 x 186 x 25	
Weight /kg	1.5	
Communication Method	PLC or WiFi	
Protection Class	IP-67	

1 The AC voltage range may vary depending on specific country grid 2 The AC frequency range may vary depending on specific country grid

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BDM-500/600/600X

Micro Inverter

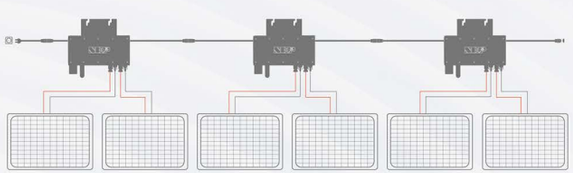
Features

Convenient
- DC overload up to 50%
- Inter-connectable with other NEP microinverter models
- Built-in PLC or WiFi

Safe and Reliable
- Integrated gounding for easy installation
- IP-67 enclosure rating

Global Certified
- U.S. California Rule 21 Certified
- "UL1741, SAA, TUV, VDE-AR-N 4105, VDE, 0126, G83/2, CEI 0-21, IEC 61727, EN50438, Tor Erzeuger Typ A"

Efficient
- MPPT activated for each panel
- High efficiency with 97.1%



More effective — Max. Efficiency 97.1%

Global Certification — C-ETL-us, SAA, TUV, VDE-AR-N 4105, VDE 0126, G83

More secure — Built-in grounding, Lightning protection 6000V

More Reliability — IP67

Model

BDM-500/600/600X

Input | DC	BDM-500	BDM-600	BDM-600X
Recommended PV Module Power Range /W	375 x 2	450 x 2	
MPPT Voltage Range /V	22-55		
Startup Voltage /V	24		
Max. Input Voltage /V	60		
Max. Input Current /A	12.5 x 2	18 x 2	
Overvoltage Protection Category	II		
Output | AC			
Peak Output Power /VA	550	600	650
Max. Continous Output Power /VA	500	580	600
Rated Output Voltage /V	230		
Nominal Output Voltage Range /V	Configurable		
Max. Continous Output Current /A	2.17	2.52	2.61
Nominal Frequency / Range /Hz	50 / Configurable		
Power Factor (Nominal/Adjustable Range)	1.0/0.8 leading...0.8 lagging		
AC Short Circuit Fault Current Over 3 cycles /Arms	4.4		
THDi@Rated Power	<3%		
Max. Units per 20A Branch	7	6	
Overvoltage Protection Category	III		
Efficiency			
Peak Efficiency	97.1%		
MPPT Efficiency	>99.5%		
Night Power Consumption /mW	110		
General Data			
Operating Ambient Temperature Range /℃	-40~65		
Relative Humidity Range	0-100%		
Dimensions (W x H x D) /MM	227 x 132 x 50		
Weight /kg	2.9		
Communication Method	PLC or WiFi		
Protection Class	IP-67		

1 The AC voltage range may vary depending on specific country grid 2 The AC frequency range may vary depending on specific country grid

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BDM-800/1000

Micro Inverter

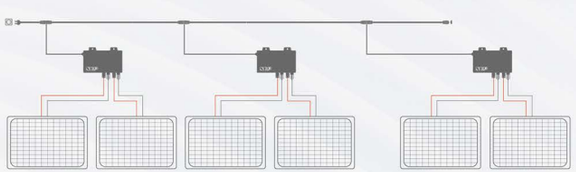
Features

Convenient
- DC overload up to 50%
- Inter-connectable with other NEP microinverter models
- Built-in PLC or WiFi

Safe and Reliable
- Integrated gounding for easy installation
- IP-67 enclosure rating

Global Certified
- U.S. California Rule 21 Certified
- "UL1741, SAA, TUV, VDE-AR-N 4105, VDE, 0126, G83/2, CEI 0-21, IEC 61727, EN50438, Tor Erzeuger Typ A"

Efficient
- MPPT activated for each panel
- High efficiency with 97.1%



More effective	Max. Efficiency 97.1%
Global Certification	C-ETL-us, SAA, TUV, VDE-AR-N 4105, VDE 0126, G83
More secure	Built-in grounding Lightning protection 6000V
More Reliability	IP67

Model

BDM-800/1000

Input | DC	BDM-800	BDM-1000
Recommended PV Module Power Range /W	600 x 2	750 x 2
MPPT Voltage Range /V	22-55	
Startup Voltage /V	24	
Max. Input Voltage /V	60	
Max. Input Current /A	17 x 2	18 x 2
Overvoltage Protection Category	II	
Output | AC		
Peak Output Power /VA	800	1000
Max. Continous Output Power /VA	750	960
Rated Output Voltage /V	230	
Nominal Output Voltage Range /V	Configurable	
Max. Continous Output Current /A	3.26	4.17
Nominal Frequency / Range /Hz	50 / Configurable	
Power Factor (Nominal/Adjustable Range)	1.0/0.8 leading...0.8 lagging	
AC Short Circuit Fault Current Over 3 cycles /Arms	8.2	
THDi@Rated Power	<3%	
Max. Units per 20A Branch	5	4
Overvoltage Protection Category	III	
Efficiency		
Peak Efficiency	97.3%	
MPPT Efficiency	>99.5%	
Night Power Consumption /mW	110	
General Data		
Operating Ambient Temperature Range /℃	-40~65	
Relative Humidity Range	0-100%	
Dimensions (W x H x D) /mm	268 x 250 x 42	
Weight /kg	2.9	
Communication Method	PLC or WiFi	
Protection Class	IP-67	

1 The AC voltage range may vary depending on specifc country grid 2 The AC frequency range may vary depending on specifc country grid

*For some models don't have built-in relay assembled, accessory BDM-BR-20A is required for external NA protection per VDE 4105 (Patent Pending).

NORTHERN ELECTRIC

BDM-2000

Micro Inverter

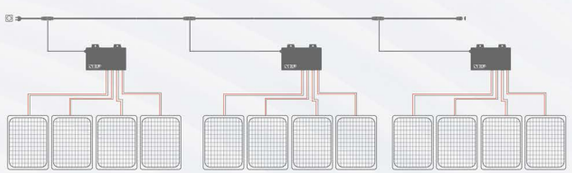
Features

Convenient
- DC overload up to 50%
- Inter-connectable with other NEP microinverter models
- Built-in PLC or WiFi

Safe and Reliable
- Integrated gounding for easy installation
- IP-67 enclosure rating

Global Certified
- U.S. California Rule 21 Certified
- "UL1741, SAA, TUV, VDE-AR-N 4105, VDE, 0126, G83/2, CEI 0-21, IEC 61727, EN50438, Tor Erzeuger Typ A"

Efficient
- MPPT activated for each panel
- High efficiency with 97.1%



More effective	Max. Efficiency 97.1%
Global Certification	C-ETL-us, SAA, TUV, VDE-AR-N 4105, VDE 0126, G83
More secure	Built-in grounding Lightning protection 6000V
More Reliability	IP67

Model

BDM-2000

Input | DC	BDM-2000
Recommended PV Module Power Range /W	750 x 4
MPPT Voltage Range /V	22-55
Startup Voltage /V	24
Max. Input Voltage /V	60
Max. Input Current /A	18 x 4
Overvoltage Protection Category	II
Output | AC	
Peak Output Power /VA	2000
Max. Continous Output Power /VA	1920
Rated Output Voltage /V	230
Nominal Output Voltage Range /V	Configurable
Max. Continous Output Current /A	8.3
Nominal Frequency / Range /Hz	50 / Configurable
Power Factor (Nominal/Adjustable Range)	1.0/0.8 leading...0.8 lagging
AC Short Circuit Fault Current Over 3 cycles /Arms	15.3
THDi@Rated Power	<3%
Max. Units per 20A Branch	2
Overvoltage Protection Category	III
Efficiency	
Peak Efficiency	97.3%
MPPT Efficiency	>99.5%
Night Power Consumption /mW	110
General Data	
Operating Ambient Temperature Range /℃	-40~65
Relative Humidity Range	0-100%
Dimensions (W x H x D) /mm	268 x 250 x 42
Weight /kg	6
DC Connector Type	MC4
AC Connection Type (inverter-inverter)	Trunk Cable
Communication Method	PLC or WiFi
Protection Class	IP-67

1 The AC voltage range may vary depending on specific country grid 2 The AC frequency range may vary depending on specific country grid

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