Anumar Solarpark Schornhof, with M70A solar inverters

Solar Product Overview 2024

Solar inverters. System monitoring. Customer support.
For PV installations of all sizes.

solarsolutions.delta-emea.com

Smarter. Greener. Together.

Delta. Smarter. Greener. Together.

The **Delta Group** was founded in 1971 and, in 2023 with 85,000 employees, achieved sales of 12.9 billion US dollars. As part of the Delta Group, Delta Electronics has been developing and marketing solar inverters and system monitoring solutions since 1999. Product management and Europe-wide customer support are conducted from Germany, while there are regional locations in several European countries.

Why Choose a Delta Inverter?

By installing a photovoltaic system, you can generate green electricity, while also saving money. Choosing the right inverter is crucial for the long-term availability and sustainability of the photovoltaic system.

Delta inverters can be used flexibly in solar systems of any size or complexity — from private homes to large roof-mounted systems to huge ground-mounted installations of several hundred megawatts with thousands of inverters.

The advantages of having your own solar power system:

- Clean, affordable electricity
- Green corporate image
- Inexpensive energy to charge company and customer vehicles
- More control over energy costs by reducing reliance on the public grid

Solar inverters for a wide range of applications

Residential Installations

Residential solar installations play a crucial role in the energy transition. To ensure that homeowners can also benefit from the quality and reliability of our products, we have established a dense network of distributors and installers across Europe

Recommended inverters:

H2.5 / H3A / H4A / H5A
M6A / M8A / M10A
M15A / M20A / M30A

Commercial Systems

You have space on your commercial premises for solar modules? No matter how large or complex the roof is, Delta has the right solar inverter for you. Thanks to our wide range of three-phase inverters, we can find the right combination for your needs.

Delta Electronics office, Helmond, NL

Recommended inverters:

M6A / M8A / M10A
M15A / M20A / M30A
M50A / M70A / M100A

Large Ground-mounted Installations

Do you think in very large dimensions? Delta has a high level of expertise in high-performance inverters for large ground-mounted installations with peak power outputs of up to several hundred megawatts. Our experienced team of experts is at your side in every project phase.

Photo: PRE Energy GmbH

Recommended inverters:

M50A / M70A / M100A
M125HV / M225HV / M350HV

Overview of inverters

2.5 to 10 kVA

	H2.5 Flex	H3A Flex	H4A Flex	H5A Flex	M6A	M8A	M10A
Max. apparent power	2.5 kVA	3 kVA	4 kVA	5 kVA	6.3 kVA	8.4 kVA	10.5 kVA
Operating voltage range	30 to 500 V_{DC}	30 to 600 V_{DC}			200 to 1000 V_{DC}		
AC voltage range	230 V_{AC}, single phase				230/400 V_{AC}, 3 phases		

15 to 30 kVA

	M15A Flex	M20A Flex	M30A Flex
Max. apparent power	16.5 kVA	22.0 kVA	33.0 kVA
Operating voltage range	200 to 1000 V_{DC}		
AC voltage range	230/400 V_{AC}, 3 phases		

50 to 100 kVA

	M50A Flex	M70A Flex	M100A Flex
Max. apparent power	55.0 kVA	77.0 kVA	110.0 kVA
Operating voltage range	200 to 1000 V_{DC}		
AC voltage range	230/400 V_{AC}, 3 phases		400 V_{AC}, 3 phases

greater than 100 kVA

Product name	M125HV	M225HV	M350HV
Max. apparent power	140 kVA	225 kVA	350 kVA
Operating voltage range	860 to 1500 V_{DC}	500 to 1500 V_{DC}	
AC voltage range	600 V_{AC}, 3 phases	800 V_{AC}, 3 phases	

2.5 to 5 kVA for small residential PV systems

Wi-Fi

Input (DC)	H2.5 Flex	H3A Flex	H4A Flex	H5A Flex
Max. power	2.6 kW	3.19 kW	4.32 kW	5.28 kW
Operating voltage range	30 to 500 V_{DC}	30 to 600 V_{DC}		
MPP voltage range	30 to 500 V_{DC}	30 to 550 V_{DC}		
MPP voltage range with max. power	240 to 470 V_{DC}	180 to 500 V_{DC}	240 to 500 V_{DC}	
Max. current (per MPP/total)	11 A	11 A / 18 A		11 A / 22 A
Max. number of MPP trackers	1 x 1 module string	2 x 1 module strings		
Max. number of module strings per MPP tracker	1			

Output (AC)	H2.5 Flex	H3A Flex	H4A Flex	H5A Flex
Max. apparent power [2]	2.5 kVA	3.0 kVA	4.0 kVA	5.0 kVA
Nominal apparent power [2]	2.5 kVA	3.0 kVA	4.0 kVA	5.0 kVA
Voltage range [3]	230 V_{AC} -20% / +22%, single-phase (L, N, PE)			
Nominal current	10.9 A	13 A	17.4 A	22 A
Frequency range [3]	50 / 60 Hz ± 5 Hz			
Adjustment range of power factor	0.8 cap to 0.8 ind			

General Specifications	H2.5 Flex	H3A Flex	H4A Flex	H5A Flex
Peak efficiency	97.5%	97.5%	97.5%	98.3%
EU efficiency	96.8%	96.8%	96.8%	98.0%
Operating temperature range	-25 to +60°C			
Temperature range without power derating	-25 to +40°C			
Relative humidity	0 to 95% non-condensing			
Max. operating altitude	2000 m (above sea level)			
Mounting options	Wall mounting [4]			
Standard warranty	5 years (warranty extension available upon request)			

Other specifications	H2.5 Flex	H3A Flex	H4A Flex	H5A Flex
Connection type AC side	Wieland RST25I3S AC connector [5]			
Connection type DC side	Multi-Contact MC4 [5]			
Communication interfaces	Wi-Fi			

1) Cos Phi = 1 (VA = W)
2) Whether the maximum apparent power can be achieved depends on the environmental conditions.
3) AC voltage and frequency range are programmed based on the respective country regulations.
4) Mounting plate included in scope of delivery.
5) Included in scope of delivery.

6 to 10 kVA for residential and small commercial PV systems

Input (DC)	M6A	M8A	M10A
Operating voltage range	200 to 1000 V_{DC}		
MPP voltage range	200 to 1000 V_{DC}		
MPP voltage range with max. power [1]	315 to 800 V_{DC}	415 to 800 V_{DC}	
Switch-on voltage	250 V_{DC}		
Max. current (per MPP tracker/total)	10 A/20 A [2]	10 A/20 A [3]	DC1: 15 A, DC2: 10 A/25 A [4]
Max. number of MPP trackers	Parallel inputs: 1; separate inputs: 2		

Output (AC)	M6A	M8A	M10A
Max. apparent power [5]	6.3 kVA	8.4 kVA	10.5 kVA
Nominal apparent power [5]	6.0 kVA	8.0 kVA	10.0 kVA
AC voltage range [6]	230 V_{AC} ± 20%/400 ± 20%; 3 phases + PE (△), 3 phases + N + PE (Y)		
Nominal current per phase	8.7 A	11.6 A	14.5 A
Frequency range [6]	50/60 Hz ± 5 Hz		
Adjustment range of power factor	0.8 cap to 0.8 ind		

General Specifications	M6A	M8A	M10A
Peak efficiency	98.3%	98.3%	98.3%
EU efficiency	97.6%	97.6%	98.0%
Operating temperature range	-25 to +60°C		
Temperature range without power derating	-25 to +40°C		
Relative humidity	0 to 100%, non-condensing		
Max. operating altitude	2000 m (above sea level)		
Mounting options	Wall mounting [7]		
Topology	Without transformer		
Standard warranty	5 years (warranty extension available upon request)		

Other specifications	M6A	M8A	M10A
Connection type AC side	Amphenol C16-3 AC plug [8]		
Connection type DC side	Multi-Contact MC4 [8]		
Communication interfaces	2 x RS485, 1 x dry contact, 1 x external power-off, 6 x digital inputs, Wi-Fi		

1) When operating with symmetrical DC inputs (50%/50%)
2) Maximum 4.25 kW per DC input with asymmetrical load (40/60%)
3) Maximum 5.65 kW per DC input with asymmetrical load (40/60%)
4) Maximum 7.0 kW for input DC1 and 5.4 kW for input DC2
5) Cos Phi = 1 (VA = W)
6) AC voltage and frequency range are programmed based on the respective country regulations.
7) Mounting plate included in scope of delivery.
8) Included in scope of delivery.

15 to 30 kVA for residential and commercial PV systems

Wi-Fi

Input (DC)	M15A Flex	M20A Flex	M30A Flex
Operating voltage range [1]	200 to 1000 V_{DC}		
MPP voltage range	200 to 1000 V_{DC}		
MPP voltage range with max. power	380 to 900 V_{DC}	480 to 900 V_{DC}	480 to 900 V_{DC}
Nominal voltage	600 V_{DC}		
Max. current (per MPP tracker/total)	25 A/45 A	26 A/48 A	30 A/72 A
Max. number of MPP trackers	2		3
DC surge protection devices	Type 2 (EN 50539-11), replaceable		

Output (AC)	M15A Flex	M20A Flex	M30A Flex
Max. apparent power [2]	16.5 kVA	22 kVA	33 kVA
Max. active power	16.5 kW	22 kW	33 kW
Nominal apparent power [2]	15 kVA	20 kVA	30 kVA
Voltage range AC [3]	230/400 V -20%/+30%, 3 phases + PE (△), 3 phases + N + PE (Y)		
Nominal current per phase	25 A	32 A	50 A
Frequency range [3]	50/60 Hz ± 5 Hz		
Adjustment range of power factor	0.8 cap to 0.8 ind		
AC surge protection devices	Type 2 (EN 61463-11), replaceable		

General Specifications	M15A Flex	M20A Flex	M30A Flex
Peak efficiency	98.4%	98.5%	98.6%
EU efficiency	97.9%	98.1%	98.2%
Operating temperature range	-25 to +60°C		
Temperature range without power derating	-25 to +50°C		
Relative humidity	0 to 100%, non-condensing		
Max. operating altitude	4000 m (above sea level)		
Mounting options	Wall mounting [4]		
Topology	Without transformer		
Standard warranty	5 years (warranty extension available upon request)		

Other specifications	M15A Flex	M20A Flex	M30A Flex
Connection type AC side	AC plug [5]		
Connection type DC side	Amphenol H4 [5]		
Communication interfaces	2 x RS485, 1 x dry contact, 1 x external power-off, 6 x digital inputs, Wi-Fi		

1) The maximum withstand voltage is 1100 VDC. The inverter starts to work if the input voltage falls below 1000 VDC.
2) Cos Phi = 1 (VA = W)
3) AC voltage and frequency ranges are programmed according to the respectively applicable national regulations.
4) Mounting plate included in scope of delivery.
5) Included in scope of delivery

50 to 100 kVA for ground-mounted and large roof-top systems

Input (DC)	M50A Flex	M70A Flex	M100A Flex
Max. input voltage	1000 V_{DC} [1]		
Operating voltage range	200 to 1000 V_{DC}		
MPP voltage range with max. power	390 to 900 V_{DC}	460 to 900 V_{DC}	470 to 840 V_{DC}
Nominal voltage	600 V_{DC}		600 V_{DC}
Max. current (per MPP tracker/total)	26 A/132 A	26 A/156 A	30 A/240 A
Max. number of MPP trackers	6 x 2 module strings	6 x 3 module strings	8 x 2 module strings
DC surge protection devices	Type 2 (EN 61463-11), replaceable; combined Type 1+2 retrofittable		

Output (AC)	M50A Flex	M70A Flex	M100AFlex
Max. apparent power [2]	55 kVA	77 kVA	110 kVA
Max. active power [2]	55 kW [3]	77 kW [3]	110 kW [4]
Nominal apparent power [2]	50 kVA	70 kVA	100 kVA
Voltage range AC [5]	230/400 V -20%/+30%, 3 phases + PE (△), 3 phases + N + PE (Y)		400 V -20%/+30%, 3 phases + PE (△), 3 phases + N + PE (Y)
Max. current	83 A	112 A	168 A
Frequency range [5]	50/60 Hz ± 5 Hz		
Adjustment range of power factor	0.8 cap to 0.8 ind		
AC surge protection devices	Type 2 (EN 61463-11), replaceable; combined Type 1+2 retrofittable		

General Specifications	M50A Flex	M70A Flex	M100A Flex
Peak efficiency	98.7%	98.8%	98.7%
EU efficiency	98.3%	98.4%	98.4%
Operating temperature range	-25 to +60°C		
Temperature range without power derating	-25 to +50°C		
Relative humidity	0 to 100%, non-condensing		
Max. operating altitude	4000 m (above sea level)		
Mounting options	Wall mounting [6], ground mounting [7]		
Topology	Without transformer		
Standard warranty	5 years (warranty extension available upon request)		

Connections and Communication	M50A Flex	M70A Flex	M100A Flex
Connection type AC side	Screw terminals		
Connection type DC side	Amphenol H4 [8]		
Communication interfaces	2 x RS485, 2 x dry contacts, 1 x external power-off, 6 x digital inputs, Bluetooth®		

1) The maximum withstand voltage is 1100 VDC. The inverter starts to work when the input voltage drops below 1000 VDC.
2) Cos Phi = 1 (VA = W)
3) At ambient temperatures ≤ 40°C
4) At ambient temperatures ≤ 30°C.
5) AC voltage and frequency range are programmed based on the respective country regulations.
6) Mounting plate included in scope of delivery.
7) Mounting feet can be ordered separately.
8) Included in scope of delivery.

Greater than 100 kVA for large ground-mounted installations

Bluetooth® PLC

Input (DC)	M125HV	M225HV	M350HV
Max. input voltage	1500 V_{DC}		
Operating voltage range	860 to 1500 V_{DC}	500 to 1500 V_{DC}	
MPP voltage range with max. power	860 to 1350 V_{DC} [1]	850 to 1350 V_{DC}	850 to 1330 V_{DC}
Nominal voltage	1050 V_{DC}	1150 V_{DC}	
Max. current (per MPP tracker/total)	150 A/150 A	40 A/320 A	40 A/480 A
Max. number of MPP trackers	1 x 20 module strings	8 x 2 module strings	12 x 2 module strings
DC surge protection devices	Type 2 (EN 50539-11), replaceable on M125HV		

Output (AC)	M125HV	M225HV	M350HV
Max. apparent power [2]	140 kVA	225 kVA	350 kVA
Max. active power [3]	125 kW	225 kW	350 kW
Nominal apparent power [2]	125 kVA	225 kVA	350 kVA
AC voltage range [4]	600 V_{AC} -36%/+15%, 3 phases + PE (Δ)	800 V -20%/+15%, 3 phases + PE (Δ)	
Max. current	135 A	165 A	254 A
Frequency range [4]	50/60 Hz ± 5 Hz		
Adjustment range of power factor	0.8 cap to 0.8 ind		
AC surge protection devices	Type 2 (EN 61463-11), replaceable on M125HV		

General Specifications	M125HV	M225HV	M350HV
Peak efficiency	99.1%	99.0%	
EU efficiency	98.7%	98.8%	
Operating temperature range	-25 to +60°C	-30 to +60°C	
Temperature range without power derating	-25 to +50°C	-30 to +50°C	
Relative humidity	0 to 100%, non-condensing		
Max. Operating altitude (above sea level)	3000 m	4000 m	
Mounting options	Wall mounting [5], ground mounting [5]	Wall mounting [5]	
Topology	Without transformer		
Standard warranty	5 years (warranty extension available upon request)		

Connections and Communication	M125HV	M225HV	M350HV
Connection type AC side	Screw bolt		
Connection type DC side	Amphenol H4 Plus [6]	Amphenol H4 Pro [6]	
Communication	2 x RS485, 2 x dry contacts, 1 x external power-off, 6 x digital inputs, Bluetooth®, PLC (M225HV/M350HV only; PLC100 converter additionally required); Delta protocol/SunSpec protocol		

1) Environmental conditions: < 25°C: 860 to 1350 VDC, < 40°C: 860 to 1250 VDC
2) Cos Phi = 1 (VA = W)
3) The active power can be limited.
4) AC voltage and frequency range are programmed based on the respective country regulations.
5) Mounting materials included in scope of delivery
6) Included in scope of delivery.

System monitoring and software

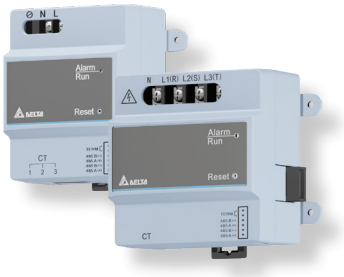
DeltaSolar app

- Wireless connection to the inverter via Wi-Fi or Bluetooth®
- Convenient commissioning and parameter setting
- Local system monitoring
- Rapid integration of the individual inverters into the MyDeltaSolar **Cloud** for remote monitoring
- Comprehensive statistics with clear diagrams
- Configurable system status notifications

+ DC1 Data Collector

- Simultaneous access to all connected inverters
- Central data interface to the MyDeltaSolar Cloud
- Various communication interfaces
- Up to 7 days of data backup if the Internet connection is interrupted
- Dynamic feed-in limitation

+ P1 or P3 power meter



- Additional recording of energy consumption
- Visualization of the energy flow in both directions
- P1 for single-phase networks, P3 for three-phase networks

Special Features and Safety Functions

Special features are integrated into our inverters to increase safety and improve operating behavior.

Example: M70A Flex

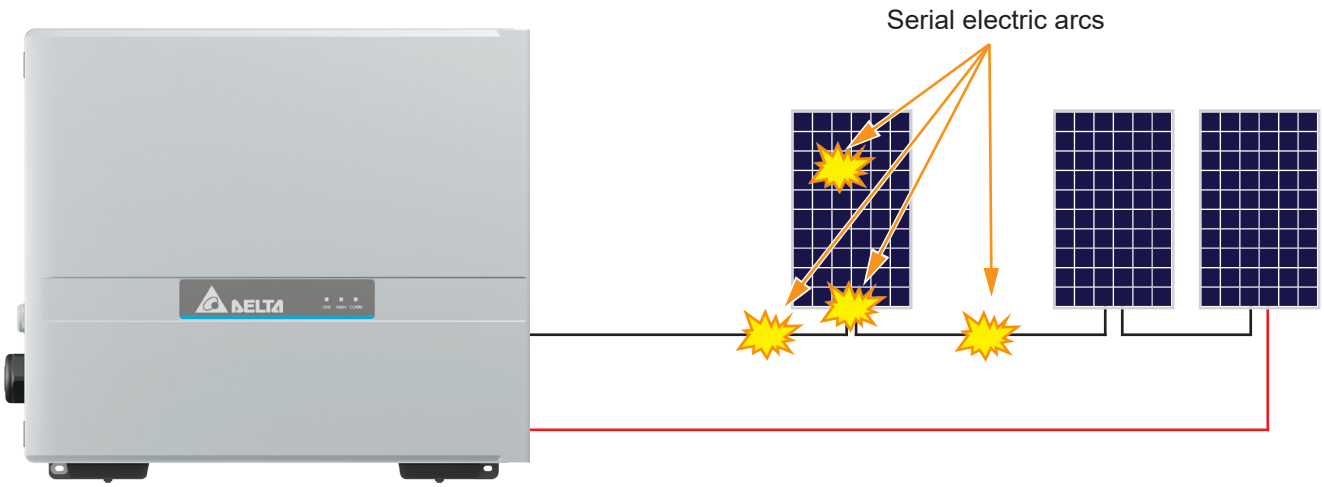
- Data point collection for string monitoring and I-V curve generation
- Arc detection
- Reverse polarity protection
- Anti-PID function
- Reactive power compensation even at night
- Comprehensive active and reactive power control

AC and DC surge arresters

Reliable surge protection protects systems against associated damage. All Delta inverters for commercial photovoltaic systems have built-in AC/DC surge protection devices type 2. Combination type 1+2 can be ordered separately.

Arc detection

To minimize the risk of arcs and therefore fires, an arc detection is integrated into all of our new string inverters.



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