MI Series Microinverter

MI-500/MI-450/MI-425/MI-400 Data Sheet

ATMOCE

Key Features

Safety & Reliability

- 25-year warranty
- 1,000,000+ hours of reliability verification
- IP67 ingress protection
- Safety DC voltage

High Energy Yield

- Peak efficiency: 97.4 %
- EU efficiency: 97.0 %
- MPPT efficiency: 99.9 %

Easy Installation

- Plug-and-Play cable for fast installation
- One-by-one flexible PV module configuration
- Lightweight to 1.3 kg for easy installation
- PLC communication without additional cables

Flexibility & Intelligence

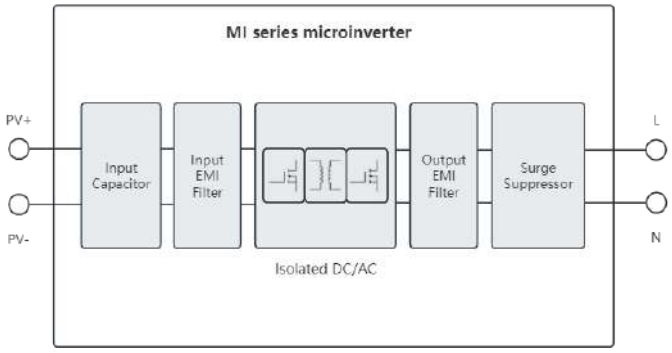
- Supports all common PV modules up to 700W
- One-stop application solutions
- PV module level management
- Grid-friendliness

Model		MI-500	MI-450	MI-425	MI-400
Input parameters					
PV module compatibility	/	54-cell/108 half-cell, 60-cell/120 half-cell, 66-cell/132 half-cell and 72-cell/144 half-cell			
Max. power of compatible PV modules	P_{dcmax}, W	700			
Max./Min. input voltage	U_{dcmin}/U_{dcmax}, V	16 to 60			
Peak power tracking voltage range	U_{mppmin}/U_{mppmax}, V	33 to 55	30 to 55		28 to 55
Nominal input voltage	U_{dcnom}, V	36			
Start-up input voltage	$U_{dcstart}$, V	22			
Max. continuous input current	I_{dcmax}, A	16			
Max. input short-circuit current	I_{scmax}, A	20			
DC port overvoltage class	/	II			
DC port backfeed current	A	0			
PV array configuration	/	1 x 1 ungrounded array			
Output parameters					
Nominal voltage	U_{acnom}, V	230			
Voltage range	U_{acmin}/U_{acmax}, V	184 to 276			
Nominal output power	P_{acnom}, W	500	450	425	400
Max. apparent power	S_{acmax}, VA	500	450	425	400
Nominal output current	I_{acnom}, A	2.17	1.96	1.85	1.74
Max. output current	I_{acmax}, A	2.28	2.06	1.94	1.83
Max. microinverters / 20A branch circuit		7	8	8	9
Max. microinverters / 25A branch circuit		9	10	10	11
Nominal frequency	f_{nom}, Hz	50/60			
Extended frequency range	f_{min}/f_{max}, Hz	45 to 65			
Power consumption at night	mW	0[a]			
AC port overvoltage class		III			
Power factor setting	cosphi	>0.99			
Power factor (adjustable)		0.8 leading ... 0.8 lagging			
Total harmonic distortion	THDi	<3%			
AC surge protection		TYPE II			
Efficiency parameters					
Peak efficiency	η_{max}, %	97.4			
EU efficiency	η_{EU}, %	97.0			
MPPT efficiency	η_{MPPT}, %	99.9			
Mechanical parameters					
Ambient temperature range	°C	-40 to 65			
Storage temperature range	°C	-40 to 85			
Relative humidity range	%	4 to 100, condensing			
DC connector type		MT-02502-D			
Number of DC connectors		1 pair			

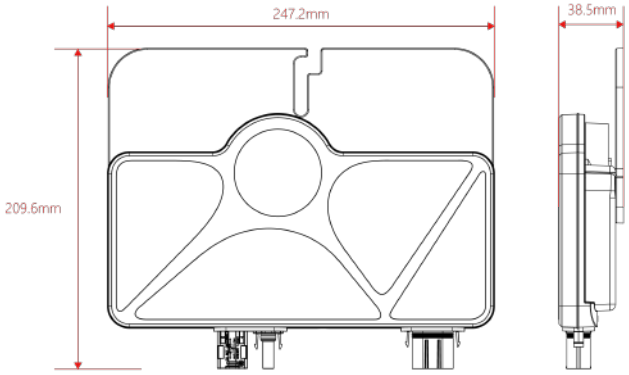
a. The value is tested with M-Relay or M-Combiner.

Model		MI-500	MI-450	MI-425	MI-400
AC connector type			MT-02502-A[b]		
Number of AC connectors			1 pair		
Dimensions (without bracket)	mm		248 × 164 × 38.5 (W x H x D)		
Weight (without bracket)	kg		1.3		
Cooling			Natural convection		
Approved for wet locations			Yes		
Pollution degree			III		
Topology			Isolated		
Enclosure protection class			Class II double-insulated		
Environmental category			Outdoor - IP67		
Altitude	m		3000		
Noise	dB		<25		
Features					
Communication			PLC		
Indicator			1 × LED		
Compliance					
Safety			EN IEC 62109-1/-2		
EMC			EN IEC 61000-6-1/-2/-3/-4, EN 62920		
Grid compliance			VDE 0124, VDE 4105, UTE 0126, EN 50549, EN 50530		

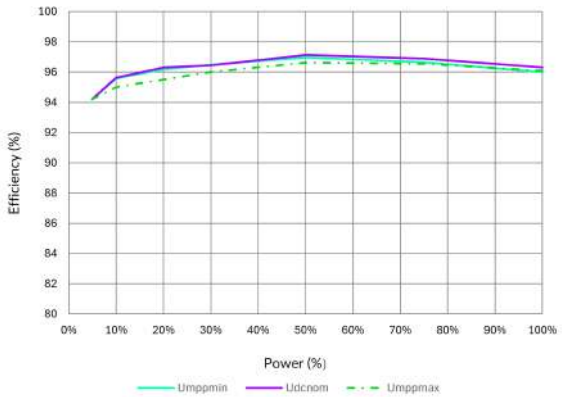
MI Series Microinverter Electrical Topology



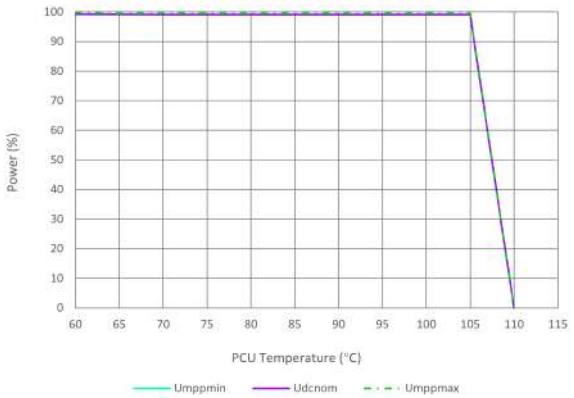
MI Series Microinverter Dimension in mm



MI Series Microinverter Efficiency Curve



MI Series Microinverter Derating Power VS. PCU temperature



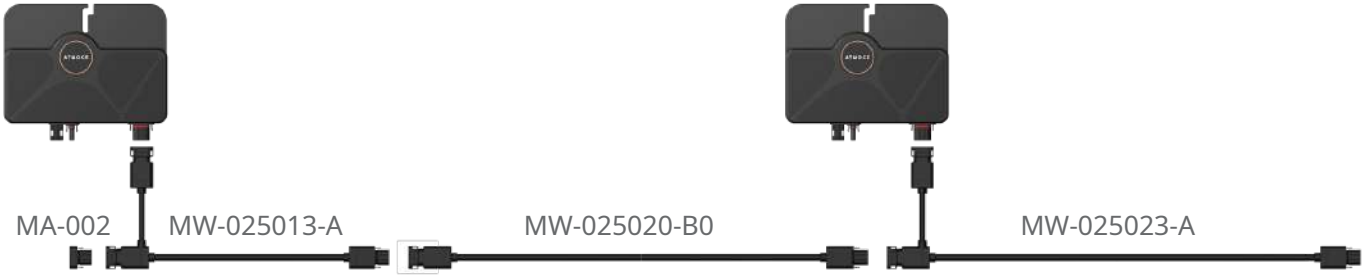
b. The AC connector must be used with MW-Cables.

M-Combiner

The M-Combiner is an energy management equipment that integrates gateway, grid interface relay, current sensors and power breakers, and interacts with microinverters, batteries and loads, and enables grid connection.

- MC100L: Single-phase M-Combiner Lite supports one PV branch of up to 5kW.
- MC100: Single-phase M-Combiner supports two PV branches of up to 10kW.
- MC100-T: Three-phase M-Combiner supports two PV branches of up to 30kW.

M-Cables



Model	Description	Scenario
MA-002	AC cable sealing caps	Used to cover unused connectors of the AC cables
MW-025013-A	Three-terminal AC cable Length: 1.3 m Copper conductor size: 2.5 mm^2	Mounting PV modules in portrait
MW-025020-B0	Two-terminal AC cable Length: 2 m Copper conductor size: 2.5 mm^2	AC extension cable
MW-025023-A	Three-terminal AC cable Length: 2.3 m Copper conductor size: 2.5 mm^2	Mounting PV modules in landscape

info@atmoce.com | +31 6 39877352
ATMOCE HOLDING B.V. | Singel 250, 1016AB Amsterdam, Netherlands