5013280703

Quick Installation Guide

Grid-tie Transformerless Solar Inverter

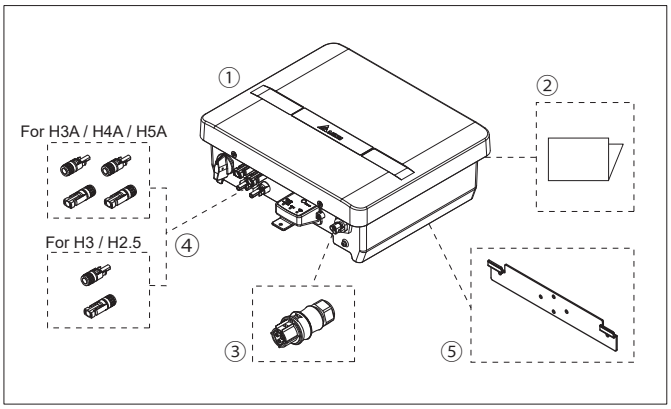
H2.5 / H3 / H3A / H4A / H5A_220 / H5A_221

User manual / DC1_100 manual / APP download / APP guideline

Please scan QR-code for more instruction, specification and settings of DC1_100 or APP.

- https://mydeltasolar.deltaww.com/?p=product_manual

Descriptions of Parts and Components

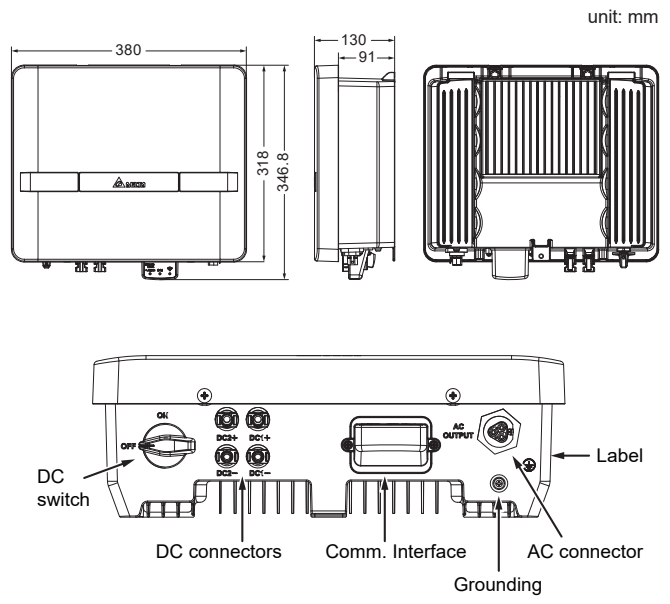


	Object	Qty	Description
①	PV Inverter	1	Solar inverter
②	Quick Installation Guide	1	Important safety instructions and technical specifications should be followed during installation.
③	AC Plug	1	Connector for AC connection
④	DC Plug	2 pairs	MC4 connector for DC connection for H3A / H4A / H5A
		1 pair	MC4 connector for DC connection for H2.5 / H3
⑤	Wall-Mount Bracket	1	To mount the solar inverter securely on the wall.

Caution

If there is any visible damage to the inverter/accesories or any damage to the packaging, please contact your inverter supplier before installation.

Dimensions and Function Introduction



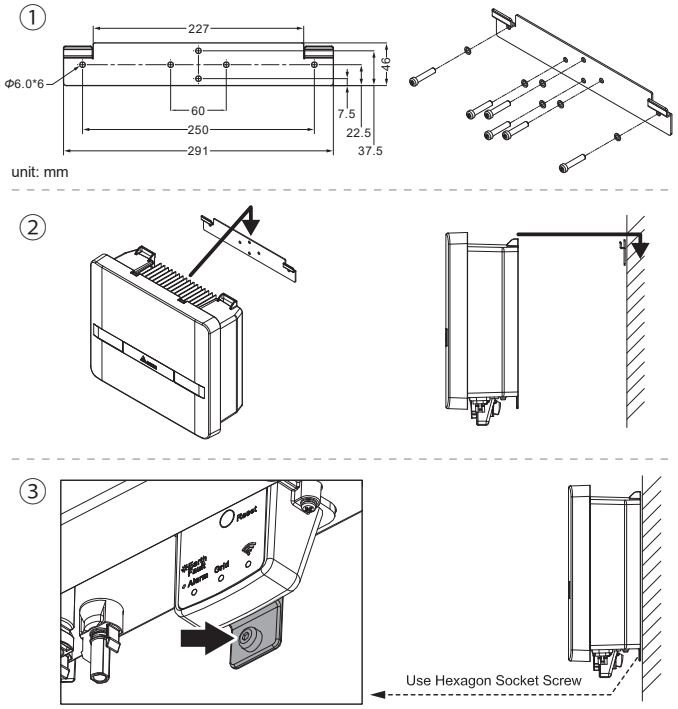
Warning

	Do not install the unit near or on flammable surfaces. Mount the unit tightly on a solid/smooth surface.
	When the photovoltaic array is exposed to light, it supplies a DC voltage to the Inverter, a shock hazard may exist due to output wires or exposed terminals. To reduce the risk of shock during installation, cover the array with an opaque (dark) material and ensure that the Disconnect Device in the inverter is set to OFF before commencing any wiring.
	Before commencing AC wiring, please ensure all AC circuit breakers are switched off.

Caution

	During operation of electrical devices, certain parts are under dangerous voltage. Inappropriate handling can lead to physical injury and material damage. Always adhere to the installation regulations. Installation may only be conducted by certified electricians.
	The maximum open circuit voltage of the PV Array must not exceed 500Vdc (H2.5) / 600Vdc (H3/ H3A/ H4A/ H5A) .

Mounting



LED and Button

The LEDs indicate the operating state of the inverter.

LED	Status	Explanation
Earth Fault Alarm	Flashing	The red LED flashing indicates error "E34：Insulation"
	Steady on	The red LED glowing indicates error or fault. (see user manual - chapter 9.1 Error Message)
Grid	0.1s on/off flashing	The inverter has not been setup yet. (country: default)
	1s on/off flashing	The inverter is on countdown status, before connecting grid.
	Steady on	The inverter is connected to the grid.
Wi-Fi	Steady on	The Wi-Fi module is on data transmission.

The reset button function

Operation	Wi-Fi LED Status	Explanation
Push 3s~10s	Wi-Fi LED flashing once every half a second	Reset Wi-Fi module
Push 10s~20s	No flash	No function
Push 20s~	Wi-Fi LED flashing once every one seconds	Reset Wi-Fi module, and Wi-Fi password returns to the default: DELTASOL

Specifications

Model *1	H2.5_210 H2.5_211	H3_210 H3_211	H3A_220 H3A_221	H4A_220 H4A_221	H5A_220 H5A_221
GENERAL					
Enclosure	Powder-coated aluminium				
Operating temperature	-25~60°C, full power up to 40°C				
Operating Altitude	2000 m				
Relative humidity	0% – 95% non-condensing.				
Environmental category	Outdoor, wet locations				
Galvanic isolation	No (TL Topology)				
Safety class	Class I metal enclosure with protective earth				
Pollution degree	Internal: II, External: III				
Overvoltage category	AC output: III, DC input: II				
Flicker impedance	Z = 0.4 + j 0.25 Ω (total impedance)				
Three-phase combinations	No				
DC INPUT (Solar side)					
Max. input voltage	500 Vdc	600 Vdc			
Operating voltage range	30-500 Vdc	30-550 Vdc			
MPP range (rated power)	240-470 Vdc	290-500 Vdc	180-500 Vdc	240-500 Vdc	
Normal voltage	350 Vdc				
MPP tracker	1		2		
Maximum input current	11 A		11 Adc for each / 18 Adc for total		11Adc for each/ 22Adc for total
Max. short circuit current (per MPPT)	15 A				
Max. inverter backfeed current to the array	0 A				
Startup voltage	35 Vdc				
Input connection	MC4, 1 pair		MC4, 2 pairs		
AC OUTPUT (Grid side)					
Nominal output power *2	2500 VA	3000 VA		4000 VA	5000 VA
Maximum power	2500 VA	3000 VA		4000 VA	5000 VA
Voltage	230Vac -20%~+22%				
Nominal output current	10.9 A	13 A		17.4 A	22 A
Max. output current	13.9 A	14.3 A		18.6 A	24 A
Maximum output fault current	16 A			20 A	25 A
Maximum output over current protection	16 A			20 A	25 A
Current (inrush) (A, peak and duration)	30 A peak, 1 ms				
Frequency	50/60 Hz				
Total harmonic distortion *3	<3% @Rated power				
Power factor *3	>0.99 @Rated power				
Peak efficiency	97.5%				98.3%
EU efficiency	96.8%				98.0%
Output connection	IP 67 single-phase				
MECHANISM					
Housing	Die casting				
Cooling	Convection cooling				
IP rating	IP65				
External communication	Wi-Fi				
Weight	10 kg			11 kg	12 kg
Dimensions	380 × 318 × 130 mm				
REGULATIONS & DIRECTIVES					
Safety	IEC 62109-1 / -2, CE compliance				
Grid interface	VDE AR-N 4105 / VDE 0126-1-1 / AS4777.2:2015 *4-1 / G83-2 / G59-3 / EN50438 / VFR2014 / C10 / C11 / UTE C15-712-1 / IEC61683 / IEC61727 / IEC62116 / EN50549-1:2019 / ABNT NBR 16149 *4-2 / ABNT NBR 16150 *4-2				
Emission	IEC 61000-6-4, IEC 61000-6-3				
Harmonics	EN 61000-3-12				
Variations and flicker	EN 61000-3-11				
Immunity	EN 61000-6-2				
Immunity – ESD	IEC 61000-4-2				
Immunity – RS	IEC 61000-4-3				
Immunity – EFT	IEC 61000-4-4				
Immunity – Surge	IEC 61000-4-5				
Immunity – CS	IEC 61000-4-6				
Immunity – PFMF	IEC 61000-4-8				

*1: H2.5_210/ H3_210/ H3A_220/ H4A_220/ H5A_220/ H5A_222: The product is with DC switch
H2.5_211/ H3_211/ H3A_221/ H4A_221/ H5A_221: The product is without DC switch
*2: (a) H2.5: 2.49kVA max. for Australia (AU / NZ)
(b) H3/ H3A: 2.99kVA max. for Australia (AU / NZ)
(c) H5A: 4.99kVA max. for Australia (AU / NZ)
(d) H5A: 4.6kVA max. for Germany (DE)
(e) H4A/ H5A: 3.68kVA max. for Denmark (DK1 / DK2)
*3: reactive power control disabled
*4-1: not support AS4777.2:2015 Single-phase inverters used in three-phase combinations
*4-2: Only H3_210/ H4A_220/ H5A_220 support