ABB solar inverters

Quick installation guide
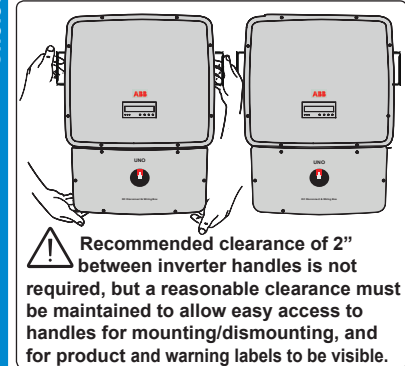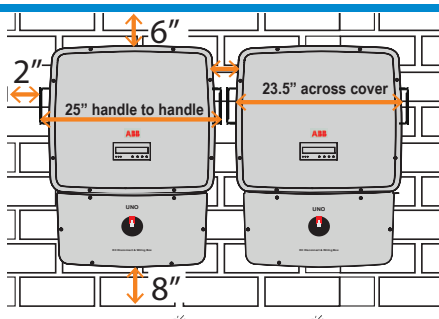## UNO-7.6-8.6-TL-OUTD-S-US-A

EN

In addition to what is explained in this guide, the safety and installation information provided in the technical manual must be read and followed.
The technical documentation and the interface and management software for the product are available at the website.

Power and productivity
for a better world™ **ABB**

Labels and symbols

IMPORTANT SAFETY INSTRUCTIONS
SAVE THESE INSTRUCTIONS-KEEP IN SAFE PLACE!

The labels on the UNO inverter carry the markings, main technical data and identification of the equipment and manufacturer. The technical data shown in this quick installation guide does not replace that shown on the labels attached to the equipment.

Product nameplate labels and descriptions

①	Certification	⑤	AC output ratings
②	Product origin	⑥	Environmental data
③	Model type and number	⑦	Protection
④	DC input ratings	⑧	Adjustable parameters

Main symbols used in the guide and on the products

ⓒ ⓢ us	UL 1741; CSA-C22.2 No. 107.1-01	⚠	General warning - Important safety information
⚡	Hazardous voltage	🔥	Hot surfaces
⏚	System earth conductor (main grounding protective earth, PE)	Ø	Phase
⏚	Grounding (earth)	⎓	Direct and alternating currents, respectively

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Electrical warnings

- The PV source conductors must be Listed PV wire per NEC 690.35.
- PV output conductors shall consist of sheathed (jacketed) multi-conductor cables or installed in an approved raceway and must be isolated from the enclosure and system grounding, as required by NEC 690.35 and is the responsibility of the installer.
- All photovoltaic source and output circuit conductors shall have disconnects complying with the NEC, Section 690, Part III. All models have an integrated DC switch. AC output overcurrent protection is not provided; it is the responsibility of the end user to provide protection for the AC output circuit.
- The DC disconnect switch disconnects ONLY the DC current from the photovoltaic panels when the switch is open in the OFF position. It DOES NOT disconnect the AC connection to the grid. To disconnect the inverter from the AC grid, an external, customer supplied AC switch must be used.
- To reduce the risk of fire, connect only to a circuit provided with 40A\50A maximum branch circuit overcurrent protection in accordance with the NEC (ANSI/NFPA 70). See Maximum AC OCPD requirement in section **14**.
- This inverter utilizes a transformerless design and requires connected arrays to be floating with respect to ground; it can be used only with photovoltaic modules that do not require one of the terminals to be grounded.
- For suitable wire size (AWG), refer to NFPA National Electrical Code, Table 310.15(B)(16), (formerly Table 310.16) for U.S. Use only Copper (Cu) wire rated for 90°C, solid or with type B or type C stranding (19 strands maximum). For conductors with finer stranding, a suitable UL listed wire ferrule must be used.

List of components

Components shipped with all models	QTY	Components shipped with all models	QTY
Connector for configurable relay 82000005907-G	2	1 Mounting kit, XAK.P0101.0 includes: 1 Wall bracket for mounting, 6 screws ;3x70mm DIN 7981 A2 and 6 wall anchors, 1 screw; pan head; M6x16; stainless steel;A2, used for securing inverter to mounting bracket	
Connector for communication and control signals 82000005908-G	2		
L-key, TORX TX20 81510000077	1		
Jumpers for parallel input mode ZEC.00074	2		

Choice of installation location

Installation position:
- Install on a wall or strong structure capable of bearing 100 lbs.
- Install vertically with a maximum incline of +/- 5°.
- Ensure sufficient working area in front of the inverter to allow access for servicing the inverter. If possible, install at eye level so the status LEDs can be easily seen.
- To avoid overheating, always make sure the flow of air around the inverter is not blocked by walls, roofs, ceilings, and other objects, including other inverters.
- Maintain minimum clearance measurements from walls, roofs, ceilings, and other structures, to allow normal control functions and easy maintenance operations.
- Multiple inverters can be placed in a side-by-side arrangement as shown.
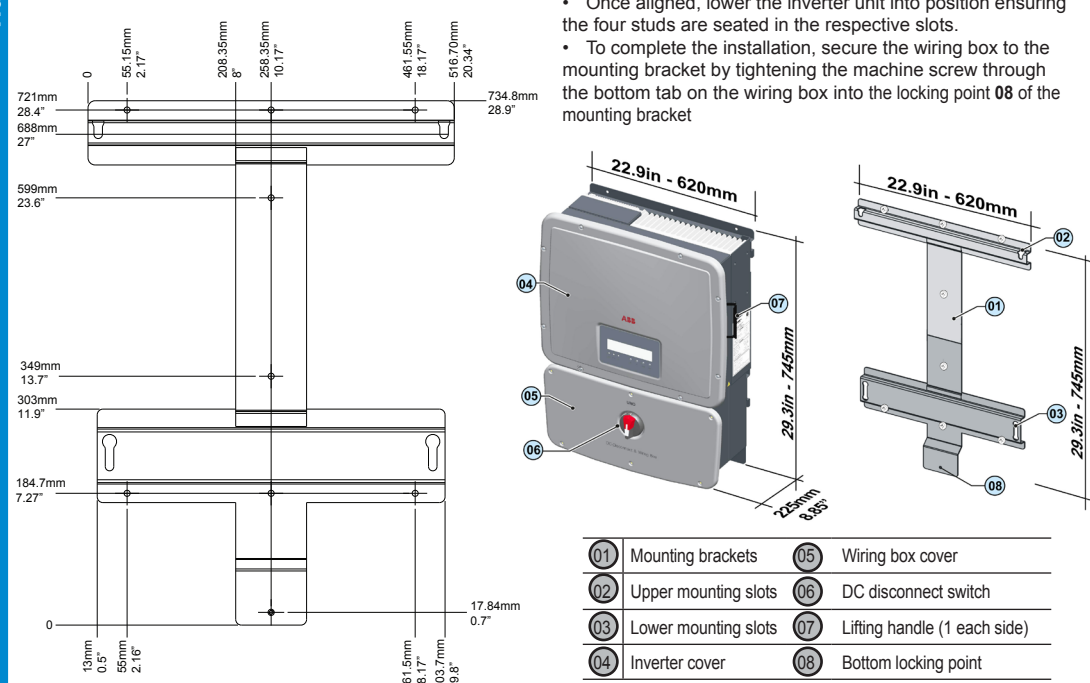- **Include handles in measurement when installing side-by-side.**

⚠ **Recommended clearance of 2" between inverter handles is not required, but a reasonable clearance must be maintained to allow easy access to handles for mounting/dismounting, and for product and warning labels to be visible.**

Environmental checks:
- See Technical Data, section **14**, to check the environmental parameters to be observed (degree of protection, temperature, humidity, altitude, etc.).
- Maximum operational ambient air temperature must be considered when choosing location. Installing the inverter where operating temperatures exceed specifications will result in power limiting. It is recommended the inverter be installed within specified temperature range.
- Exposure to direct sunlight will increase operational temperature of inverter and may cause output power limiting. A sun shade is recommended to minimize direct sunlight when ambient air temperature around the unit exceeds 122°F/50°C.

Direct sunlight use caution

Air flow restricted use caution ✗

Wall mounting

- Using a level, position the mounting bracket on the wall and use it as a drilling template.
- Drill the three holes required using a 10mm/0.39" bit; holes must be about 70mm/2.75" deep.
- Attach the bracket **01** to the wall with the screws and wall anchors supplied in the mounting kit.
- Locate the four bolts protruding from the rear of the inverter; these are used as mounting studs and are inserted into the four slots on the mounting bracket, 2 upper **02** and 2 lower **03**.
- Lift the inverter by the handles **07** using two people and orient it to the bracket so the studs are just above the associated slots.

- Once aligned, lower the inverter unit into position ensuring the four studs are seated in the respective slots.
- To complete the installation, secure the wiring box to the mounting bracket by tightening the machine screw through the bottom tab on the wiring box into the locking point **08** of the mounting bracket

01	Mounting brackets	05	Wiring box cover
02	Upper mounting slots	06	DC disconnect switch
03	Lower mounting slots	07	Lifting handle (1 each side)
04	Inverter cover	08	Bottom locking point

Wiring box components

To access the wiring terminals in the switchbox, the cover **05** must be removed by loosening the six captive screws using the Torx screwdriver provided. When connection operations are complete, re-install the cover **05** and tighten the cover screws with at least 2.0Nm (17.7 in-lbs) torque to maintain waterproof sealing.

06	DC disconnect switch
09	DC cable opening with plastic threaded plug, 1 "
08	Bottom locking point for securing wiring box to mounting bracket
10	AC cable opening with plastic threaded plug, 1 "
11	Signal cable openings with plastic threaded plug, 1/2 "
12	DC input terminal block (labeled +VIN1,-VIN1,+VIN2,-VIN2)
13	DC earth (ground) terminals
14	AC output terminal blocks (labeled 1, 2, N, GND)
15	AC protective earth terminals
16	AFD board
17	Gore vent pressure equalizer
18	"3/4" and 1" concentric EKOs, 2 on bottom, 1 each side
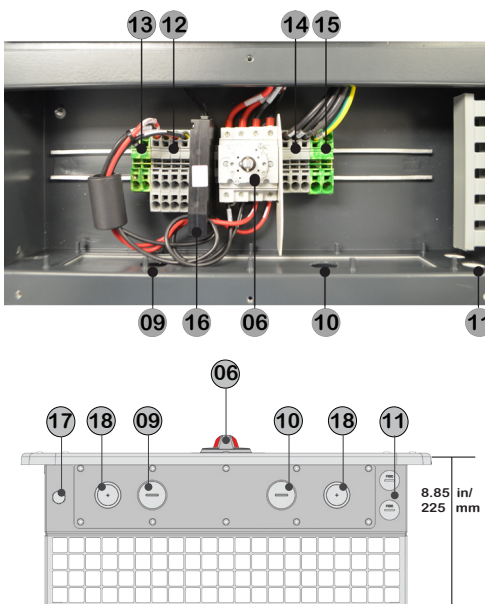
DC input connections

⚡ **All connection operations must be carried out with the DC disconnect switch 06 turned to the OFF position and locked out.**
Confirm that the DC voltage in the wiring box has the correct polarity and is within the operational range prior to terminating.
Acceptable wire size range for DC terminal block connector is 12 AWG to 6 AWG, copper conductors only, with 90°C rated wire; refer to local code for appropriate wire size.

- Remove the threaded plastic plug and nut from the DC cable opening **09**.
- Insert the appropriate water-tight conduit connector and tighten to the chassis to maintain NEMA 4X compliance.
- Make appropriate conduit runs from array and pull the array conductors through the raceway to the inverter.
- Connect the conductors to the correct terminals on the DC terminal block **12**.
- Connect any equipment grounding conductors in the raceway to the EGC terminal block **13**.

The UNO Inverters have dual inputs with independent maximum power point tracking (MPPT) control and are shipped in **independent** configuration as default. When operated in the **independent** mode, the inverter can optimize two independent arrays.
The two trackers can also be configured in **parallel** input mode to handle power and/or current levels higher than those a single tracker can handle for same type and same number of modules.

JUMPER INSTALLATION FOR PARALLEL INPUT CONFIGURATION

Parallel configuration is made by placing the two jumpers provided in position on the DC disconnect switch, as illustrated below. In addition, the parallel input mode must be selected on the UNO display menu and is done as part of the commissioning procedure described in **section 11.**
 A Jumpers will be inserted on the DC switch in same slots as the positive and negative wires.
 B Using a #2 Phillips screwdriver, loosen the 4 screws on the bottom of the DC switch at -VIN1 and -VIN2, +VIN1 and +VIN2.
  Jumper 1 will short +VIN1 and +VIN2, jumper 2 will short –VIN1 and –VIN2.
  Pull out wires in positive and negative inputs until jumper can fit in same slot as wire.
 C Insert jumper 1 in slots of +VIN1 and +VIN2, along with wires.
  Insert jumper 2 in slots of –VIN1 and –VIN2, along with wires.
 D Push wires firmly in slot and holding jumper in place, tighten all screws with 2.0Nm torque.

A

Bottom view of DC disconnect switch, no jumpers (INDEPENDENT mode)

B
-VIN2 -VIN1 +VIN2 +VIN1
Loosen 4 screws on bottom of DC switch

C
JUMPER 2 ON NEGATIVE INPUT
JUMPER 1 ON POSITIVE INPUT
Bottom view of DC disconnect switch, insert jumpers 1 and 2

D
-VIN2 -VIN1 +VIN2 +VIN1
Jumpers 1 and 2 in place (PARALLEL mode), tighten 4 screws with 2.0Nm torque

UNO 8.6kW using External String Combiner with single input

10AWG DC wiring to inverter via switchbox

When using an external string combiner with a single input for the UNO 8.6kW, it is not possible to use the 10AWG wire with the 48A power level in the switchbox.

To operate in this configuration, the wires of channel 2 terminal block must be connected instead to the channel 1 terminal block in order to share the current, as illustrated at right.

Remove 10AWG from Channel 2

Connect 10AWG in Channel 1

8AWG from string combiner

OPTIONAL DC FUSED INPUTS

The wiring box is designed with room to accommodate three fused DC inputs per MPPT channel resulting in a total of four fused inputs (12 fuses and 12 fuse holders). The optional kit, XAK.P0103, can be ordered and includes the necessary wiring instructions.

The illustration below shows the DC terminal block **12** replaced by the fused inputs and the DC wires re-routed in the respective fuse holders.

Refer to the technical manual or instructions included in the optional kit to install.

+VIN1 +VIN2 -VIN1 -VIN2

-IN 1 -IN 2

The RS-485 communication line connects the inverter to the monitoring devices and may be "daisy-chained" (in-out) among multiple inverters. The RS-485 connecting cables can use both the terminal connections **a02**, as well as the RJ45 connectors **a03**, to connect to the dedicated port.

RS-485 connectors a02
- If terminal blocks are used, signals RTN, +T/R and –T/R have to be cabled.
- Use a cable designed for use with RS-485 communications.
- Locate mating connectors (provided in hardware bag) for the terminal block.
- Connect the three (-RTN, +T/R, -T/R) to the mating connector corresponding points.

RJ45 connectors a03
- RJ45 connectors (1) and (2) available for the RS-485 communication are equivalent to each other and can be used interchangeably for input or output of the line to create the daisy chain connection of the inverters.

Termination Switch a04
- On the last inverter in a daisy chain, or on a single inverter, activate termination resistance by moving switch down into the ON position.
- All other inverters in daisy chain will have the switch up in the OFF position.

Daisy Chain Connection
- Recommended length of total communication cable line for all inverters in the system is 1,000 meters [1094 yards] or less.
- Depending on type of computer used, cable line adaptor can be RS-485-RS232 or RS-485-USB.

Addressing Each Inverter
- Default setting for RS-485 address is 2 and termination switch in OFF position.
- When multiple inverters are connected in a daisy chain, it is necessary to assign a different RS-485 address to each unit. See **section 11** for instruction on using the display to configure settings.

a03 = OFF   a03 = OFF   a03 = ON

8.

⚠ **All connections must be carried out with the external AC disconnect switch downstream of the inverter (grid side) open and locked out.**

- Run an approved raceway between the inverter and external AC OCPD.
- Remove the threaded plastic plug and nut from the AC cable opening **10**.
- Insert the appropriate water-tight conduit connector and tighten to the chassis to maintain NEMA 4X compliance.
- Make appropriate conduit runs from grid and pull the AC conductors through the raceway to the switchbox.
- Connect the conductors to the correct terminals on the AC terminal block **14** based on grid type in table at right.
- Connect the main AC ground cable in the raceway to PE terminal block **15**.

Grid parameters may be dictated by the utility company or authority having jurisdiction, according to the country in which the inverter is installed. **The UNO is shipped with the default grid standard set at 240V/Split Single Phase.** The standard can be changed using the UNO display menu during the commissioning procedure described in **section 11**.

GRID STANDARD	208V~ 3PH - Δ			240V~ SPLIT-PHASE			277V~ Y 3PH - Y		
TERMINAL	1	2	3	1	2	3	1	2	3
WIRE	L1	L2	-	L1	L2	N	N	L1	-

AWG# 4-8 / 75 °C   AWG# 4-10 / 90 °C

9.

To connect the communication and signal wiring, it is necessary to open the inverter cover **04** and access the communication connections which are located on the main board in the bottom right corner of the inverter.
- Unscrew the eight screws on the inverter cover **04**.
- This cover is equipped with fixed hinges and is not intended to be removed from the chassis.
- Pull out and up on the cover so it rotates in an upward arc to its rest position.
- The cover lifts only high enough to access the communications terminals.
- When connections are complete, close the front cover and tighten the cover screws with at least 2.0Nm (17.7 in-lbs) torque to maintain waterproof

Wiring for the RS-485 communication system and hardwired control options are routed through the switchbox and into the main inverter chassis for termination. Alarm and monitoring connections are shown as items **a01**, **a02**, **a03**, **a06** and **a07** on the main inverter board.

a01	Multi-function relay
a02	Remote control, RS-485, Ethernet
a03	Connection of RS-485 line on RJ45 connector
a04	Switch S3 for termination resistance
a05	CR2032 battery housing
a06	Arc Fault Detection (AFD) connection on main board
a07	Radio module slot board (Zigbee)*
a08	Wifi board *
*	Optional add on boards

Refer to the technical manual online for connections to a01 and Remote control. Optional items, a07 and a08, will include instructions with product.

10.

- LEDs indicate operating state of the inverter.
- Operating parameters of the equipment are displayed in area **b10**.
- Keypad is used to review data on the cyclical display **b10**, and access data logged internally.

LED Panel   Keypad   b10

7.6 kW   Inverter OK   Mon 01 Feb 11:26
3680 kWh
25031 kWh

POWER   ALARM   GFI   ESC   UP   DOWN   ENTER

LEDs (warning lights) and **KEYPAD** can be used to view status or carry out complex actions that are described more fully in the technical manual online.

POWER LED	GREEN: On if the inverter is working correctly. Flashes when checking the grid or if there is insufficient sunlight.
ALARM	YELLOW: The inverter has detected an anomaly. Anomaly is shown on the display area b10.
GFI	RED: Ground fault on the DC side of the PV array. Error is shown on the display area b10.
ESC	Used to access the main menu, go back to the previous menu, or go back to the previous digit to be edited.
UP	Used to scroll up the menu options or shift the numerical scale in ascending order.
DOWN	Used to scroll down the menu options or shift the numerical scale in descending order.
ENTER	Used to confirm an action, access submenu for selected option (indicated by > arrow symbol) or switch to next digit to be edited.

Text in graphic display area **b10** consists of 2 lines with 16 characters per line.
- Press the ENTER key to stop menu scrolling.
- Press the ESC key to access the three MAIN MENUS:
  STATISTICS
  SETTINGS
  INFO

A description of the symbols and display fields illustrated at right are found in the table below.

b1 b2 b3 b4 b5 b6 b7 b8 b9 b10 b17 b19

7.6 kW   Inverter OK   Mon 01 Feb 11:26
3680 kWh
25031 kWh

b11 b12 b13 b14 b15 b16 b18 b20 b21 b22

b1	RS-485 data transmission	b6	Warning	b11	Power graph	b16	DC current	b21	Connection to grid
b2	RS-485 line present	b7	Temperature derating	b12	Total energy	b17	DC/DC input current	b22	Grid status
b3	Radio line present.	b8	Instantaneous power	b13	Daily energy produced	b18	DC/AC circuit part	b23	Cyclic view on/off
b4	Bluetooth line present (*)	b9	MPP scan running	b14	PV voltage > Vstart	b19	AC voltage	*(*) present with optional components installed*
b5	WiFi line present (*)	b10	Graphic display	b15	DC voltage	b20	AC voltage	

11.

The following settings can be configured before or after commissioning the inverter using the display menu. If the settings are configured prior to grid connection **the inverter display only needs DC power to use the menus**. DC power will automatically recycle when INPUT mode and/or the GRID/COUNTRY Standard has been modified.

⚠ **DO NOT connect the AC power (grid side) at this time! With only the array connected, set the inverter's DC disconnect switch to ON. GREEN POWER LED will flash and YELLOW ALARM LED will be steady. The message "Missing Grid" will display in area b10.**

Press ESC to open the menus. Use the DOWN key to scroll to *SETTINGS*, and press ENTER. The *SETTINGS* menu requires an access password. Upon selecting *SETTINGS* the password screen will open; the default password is *0000*.

Pressing ENTER four times loads four zeroes on the display and opens the submenu.
- Area **b10** has two visible text lines and the UP and DOWN keys are used to scroll through the menu items.
- Arrow (>) on the left side of the display highlights the current selection.
- Press UP or DOWN keys to move the arrow to the desired selection and press ENTER to open the associated submenu.
- To return to the preceding menu, press the ESC key.

0****

Address: the RS-485 address may need to be changed or assigned.
- Default address is set at 2 for single inverter.
- Scroll to **Address** and press ENTER to open submenu.
- Address values are assigned manually using any value in the range 2 to 63.
- Press UP and DOWN keys to scroll through numbers and press ENTER to select, ESC to cancel.

> Address
Display Settings

DC Input Mode: Default setting is Independent mode and must be changed if operating in parallel mode.
- To change to parallel mode, scroll DOWN to **Input Mode** and press ENTER to open the submenu.
- Use UP or DOWN key to move arrow to **Parallel** and press ENTER.
- A second display screen will open; press ENTER to confirm selection or ESC to cancel.

Power Reduction
> Input Mode

Grid/Country Standard: the default grid standard is 240V/split single phase.
Modifications are made using the **INFO** menu.
- From *SETTINGS* menu press ESC to return to menus. Use the DOWN key to scroll to *INFO* and press ENTER.
- Move arrow DOWN to *New Value* and press ENTER .
- Use UP or DOWN arrow to scroll to selected value (as listed in table at right) and press ENTER to select.
- A second display screen will open; press ENTER to confirm selection or ESC to cancel.

Grid standards	
Canada, USA	240VAC 3W
Canada, USA	208VAC 2W
Canada, USA	277VAC 2W

12.

The inverter commissioning procedure is as follows:
1. Turn the DC disconnect switch in the ON position. If there are two separate external disconnect switches (one for DC and the other for AC), first close the AC disconnect switch and then the DC disconnect switch.
2. Once powered, icon **b14** comes on to indicate that the voltage from the PV array has reached the Vstart threshold.
   For input voltages lower than Vstart, icon **b14** remains off, "*Waiting Sun*" is shown in display area **b10** and voltage and current values are present (icons **b15** and **b16**).
3. As soon as "*Waiting Sun*" conditions are met successfully, the inverter display shows the AFD board self-test running. The results are shown in the display area **b10**. If a problem on the AFD board is detected, the self-test will result in an error. Refer to **section 13** below.
4. If there are no irregularities, the grid connection sequence starts. Once all the checks are completed, icon **b22** comes on.
   During these checks, icon **b21** is flashing. This check can take several minutes depending on grid conditions and grid standard settings.
5. Icon **b17** flashes to indicate the start-up phase; at the same time icon **b18** will come on.
6. Immediately following the grid connection the inverter will start. Icon **b21** will be displayed in steps until the connection is complete. After the inverter is connected, the icon **b21** will stay "plugged in".

If there is not sufficient sunlight to connect to the grid, the unit will repeat the procedure until all the parameters controlling connection to the grid (grid voltage and frequency, confirmation of no ground fault) are within the range. During this procedure, the green LED flashes ON and OFF.

b10   b17   b19
Inverter OK
Mon 01 Feb 11:26
494v DC 240v
23.9A AC 36.5A
b14 b15 b16 b18 b20 b21 b22

13.

An autotest circuit is included in the module design of the DC ARC FAULT CIRCUIT INTERRUPTER (AFCI) solution. The AFCI performs a self-test when the system is started, (ie every morning when sunlight is sufficient for connection). The inverter display area **b10** shows the results of the self-test:
- If the self-test results are OK, the inverter will continue to self-test running.
- If a potential problem on the AFD board is detected, the self-test will result in error.

Press and hold the ESC key for three seconds to clear the error and start the restart self-test. If self-test results are OK, the inverter will re-connect to the AC grid. If the DC arc fault is still present, the self test will result in error E053. Refer to the technical manual online for possible solutions.
- During normal operation the input current is continually measured and analyzed.
- If a DC arc fault is detected, the inverter is disconnected from the AC grid and error E050 will be displayed.

Refer to the technical manual online for possible solutions. The AF self-test can be manually started anytime using the following procedure:
1. Turn off the inverter (switching off both DC and AC switches) and,
2. Turn on both the DC and AC switches waiting for display communication of self-test result.

Test ARC Sensor
OK

AF Self-Test
E053

ARC FAULT
E050

14.

	VALUES	UNO-7.6-TL-OUTD-S-US-A		UNO-8.6-TL-OUTD-S-US-A	
Nominal Output Power	W	7600		8600	
Maximum Output Power	W	8300		9400	
Rated Grid AC Voltage	V	208 240 277		240	277
Input Side (DC)					
Number of Independent MPPT Channels		2		2	
Maximum Usable Power for Each Channel	W	5400		5400	
Absolute Maximum Voltage (Vmax)	V	600		600	
Start- Up Voltage (Vstart)	V	200 (adj. 120-350)		200 (adj. 120-350)	
Full Power MPPT Voltage Range	V	200-480		200-480	
Operating MPPT Voltage Range	V	0.7xVstart-580 (≥ 90V)		0.7xVstart-580 (≥ 90V)	
Maximum Current (Idcmax) for both MPPT in Parallel	A	48		48	
Maximum Usable Current per Channel	A	24		24	
Maximum Short Circuit Current Limit per Channel	A	30		30	
Number of Wire Landing Terminals Per Channel		2 Pairs		2 Pairs	
Array Wiring Termination		Terminal block, Pressure Clamp, AWG12-AWG6, 90°C rated wire			
Output Side (AC)					
Grid Connection Type		1Ø/2W Split-Ø/3W		Split-Ø/3W	1Ø/2W
AdjustableVoltage Range (Vmin-Vmax)	V	183-228 211-264 244-304		211-264	244-304
Grid Frequency	Hz	60		60	
Adjustable Grid Frequency Range	Hz	57-63		57-63	
Maximum Current (Iacmax)	ARMS	36.5 32 27.5		36	31
Power Factor		> 0.995, (adj. ± 0.9, or fixed to ± 0.8 with max 7.6kVA)		> 0.995; (adj. ± 0.9, or fixed to ± 0.8 with max 8.6kVA)	
Total Harmonic Distortion At Rated Power	%	< 2		< 2	
Grid Wiring Termination Type		Terminal block, Pressure Clamp AWG10 - AWG6, 90°C rated wire			
Protection Devices					
Input					
Reverse Polarity Protection		Yes		Yes	
Over-Voltage Protection Type		Varistor, 2 for each channel		Varistor, 2 for each channel	
PV Array Ground Fault Detection		Pre start-up Riso and dynamic GFDI (Requires Floating Arrays)			
Output					
Anti-Islanding Protection		Meets UL 1741/IEEE1547 requirements			
External AC OCPD Rating	ARMS	50 40 40		50	40
Over-Voltage Protection Type		Varistor, 2 (L₁ - L₂ / L₁ - G)		Varistor, 2 (L₁ - L₂ / L₁ - G)	
Efficiency					
Maximum Efficiency	%	97.5		97.5	
CEC Efficiency	%	96.5		96.5	
Operating Performance					
Night Time Consumption	WRMS	< 0.6		< 0.6	
Stand By Consumption	WRMS	< 8		< 8	
Communication					
User-Interface		5.5" x 1.25" Graphic Display			
Remote Monitoring (1xRS485 incl.)		AURORA-UNIVERSAL (opt.) or Modbus adapter (opt.)			
Wired Local Monitoring (1xRS485 incl.)		PVI-USB-RS485_232 (opt.), PVI-DESKTOP (opt.)			
Wireless Local Monitoring		PVI-DESKTOP (opt.) with PVI-RADIOMODULE (opt.)			
Environmental					
Ambient Air Operating Temperature Range	°F (°C)	-13 to +140 (-25 to +60) with derating above 122 (50)			
Ambient Air Storage Temperature Range	°F (°C)	-40 to 176 (-40 to +80)		-40 to 176 (-40 to +80)	
Relative Humidity	% RH	0-100 condensing		0-100 condensing	
Acoustic Noise Emission Level	db (A) @1m	< 50		< 50	
Maximum Operating Altitude without Derating	ft(m)	6560 (2000)		6560 (2000)	
Mechanical Specifications					
Enclosure rating		NEMA 4X		NEMA 4X	
Cooling		Natural Convection		Natural Convection	
Dimensions (H x W x D)	in (mm)	18.9x22.9x8.8 (480x620x225) Inverter Only; 29.3x22.9x8.8 (745x620x225) Including Wiring Box			
Weight	lb (kg)	81.5 (37)		81.5 (37)	
Shipping Weight	lb (kg)	103.5 (47)		103.5(47)	
Mounting System		Wall bracket		Wall bracket	
Conduit Connections		Bottom: (2) plugged 1/2" openings, (2) plugged 1" openings, (2) Concentric EKOs 3/4", 1" Side: (1 each side) Concentric EKOs 3/4", 1"			
DC Switch Rating-(Per Contact)	A/V	25 / 600		25 / 600	
Safety					
Isolation Level		Transformerless (Floating Array)			
Safety and EMC Standard		UL 1741, IEEE1547, IEEE1547.1, CSA - C22.2 N. 107.1-01, UL1998, UL1699B, FCC Part 15 Class B			
Safety Approval		cCSAus		cCSAus	
Warranty					
Standard Warranty	years	10		10	
Extended Warranty	years	15 & 20		15 & 20	
Available Models					
Standard - With DC Switch, Wiring Box, and Arc fault detector and interrupter - Floating Array		UNO-7.6-OUTD-S-US-A		UNO-8.6-TL-OUTD-S-US-A	

*All data is subject to change without notice
** Inverter can apply that much current - Breaker will open

Contact us

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