

430 - 460 Wp

AXITEC

AXIpremium XL HC

High performance solar module
144 halfcell, monocrystalline

The advantages:

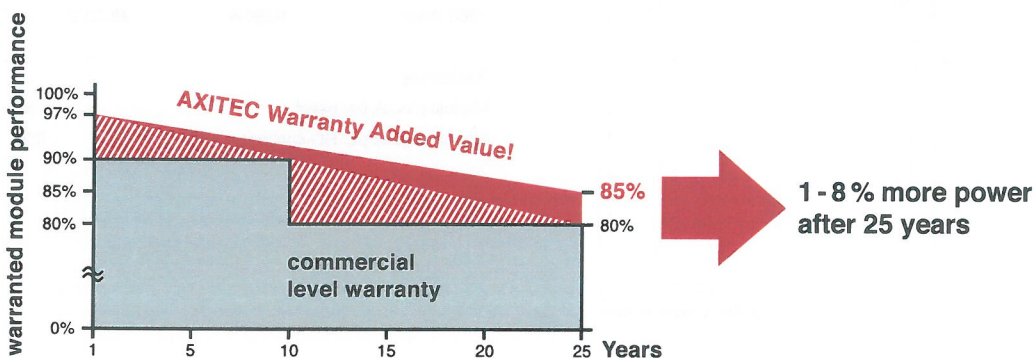
- 15** Years 15 years Manufacturer's warranty
- HC** High module performance through Half-Cut-technology and selected materials
- +** Wp Guaranteed positive power tolerance from 0-5 Wp by individual measurement
- 100%** 100% visual electroluminescence inspection in production
- E** Frame High stability due to innovative frame design
- IP68** High quality junction box and connector systems



Fig. similar 144MHEN20228A

Exclusive linear AXITEC high performance guarantee!

- 15 years manufacturer's guarantee on 90% of the nominal performance
- 25 years manufacturer's guarantee on 85% of the nominal performance



AXIpremium XL HC 430 - 460 Wp

Electrical data (at standard conditions (STC) irradiance 1000 watt/m², spectrum AM 1.5 at a cell temperature of 25°C)

Type	Nominal output Pmpp	Nominal voltage Umpp	Nominal current Impp	Short circuit current Isc	Open circuit voltage Uoc	Module conversion efficiency
AC-430MH/144V	430 Wp	40.59 V	10.60 A	11.21 A	49.22 V	19.78 %
AC-435MH/144V	435 Wp	40.79 V	10.67 A	11.28 A	49.42 V	20.01 %
AC-440MH/144V	440 Wp	40.99 V	10.74 A	11.35 A	49.62 V	20.24 %
AC-445MH/144V	445 Wp	41.19 V	10.81 A	11.41 A	49.86 V	20.47 %
AC-450MH/144V	450 Wp	41.39 V	10.88 A	11.48 A	50.10 V	20.70 %
AC-455MH/144V	455 Wp	41.61 V	10.94 A	11.54 A	50.34 V	20.93 %
AC-460MH/144V	460 Wp	42.00 V	10.96 A	11.65 A	50.40 V	21.16 %

Design

Frontside	3.2 mm hardened, low-reflection white glass
Cells	144 monocrystalline high efficiency cells
Backside	Composite film
Frame	35 mm silver aluminium frame

Mechanical data

L x W x H	2094 x 1038 x 35 mm
Weight	23.8 kg with frame

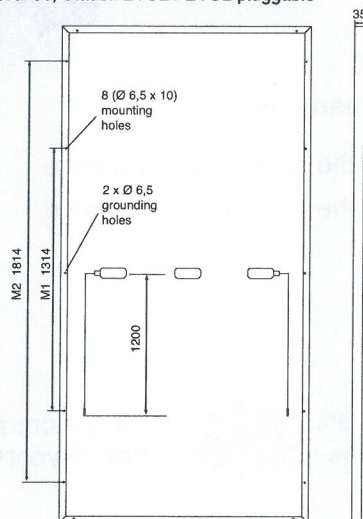
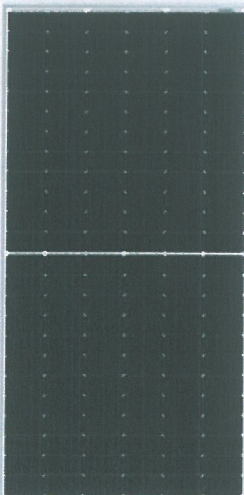
Mechanical load

Design load (pressure/suction)	3600 Pa / 1600 Pa *
Test load (pressure/suction)	5400 Pa / 2400 Pa *

* depending on the type of installation according to the installation instructions

Power connection

Socket	Protection Class IP68
Wire	approx. 1.2 m, 4 mm ²
Plug-in system	Plug/socket IP68, Stäubli EVO2 / EVO2 pluggable



All dimensions in mm

Limit values

System voltage	1500 VDC
NOCT (nominal operating cell temperature)*	45°C +/-2K
Reverse current feed IR	20.0 A

Permissible operating

temperature	-40°C to 85°C / -40F to 185F
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(No external voltages greater than Uoc may be applied to the module)

* NOCT, irradiance 800 W/m²; AM 1.5; wind speed 1 m/s; Temperature 20°C

Temperature coefficients

Voltage Uoc	-0.27 %/K
Current Isc	0.048 %/K
Output Pmpp	-0.35 %/K

Low-light performance (Example for AC-460MH/144V)

I-U characteristic curve	Current Ipp	Voltage Upp
200 W/m ²	2.24 A	40.42 V
400 W/m ²	4.52 A	40.89 V
600 W/m ²	6.75 A	41.21 V
800 W/m ²	8.93 A	41.56 V
1000 W/m ²	10.96 A	42.00 V

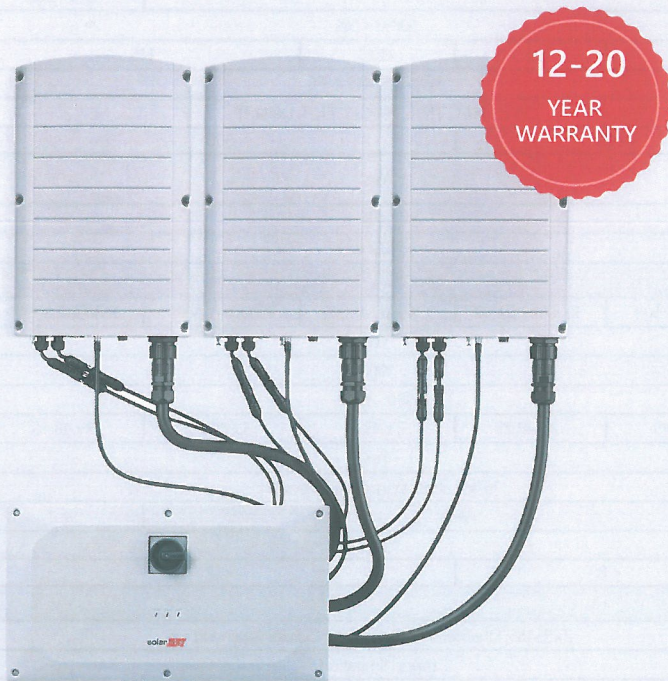
Packaging

Module pieces per pallet	30
Module pieces per HC-container	660

Three Phase Inverter with Synergy Technology For Europe

SE50K / SE66.6K / SE90K / SE100K / SE120K

INVERTERS



Powered by unique pre-commissioning process for rapid system installation

- Pre-commissioning feature for automated validation of system components and wiring during the site installation process and prior to grid connection
- Easy 2-person installation with lightweight, modular design (each inverter consists of 2 or 3 Synergy Units and one Synergy Manager)
- Independent operation of each Synergy Unit enables higher uptime and easy serviceability
- Built-in thermal sensors detect faulty wiring ensuring enhanced protection and safety
- Built-in arc fault protection and optional rapid shutdown
- Built-in PID mitigation for maximized system performance
- Monitored* and field-replaceable surge protection devices, to better withstand surges caused by lightning or other events: integrated RS485 and Type 2 DC SPDs, optional Type 2 AC SPD
- Optional integrated DC safety switch eliminates the need for external DC isolators
- Built-in module-level monitoring with Ethernet or cellular communication for full system visibility

*Applicable only for DC and AC SPDs

/ Three Phase Inverter with Synergy Technology

For Europe

SE50K / SE66.6K / SE90K / SE100K / SE120K

Applicable to Inverter with Part Number	SExxK-xxx0lxxxx				SExxK- xxx8lxxxx	
	SE50K ⁽¹⁾ For 400V Grid	SE66.6K For 400V Grid	SE90K For 400V Grid	SE100K For 400V Grid	SE120K For 480V Grid	
OUTPUT						
Rated AC Active Output Power	50000 ⁽²⁾	66600	90000	100000	120000	W
Maximum AC Apparent Output Power	50000 ⁽²⁾	66600	90000	100000	120000	VA
AC Output Voltage — Line to Line / Line to Neutral (Nominal)	380 / 220 ; 400 / 230				480 / 277	Vac
AC Output Voltage — Line to Line Range / Line to Neutral Range	304 - 437 / 176 - 253 ; 320 - 460 / 184 - 264.5				432 - 529 / 249 - 305	Vac
AC Frequency	50/60 ± 5%					Hz
Maximum Continuous Output Current (per Phase)	72.5	96.5	130.5	145		Aac
AC Output Line Connections	3W + PE, 4W + PE					
Supported Grids	WYE: TN-C, TN-S, TN-C-S, TT, IT; Delta: IT					
Maximum Residual Current Injection ⁽³⁾	200		300			mA
Utility Monitoring, Islanding Protection, Configurable Power Factor, Country Configurable Thresholds	Yes					
Total Harmonic Distortion	≤ 3					%
Power Factor Range	+/-0.2 to 1					
INPUT						
Maximum DC Power (Module STC) Inverter / Synergy Unit	75000 / 37500	100000 / 50000	135000 / 45000	150000 / 50000	180000 / 60000	W
Transformer-less, Ungrounded	Yes					
Maximum Input Voltage DC+ to DC-	1000					Vdc
Operating Voltage Range	680 - 1000					Vdc
Maximum Input Current	2 x 36.25	2 x 48.25	3 x 43.5	3 x 48.25	3 x 48.25	Adc
Reverse-Polarity Protection	Yes					
Ground-Fault Isolation Detection	167kΩ sensitivity per Synergy Unit ⁽⁴⁾					
Maximum Inverter Efficiency	98.3			98.1		%
European Weighted Efficiency	98					%
Nighttime Power Consumption	< 8		< 12			W
ADDITIONAL FEATURES						
Supported Communication Interfaces ⁽⁵⁾	2xRS485, Ethernet, Wi-Fi (optional), Cellular (optional)					
Smart Energy Management	Export limitation					
Inverter Commissioning	With the SetApp mobile application using built-in Wi-Fi access point for local connection					
Arc Fault Protection	Built-in, user configurable (according to UL1699B)					
Rapid Shutdown	Optional (automatic upon AC Grid Disconnect)					
PID Rectifier	Nighttime, built-in					
RS485 Surge Protection (ports 1 + 2)	Type II, field replaceable, integrated					
DC Surge Protection	Type II, field replaceable, integrated					
AC Surge Protection	Type II, field replaceable, optional					
DC Fuses (Single Pole)	25A, optional					
DC Disconnect Switch	Optional					
STANDARD COMPLIANCE						
Safety	IEC-62109-1, IEC-62109-2, AS3100					
Grid Connection Standards ⁽⁶⁾	EN50549-1, EN50549-2, VDE-AR-N 4105, VDE-AR-N 4110, VDE V 0126-1-1, CEI 0-21, CEI 0-16, TOR Erzeuger Typ A+B, G99 Type A+B, G99 (NI) Type A+B, VFR 2019					
Emissions	IEC61000-6-2, IEC61000-6-3 Class A, IEC61000-3-11, IEC61000-3-12					
RoHS	Yes					

(1) Only available in Poland and the UK. Refer to: https://www.solaredge.com/sites/default/files/se_inverters_supported_countries.pdf

(2) 49990 in the UK

(3) If an external RCD is required, its trip value must be ≥ 200mA for SE50K/SE66.6K; ≥ 300mA for SE90K, SE100K, SE120K

(4) Where permitted by local regulations

(5) For specifications of the optional communication options, visit <https://www.solaredge.com/products/communication> or the Resource Library webpage: <https://www.solaredge.com/resource-library>, to download the relevant product datasheet

(6) For all standards and certificates download, refer to Certifications category on the Resource Library page: <https://www.solaredge.com/resource-library>

/ Three Phase Inverter with Synergy Technology For Europe

SE50K / SE66.6K / SE90K / SE100K / SE120K

Applicable to Inverter with Part Number	SExxK-xxx0lxxxx				SExxK- xxx8lxxxx
	SE50K ⁽¹⁾ For 400V Grid	SE66.6K For 400V Grid	SE90K For 400V Grid	SE100K For 400V Grid	SE120K For 480V Grid

INSTALLATION SPECIFICATIONS				
Number of Synergy Units per Inverter	2	3		
AC Wire Cross Section and Outer Diameter: Line/PE (Aluminum or Copper)	Cross section up to 120 / 70 mm ² ; outer diameter 30-50 / 12-20 mm			
DC Input: Inverter / Synergy Unit ⁽⁷⁾	8 / 4 MC4 pairs	12 / 4 MC4 pairs		
Dimensions (H x W x D)	Synergy Unit: 558 x 328 x 273 Synergy Manager: 360 x 560 x 295			mm
Weight	Synergy Unit: 32 Synergy Manager: 18			kg
Operating Temperature Range	-40 to +60 ⁽⁸⁾			°C
Cooling	Fan (user replaceable)			
Noise	< 67			dBA
Protection Rating	IP65 — outdoor and indoor			
Mounting	Brackets provided			

(7) Only MC4 connectors manufactured by Staubli are approved for use

(8) For power de-rating information refer to: <https://www.solaredge.com/sites/default/files/se-temperature-derating-note.pdf>

Accessories - SPDs (purchased separately)	
Accessory	PN
AC SPD kit for Synergy Manager (5 units per box)	SE-AC-SPD-SM

LIMITED PRODUCT WARRANTY

This SolarEdge Technologies Ltd. Limited Warranty covers defects in workmanship and materials of the below-listed products for the applicable Warranty Period set out below (the "Products"):

- **Power optimizers:** 25 years commencing on the earlier of: (i) 4 months from the date the power optimizers are shipped from SolarEdge; and (ii) the installation of the power optimizers, *provided, however*, that for the module embedded power optimizers (CSI and OPJ models), the Warranty Period shall not exceed the maximum of (1) the module product warranty and (2) the module power warranty periods provided by the applicable module manufacturer.
- **Inverters, Safety & Monitoring Interface (SMI), Auto-transformer:** 12* years commencing on the earlier of: (i) 4 months from the date the products are shipped from SolarEdge; and (ii) the installation of the products.
- **StorEdge Interface:** 10 years commencing on the earlier of: (i) 4 months from the date the Interfaces are shipped from SolarEdge; and (ii) the installation of the Interfaces.
- **ZigBee Gateway, Commercial Gateway, Firefighter Gateway, Smart Energy products, Wireless Communication Products, RS485 Plug-in, Energy Meter:** 5 years commencing on the earlier of: (i) 4 months from the date the product is shipped from SolarEdge; and (ii) the installation of the product. Warranty duration of wireless communication products is the same whether or not the product is pre-installed in the inverter.

* In some countries the inverter warranty is limited to 7 years. For a list of these countries please access http://www.solaredge.com/articles/warranty_exceptions

The Limited Warranty does not apply to components which are separate from the Products, ancillary equipment and consumables, such as, for example, cables, cable holders, fuses, wires and connectors, whether supplied by SolarEdge or others. Some components may carry their own manufacturer warranty. See product datasheet for more details. In addition, for all power optimizers with a part number ending in C, the SolarEdge warranty does not apply to the input connector.

The Limited Warranty only applies to the buyer who has purchased the Products from an authorized seller of SolarEdge for use in accordance with their intended purpose. The Limited Warranty may be transferred from buyer to any assignee, and will remain in effect for the time period remaining under the foregoing warranties, *provided* that the Products are not moved outside its original country of installation and any reinstallation is done in accordance with the installation directions and use guidelines accompany the Products (collectively the "*Documentation*").

If, during the applicable Warranty Period, buyer discovers any defect in workmanship and materials and seeks to activate the Limited Warranty, then buyer shall, promptly after such discovery, report the defect to SolarEdge by sending an email to support@solaredge.com with the following information: (i) a short description of the defect, (ii) the Product's serial number, and (iii) a scanned copy of the purchase receipt or warranty certificate of the applicable Product.

Upon buyer's notification, SolarEdge shall determine whether the reported defect is eligible for coverage under the Limited Warranty. The Product's serial number must be legible and properly attached to the Product in order to be eligible for Warranty coverage. If SolarEdge determines that the reported defect is not eligible for coverage under the Limited Warranty, SolarEdge will notify buyer accordingly and will explain the reason why such coverage is not available. If SolarEdge determines that the reported defect is eligible for coverage under the Limited Warranty, SolarEdge will notify buyer accordingly, and SolarEdge may, in its sole discretion, take any of the following actions:

- repair the Product at SolarEdge's facilities or on-site; or
- issue a credit note for the defective Product in an amount up to its actual value at the time buyer notifies SolarEdge of the defect, as determined by SolarEdge, for use toward the purchase of a new Product; or
- provide Buyer with replacement units for the Product.

SolarEdge will determine whether the Product should be returned to SolarEdge and, if SolarEdge so determined, the Return Merchandise Authorization ("*RMA*") Procedure (set out below) will be invoked. Where replacement Products are sent, SolarEdge generally sends such products within 48 hours. SolarEdge may use new, used or refurbished parts that are at least functionally equivalent to the original part when making warranty repairs. The repaired Product or replacement parts or Product, as applicable, shall continue to be covered under the Limited Warranty for the remainder of the then-current Warranty Period for the Product.

Where the RMA Procedure is invoked by SolarEdge, SolarEdge will instruct buyer how to package and ship the Product or part(s) to the designated location. SolarEdge will bear the cost of such shipment, upon receipt of the Product or part(s), SolarEdge will, at its expense and sole discretion, either repair or replace the Product or part(s).

SolarEdge will deliver the repaired or replaced Product or part(s) to buyer at buyer's designated location in countries where SolarEdge has an office and/or there is a significant PV market. For the specific list of countries to which such service is provided,

please access http://www.solaredge.com/articles/shipping_cost_coverage_warranty. SolarEdge will bear the cost of such shipment, including shipping and customs (where applicable) and buyer shall bear any applicable value added tax. SolarEdge may elect to ship replacement Product and/or part(s) prior to receipt of the Product and/or part(s) to be returned to SolarEdge as per the above.

All costs, including, without limitation, labor, travel and boarding costs of SolarEdge service personnel or others that are incurred for labor relating to repairs, uninstalling and reinstalling of Products on-site, as well as costs related to buyer's employees and contractors repair or replacement activities, are not covered by the Limited Warranty and, unless otherwise agreed in writing in advance by SolarEdge, shall be borne by the buyer.

Warranty Exclusions: This Limited Warranty will not apply if (a) buyer is in default under the General Terms and Conditions of other Agreement governing the purchase of the Product, or (b) the Product or any part thereof is:

- damaged as a result of misuse, abuse, accident, negligence or failure to maintain the Product;
- damaged as a result of modifications, alterations or attachments thereto which were not pre-authorized in writing by SolarEdge;
- damaged due to the failure to observe the applicable safety regulations governing the proper use of the Product;
- installed or operated not in strict conformance with the Documentation, including without limitation, not ensuring sufficient ventilation for the Product as described in SolarEdge installation guide;
- opened, modified or disassembled in any way without SolarEdge's prior written consent;
- used in combination with equipment, items or materials not permitted by the Documentation or in violation of local codes and standards;
- damaged by software, interfacing, parts, supplies or other product not supplied by SolarEdge;
- damaged as a result of improper site preparation or maintenance or improper installation;
- damaged or rendered non-functional as a result of power surges, lightning, fire, flood, pest damage, accident, action of third parties, direct exposure to sea water or other events beyond SolarEdge's reasonable control or not arising from normal operating conditions; or
- damaged during or in connection with shipping or transport to or from buyer where buyer arranges such shipping or transport.

This Limited Warranty does not cover cosmetic or superficial defects, dents, marks or scratches, which do not influence the proper functioning of the Product.

THE LIMITED WARRANTIES SET OUT HEREIN ARE IN LIEU OF ANY OTHER WARRANTIES WITH RESPECT TO THE PRODUCTS PURCHASED BY BUYER FROM SOLAREEDGE, WHETHER EXPRESS OR IMPLIED, WRITTEN OR ORAL (INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE), ALL OF WHICH ARE EXPRESSLY EXCLUDED TO THE FULLEST EXTENT PERMITTED BY APPLICABLE LAW.

Claims by buyer that go beyond the warranty terms set out herein, including claims for compensation or damages, are not covered by the Limited Warranty, insofar as SolarEdge is not subject to statutory liability. In such cases, please contact the company that sold you the Product. Eventual claims in accordance with the law on product liability remain unaffected.

Coverage under the Limited Warranty is subject to buyer complying with the foregoing notification requirements and cooperating with SolarEdge's directions. SolarEdge's sole obligation and buyer's exclusive remedy for any defect warranted hereunder is limited to those actions expressly stated above. Such actions are final and do not grant any further rights, in particular with respect to any claims for compensation.

Unless otherwise specified in an executed Agreement with SolarEdge, the Limited Warranty and related provisions set out herein are subject to SolarEdge's General Terms and Conditions, including, without limitation, the provisions thereof, which relate to disclaimer of warranties, limitation of liability and governing law and jurisdiction.



GUARANTEE TERMS OF K2 SYSTEMS GMBH

§1 Basic Guarantee

K2 Systems GmbH guarantees for its components, that under normal application, installation, operation and maintenance conditions they are free from material and manufacturing failures for a period of twelve (12) years. In the case that the quality of a component does not meet the stated guarantee conditions K2 Systems GmbH will within the period of twelve (12) years from date of sale by K2 Systems GmbH of their own choice either repair the product or deliver a replacement. Repair and replacement delivery are the only and exclusive options this guarantee provides for and are confined to the specified duration of twelve (12) years. The warranty conditions of the respective manufacturer apply to additional purchased components.

Costs for the dismantling of a defective component, return transport to K2 Systems GmbH or the authorised Seller as well as reassembly are excluded from this guarantee. Statutory warranty rights of the buyer remain unaffected.

§2 Exclusion from guarantee benefits

The existing guarantee does not apply in the event of K2 Systems GmbH, after their own tests, establishing that a mounting system was incorrectly operated or negligently used, involved in an accident or damaged as a result of improper use, modification, incorrect installation or application, or as a result of carelessness in storage, transport or handling, or where repairs to the component were undertaken in any way or manner by persons other than K2 Systems GmbH or specifically authorized third parties of K2 Systems GmbH.

This guarantee will not be applicable to defects of components

- ▶ due to forces of nature, force majeure and other unforeseeable circumstances outside the control of K2 Systems GmbH, as well as, for example, earthquakes, typhoons, whirlwinds, volcanic eruptions, floods, lightning strikes, snow damage, nuclear events etc.
- ▶ due to improper maintenance and inappropriate tests, flying objects or external loads.
- ▶ with loads that are higher than the named design load in Eurocode EC 1

§3 Limits of the Guarantee

The present guarantee replaces any previously given guarantees. K2 Systems GmbH are not liable for additional, secondary or other, however caused, damage.

§4 Claims on the Guarantee

In the case that you have a justified guarantee claim, please promptly notify the authorised seller or K2 Systems GmbH. You will then be given information on how you can enter a claim.

In addition our GSC and AEB as well as German law apply.

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