

INVERTER APPROVAL FOR INSTALLATION IN ISRAEL**STANDARDS APPLIED FOR SAFETY EVALUATION OF INVERTERS:**

AS/NZS 3100

Approval and test specification – General requirements for electrical equipment

SI 4777 Part 2 / AS/NZS 4777.2: 2005

Grid connection of energy system via inverters – Part 2: Inverter requirements

SI 4777 Part 3 / AS/NZS 4777.3: 2005

Grid connection of energy system via inverters – Part 3: Grid protection requirements

or

IEC 62109-1: 2010 / EN 62109-1: 2010

*Safety of power converters for use in photovoltaic power systems –
Part1: General requirements*

IEC/EN 62109-2: 2011 / VDE 0126-14-2:2012

*Safety of power converters for use in photovoltaic power systems –
Part2: Particular requirements for inverters*

or

EN 50178

Electronic equipment for use in power installations

or

UL1741

*Inverters, Converters, Controllers and Interconnection System equipment for Use with
Distributed Energy Resources*

.....

and

IEEE 2030.5:2018 *

IEEE Standard for Smart Energy Profile Application Protocol

*** Required for Inverters over 100kW**

*** Optional/Recommended for Inverters below 100kW**

OPTION 1

The SII Test Report and the certificate issued based on review of provided test reports and basic safety tests

Required documentation:

1. Full test reports* according to **any one** of the applied standards / set of standards + IEEE 2030.5:2018 * (see the list below) issued by an accredited laboratory and the laboratory accreditations according to ISO/IEC 17025: 2017 including the scope covering the applicable standards.

Note: provided test reports shall include the list of critical components.

* CB Scheme test reports are given preference.

Applicable Standards	
AS / SI 4777 Parts 2, 3: 2005 + AS 3100	or
EN 50178	or
UL 1741	
VDE 0126-14-2: 2012 + IEC 62109-1: 2010	or
IEC 62109-2 + IEC 62109-1: 2010	and
.....	
IEEE 2030.5:2018 *	
* Required for Inverters over 100kW	
* Optional/Recommended for Inverters below 100kW	

2. A sample of the inverter for testing.
3. User / Installation Manual.
4. Manufacturer declaration* including the following information:
 - 4.1 Compliance with "Guidelines document: Technical requirements for photovoltaic inverters", update 6.2022 (see Appendix 2, pages 5-16 of this document).
 - 4.2 Whether the inverter employs or does not employ an **integrated** residual leakage current device/monitor (RCD/RCM) for protection of the **DC** line in case of excessive residual currents and excessive sudden changes of the residual current. Protection means shall include an **automatic** disconnection **function**.
 - 4.3 Type of grid connection (LV/HV).
 - 4.4 Compliance with the requirements of IEEE 2030.5:2018.

* For detailed explanation regarding the declaration, see Appendix 1 on page 4.

Cost: NIS 9,100

OPTION 2

The SII certificate issued based on the review of provided test reports

Required documentation:

1. Full test reports* according to **any one** of the applied standards / set of standards + IEEE 2030.5:2018 * (see the list below) issued by an accredited laboratory that has signed a mutual agreement with the SII (see the table below) and laboratory accreditations according to ISO/IEC 17025: 2017 including the scope covering the applicable standards.

Note: provided test reports shall include the list of critical components.

* CB Scheme test reports are given preference.

SII Approved Testing Labs*	Applicable Standards
Bureau Veritas, Germany	AS / SI 4777 Parts 2, 3: 2005 + AS 3100 or
UL	EN 50178 or
TÜV Rheinland	UL 1741
TÜV SUD	VDE 0126-14-2: 2012 + IEC 62109-1: 2010 or
INTERTEK	IEC 62109-2 + IEC 62109-1: 2010 and
SGS Spain, Madrid	
	IEEE 2030.5:2018 *
* Only the branches that have a mutual agreement with the SII for acceptance of test reports.	* Required for Inverters over 100kW * Optional/Recommended for Inverters below 100kW

2. Manufacturer declaration* including the following information:

- 2.1 Compliance with "Guidelines document: Technical requirements for photovoltaic inverters", update 6.2022 (see Appendix 2, pages 5-16 of this document).
- 2.2 Whether the inverter employs or does not employ an **integrated** residual leakage current device/monitor (RCD/RCM) for protection of the **DC** line in case of excessive residual currents and excessive sudden changes of the residual current. Protection means shall include an **automatic** disconnection **function**.
- 2.3 Type of grid connection (LV/HV).
- 2.4 Compliance with the requirements of IEEE 2030.5:2018.

* For detailed explanation regarding the declaration, see Appendix 1 on page 4.

3. No sample is required.

Cost NIS 3,000

APPENDIX 1

Manufacturer Declaration

A proper declaration shall contain the following wording:

We, _____ (name and address of the inverter manufacturer), hereby declare that the inverter models listed below*

1. Can be adjusted according to "Guidelines document: Technical requirements for photovoltaic inverters", update 6.2022 (attached);
2. Are suitable for connection to the **HV / LV / HV+LV** (**choose one**) grid;
3. Employ / Do not employ (**choose one**) an **integrated** residual leakage current device/monitor (RCD/RCM) (**choose one**) for protection of the **DC** line in case of excessive residual currents and excessive sudden changes of the residual current.
4. **For models over 100kW:** Comply with the requirements of IEEE 2030.5:2018
For models below 100kW: Comply with the requirements of IEEE 2030.5:2018 or
Shall **not** be installed in parallel.

*Note: the model designations should be specified and listed in full, exactly as they appear in the test report. Naming a series of models will not be accepted.

The declaration should be duly **dated** and **signed** by an authorized person, specifying his/her full name and a position in the company. It should be **sealed** with a company official stamp.

The declaration should bear an official **company logo** and the **company details** (its full name, address and contact details).

The original Guidelines document shall be attached to the declaration.

Only the declarations made up as specified above will be accepted.



APPENDIX 2

Guidelines document: Technical requirements for photovoltaic inverters
Part A: Technical requirements for photovoltaic inverters connected to low voltage

(11 pages attached)