

SYSTEM PACKAGE DATA SHEET

Package 5: JA Solar + Growatt

6.65 kWp Solar System - solar-only, grid-connected package designed for Australian residential or light-commercial applications.



Package configuration

- 14 x 475 W JA Solar modules
- 1 x 5.0 kW Growatt inverter

Perfect for: Small-to-medium homes and standard single-phase residential installations.

Reference models:
JAM54D40-475/LR
MIN 5000TL-X2 (Pro)

6.65 kWp	5.0 kW	14	1.33
DC solar array	Inverter AC rating	475 W modules	DC/AC ratio

Package configuration

Component	Selected model / quantity
Solar modules	14 x JA Solar JAM54D40-475/LR, 475 W each
Inverter	1 x Growatt MIN 5000TL-X2 (Pro), 5 kW single-phase grid-connected string inverter
Monitoring	Growatt monitoring platform; Wi-Fi/LAN/4G options
System type	Solar-only, grid-connected; no battery storage included
Indicative module area	28.0 m2 before roof setbacks, access paths and module gaps

Capacity reconciliation and design basis

14 modules x 475 W = 6,650 W (6.65 kWp). The selected inverter is rated at 5.0 kW, producing a DC/AC ratio of 1.33. Indicative starting point: two strings of 7 modules, one string per MPPT.

IMPORTANT DESIGN NOTE

Use a Growatt high-current X2 Pro model. Older MIN TL-X variants may have insufficient MPPT current for 475 W modules.

1. SOLAR PV ARRAY AND MODULE DATA

JA Solar JAM54D40-475/LR

N-type monofacial double-glass module.

6.65 kWp	14	475 W	28.0 m2
Array rating at STC	Module quantity	Module rating	Approx. module area

PV module parameter	Reference value
Rated maximum power (Pmax)	475 W at STC
Maximum power voltage (Vmp)	34.18 V
Maximum power current (Imp)	13.9 A
Open-circuit voltage (Voc)	40.55 V
Short-circuit current (Isc)	14.67 A
Module efficiency	23.8%
Technology	N-type monofacial double-glass module
Dimensions / weight	1762 x 1134 x 30 mm; 22 kg
Temperature coefficient of Pmax	-0.290%/C
Maximum system voltage / series fuse	1500 V DC / 25 A
Warranty stated for reference model	15-year product; 30-year linear power

Array calculations

Item	Calculation / requirement	Result
Nameplate array	14 x 475 W	6,650 W
Approximate module area	14 x 1.762 m x 1.134 m	28.0 m2 before gaps
Indicative string approach	Indicative starting point: two strings of 7 modules, one string per MPPT.	Final engineering required
Roof allowance	Add setbacks, walkways, mounting clearances and obstruction zones	Site dependent

Module design notes

- Cold-condition open-circuit voltage and hot-condition operating voltage must be calculated using the site design temperatures.
- Module current must remain within each MPPT input-current and short-circuit-current limit.
- Final roof layout must consider orientation, shade, wind loading, fire access, mounting zones and manufacturer clamping requirements.
- The current approved-product listing and exact model suffix must be confirmed before ordering and STC documentation.

Official / reference source
JA Solar JAM54D40 LR 475 W datasheet, Version Global-EN-20250711A.

2. INVERTER, MONITORING AND INSTALLATION NOTES

Growatt MIN 5000TL-X2 (Pro)

5 kW single-phase grid-connected string inverter.

Inverter parameter	Reference value
Phase configuration	Single-phase
Rated AC output	5.0 kW
Recommended / maximum PV input	7.5 kWp recommended
Maximum DC input voltage	550 V
MPPT operating range	40-550 V
MPPT / string inputs	2 MPPT / 1 string per MPPT
Maximum PV input current	Up to 18 A per MPPT (Pro variant)
Maximum efficiency	98.4%
Ingress protection	IP65/IP66 by final variant
Dimensions / weight	Approx. 375 x 350 x 160 mm; Approx. 10.8 kg
Monitoring	Growatt monitoring platform; Wi-Fi/LAN/4G options

Package compatibility review

Check	Package value	Assessment
Array / inverter ratio	6.65 kWp / 5.0 kW = 1.33	Review against inverter allowance and design goals
Module current	Imp 13.9 A; Isc 14.67 A	Compare with Up to 18 A per MPPT (Pro variant)
String voltage	Indicative starting point: two strings of 7 modules, one string per MPPT.	Complete cold/hot calculations before approval
Monitoring	Growatt monitoring platform; Wi-Fi/LAN/4G options	Internet and account commissioning required

Model-specific note: Use the high-current X2 Pro variant for compatibility with 475 W modules; confirm the exact SAA-listed Australian model before supply.

Standard installation and handover scope

Function	Included / expected	Site-dependent requirement
Mounting and DC cabling	Compliant rooftop mounting and PV cabling	Roof type, access, cable route and fire access zones
AC connection	Dedicated protection and connection to the main switchboard	Switchboard capacity, phase allocation and network service limits
Export control / metering	Configured where required	Compatible meter/CT and DNSP approval conditions
Online monitoring	App / portal setup and customer handover	Stable internet and communications hardware
Commissioning	Electrical tests, settings, labels, serials and photos	Final network settings and approved design
Documentation	Quotation, equipment schedule and handover records	STC eligibility and exact warranty registration requirements

3. SOURCES, WARRANTY AND COMPLIANCE NOTES

Package 5: JA Solar + Growatt

The technical values in this package sheet were consolidated from the manufacturer references listed below. Open the linked documents and confirm the latest revision before quoting, ordering or installation.

Manufacturer reference documents

Component	Reference document	Official source
JA Solar module	JA Solar JAM54D40 LR 475 W datasheet, Version Global-EN-20250711A.	Open module source
Growatt inverter	Growatt MIN 2500-6000TL-X/X2(Pro) official product family page and technical datasheet.	Open inverter source

Final pre-quotation and procurement checklist

Check	Required confirmation
Exact product identity	Confirm full model suffix, phase configuration, firmware/hardware revision and Australian approved-product listing.
Solar array design	Complete cold Voc, hot Vmp, MPPT current, short-circuit current, string quantity, orientation and shading calculations.
Site and network	Confirm roof area and structure, switchboard capacity, service phase, DNSP connection approval and export-control requirements.
Protection and cabling	Finalise DC/AC isolating devices, protective devices, cable sizing, voltage drop, earthing, labelling and fire-access requirements.
Warranty and registration	Use the warranty terms applying to the exact Australian product supplied and complete manufacturer registration after commissioning.
Customer handover	Provide commissioning results, serial numbers, monitoring access, shutdown procedure and system documentation.

Warranty wording

The reference module document states 15-year product; 30-year linear power. Inverter warranty duration is governed by the exact model, sales channel, registration conditions and the manufacturer warranty policy applicable in Australia at the date of supply. Do not publish a warranty period unless it has been verified for the exact product being quoted.

Technical and commercial disclaimer

This consolidated package sheet is a preliminary technical reference and marketing-support document. It is not a construction drawing, network approval, final string design or substitute for current manufacturer installation manuals. Final equipment model, phase configuration, firmware, string allocation, protection, cable sizing, roof layout, export limits, warranty terms and approved-product status must be confirmed after site inspection and before procurement. Installation must comply with applicable Australian Standards, DNSP requirements, manufacturer instructions and local regulations. Manufacturer specifications can change without notice.

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