

Sungrow Smart PV modules Range
RC62 Fire Safety Compliance

REVISIONS

0	31.07.2026	First Issue			
REV.	DATE	ISSUE, MODIFICATION	PREPARED	CHECKED	APPROVED

RC62 Compliance – Optimized PV Systems with Rapid Shutdown

Sungrow PV systems are designed to comply with RC62 recommendations by incorporating the following solution: each panel should be equipped with a Sungrow smart junction box, paired with SG30CX-P2/SG50CX-P2/SG150CX inverters or other inverters paired with communication box SR200T-BM. Fire alarm integration is achieved via COM100D-EU and Logger1000A-EU, enabling rapid shutdown functionality.

** The COM100D-EU incorporates the Logger1000A-EU, providing integrated data logging with additional surge and environmental protection.*

Compliance Matrix

Sr. No.	Requirement	RC62 Reference	Sungrow Coverage	Responsible Party
1	PV panel systems should be selected to have a low propensity for fire spread	RC62:5.1.5	Yes: Sungrow PV modules have passed UL790 and IEC61730 fire safety tests.	Designer / Electrical Engineer
2	Arc-fault protection (AFCI)	RC62:5.1.7, 5.1.8	Yes: Sungrow inverters provide AFCI functionality	Designer / Electrical Engineer
3	All equipment to be provided shall comply with the relevant technical standards. PV modules should be MCS certified.	RC62:5.6.9	Yes: Sungrow Smart PV modules are MCS certified	Designer / Electrical Engineer

4	DC voltage classification ($\leq 900V$ DC to earth)	RC62: 5.5.6–5.5.9	Yes: The Sungrow smart junction box electronics switch the module to extra-low voltage when AC is disconnected. Under normal operation, Sungrow confirms that both DC positive-to-PE and DC negative-to-PE are balanced, each reaching a maximum of approximately half the array voltage ($\sim 750V$ at $1500V$ array voltage). This complies with the $\leq 900V$ DC conductor-to-earth limit for 'low voltage' classification per BS EN 7671. Important condition: In the event of a single insulation fault, the healthy pole could reach up to the full array voltage (max. $1500V$ to earth), exceeding the $900V$ limit and temporarily classifying the system as 'high voltage'. Required design consideration: The Sungrow manual instructions prohibiting grounding of either positive or negative DC string cables must be strictly followed to maintain the balanced voltage distribution and low voltage classification during normal operation.	Designer / Electrical Engineer
5	Module-level rapid shutdown (MLPE) behavior in fire/offline	RC62: 5.5.6, 5.9, 5.14, A3	Yes: RSD is integrated in the Sungrow smart junction box; on AC loss / fire-alarm trigger each module drops to extra-low voltage at the module, meeting RC62 fire safety requirements. The Logger1000A-EU system supports fire alarm integration for remote shutdown triggering.	Installer / Commissioning Engineer
6	MLPE commissioning & functional test	RC62: 5.8; BS EN 62446-1	Yes: Sungrow provides commissioning procedures in the smart junction box User Manual and Logger1000A-EU documentation. The commissioning engineer must execute functional tests per BS EN 62446-1 Clause 5.3.3 requirements for MLPE systems.	Commissioning Engineer

7	PV DC connectors	RC62:5.7.4	Yes: Sungrow smart PV modules use connectors (MC4-Evo2/MC4-Evo2A)	Installer /Procurement
8	Operation and maintenance, early-fault detection to cut product-failure fires	RC62:5.11.5-5.11.6	Yes: Customers can view the operating status of the PV system and photovoltaic modules via the iSolarCloud app. L2 smart PV module-level monitoring (I/V, junction-box temperature, alarms) detects mismatch and degradation at the individual module - finer than string-level or optimizer monitoring.	Owner / Installer
9	Self-cleaning to reduce hot-spot ignition risk	RC62:5.11.8-5.11.9	Yes: L2/L1 self-cleaning reduces this ignition pathway natively - a fire-risk benefit the optimizer approach does not provide.	Designer / Electrical Engineer
10	DC side isolation	RC62: 5.5.18,5.7.13	Yes: Sungrow inverters come with integrated inverter-level DC isolators. Eliminate the use of DC isolators where possible. However, if external string-level isolators are required based on system size, the Fire Risk Assessment (RC62 5.5.7), maintenance needs, or local regulations, they should be properly sized and torqued. L2 smart PV modules integrate RSD functionality into the junction box, reducing external DC connection points and the reliance on external string isolators, thereby lowering the number of connection points and the likelihood of failure.	Designer / Installer
11	DC cable routing, support and containment	RC62: 5.5.13–5.7.13	No: Installer responsibility per RC62 requirements.	Installer / Site Supervisor
12	Combiner boxes/isolators rating & installation	RC62: A3.4, A3.5, 5.5.7; BS EN 7671	No: Sungrow inverters include integrated inverter-level DC isolators. However, for systems with multiple strings where external combiner boxes are required, it must be specified by the designer/installer.	Designer / Installer

13	Surge Protection Devices (SPDs) – DC & AC	IET PV Code of Practice; IEC 61643-11; BS EN 62305; RC62: 5.5.x	Yes: Sungrow inverters include AC SPD (type I); DC SPD (type I + II). However, SPD Type classification must be confirmed from Sungrow technical documentation for the specific inverter model.	Designer / Installer
14	AC side isolation and ability to render AC voltage-free	BS EN 7671; Fire Safety Order 2005; IET PV Code; NFCC Guidance	Partial: Sungrow inverters provide standard AC isolation via external firefighter-accessible emergency shutdown switch per BS EN 7671 for fire safety requirements. Fire and Rescue Service (FRS) accessibility and local isolation depend on the site design and cable route.	Designer / Site Manager
15	Fire alarm integration for rapid shutdown	RC62: 5.14	Yes: Logger1000A-EU integration is supported.	Installer / Commissioning
16	Firefighter DC-risk reduction (daylight live-DC)	RC62:5.14.6 , 5.14.8	Yes: L2 drops each module to extra-low voltage on AC-loss/trigger, the live-DC hazard to firefighters on the roof is reduced at the module - stronger than a system relying only on a remote DC switch.	Designer / Electrical Engineer
17	Monitoring, diagnostics and alarm logging	RC62: 5.11, A3.8; IET PV Code; BS EN 62446-2	Yes: Logger1000A-EU provides module/inverter-level monitoring and alarm records. L2 smart PV modules provide module-level monitoring & alarm records natively (I/V, junction-box temp).	O&M / Monitoring Provider
18	Roof fire performance & module fire rating	RC62: 5.1.3–5.4.2	Yes: Sungrow PV modules have passed UL790 and IEC61730 fire safety tests.	Building/Project Team
19	Array layout & separation distances across compartments	RC62: 5.5.10–5.5.12	No: Layout determined by site design.	Designer / Fire Engineer
20	Cable penetration fire-stopping required	RC62: 5.5.12	No: Installer's responsibility.	Installer / Fire Protection Contractor

21	Commissioning tests (Riso, IR thermography, series resistance)	BS EN 62446-1; RC62: 5.8, A3.3, A3.8	Partial: Sungrow equipment provides monitoring capabilities and test access points, but commissioning tests must be performed by a qualified commissioning engineer using appropriate test equipment.	Commissioning Engineer
22	Procurement & installer competence (MCS / MIS3002 /SSIP)	RC62: 5.6.1–5.6.6	No: Organization’s responsibility.	Project Procurement
23	Post-fire isolation and inspection procedures	RC62: 5.12–5.13; BS EN 62446-1; IET PV Code; Fire Safety Order 2005	Partial: Logger1000A-EU monitoring can detect faults and performance issues, but post-fire isolation and inspection require physical intervention by qualified personnel.	Owner / Installer
24	Evidence pack for insurers/FRS (datasheets, test logs, commissioning reports)	Checklist requirement	Partial: Sungrow supplies datasheets, manuals	Project Manager / Installer

Sungrow Coverage vs Installer/Designer Responsibilities

Sungrow panels equipped with Sungrow smart junction boxes, paired with SG30CX-P2/SG50CX-P2/SG150CX inverters or other inverters paired with communication box SR200T-BM, and Logger1000A-EU provide strong support for RC62 compliance in areas including module-level rapid shutdown, monitoring/logging, system shutdown via fire alarm panel/switch, and AC/DC side SPD capability as provided by Sungrow inverters. However, RC62 requirements relating to roof materials, array layout/separation, cable containment, combiner boxes, fire-stopping, labeling, installer competence, and physical AC isolator placement are primarily project/design/installer responsibilities and must be evidenced by the project team.

Disclaimer:

This information is provided for reference purposes only and should not replace consultation of the complete RC62 document, official Sungrow technical documentation, or site-specific compliance requirements. For definitive guidance on Sungrow product specifications, system design, and installation procedures, please contact the Sungrow technical support team directly.