

SANS 10142-1 Solar PV Compliance Checklist

Edition 3 (2021) – Residential & Small Commercial Installations

Prepared for SAPVIA-Accredited Installers | Valid: November 16, 2025

1. System Information

Site Address:			
Installer Name:		ECSA Reg #:	
System Size (kWp):		Inverter Model:	
Date of Installation:		Inspection Date:	

2. Documentation & Certification

Item	✓/X	Notes / NRCS Ref
SANS 10142-1:2021 compliance declaration		
NRCS Letter of Authority (LoA) – Inverter		
IEC 61215 / 61730 – PV Modules		
UN38.3 – Battery (if applicable)		
Single-line diagram (as-built)		
Certificate of Compliance (CoC) issued		CoC #

3. DC Cabling & Connectors (Clause 6.5, Annex G)

Requirement	✓/X	Details
Solar cable: 4–6 mm ² , double-insulated, UV-resistant		SANS 1507 compliant
MC4 or compatible connectors, IP67, 30A rated		Genuine, no fakes
Cables in UV-stabilized conduit on roof		PVC or metal
Labeling: "PV ARRAY – DANGER" every 3m		Red background
No sharp bends, < 5× cable diameter		

4. Earthing & Bonding (Clause 6.12)

Requirement	✓/X	Measured Value
Earth electrode: 1.5m copper-clad, < 10 Ω		_____ Ω
Equipotential bonding: rails → inverter → DB		6 mm ² green/yellow
Frame grounding: every panel frame bonded		

5. Surge & Overcurrent Protection (Clause 6.7, 7.5)

Device	✓/X	Model / Rating
Type 2 SPD – DC side ($I_{max} \geq 20$ kA)		_____
Type 2 SPD – AC side		_____
gPV string fuses (15A per string)		_____
DC isolator (lockable, IP65)		IMO / Santon
MCB/RCBO Type A or B, 30mA RCD		_____

6. Inverter Installation (NRS 097-2-1)

Requirement	✓/X	Notes
NRCS-approved, grid code compliant		LoA attached
Mounted in shaded, ventilated area (≥ 300 mm clearance)		Temp < 50°C
IP65 rating or indoor garage		
Anti-islanding & voltage/frequency ride-through		Tested

7. Testing & Commissioning (Clause 8)

Test	Pass	Value / Result
Insulation resistance (DC): > 1 M Ω		_____ M Ω
Polarity check: all strings correct		
Earth loop impedance: < 0.5 Ω		_____ Ω
Open-circuit voltage (Voc) within $\pm 5\%$		_____ V
Inverter startup & grid sync		No errors

8. Safety & Labeling

Warning signs at DB, inverter, isolators		SANS 1186 compliant
Emergency shutdown procedure posted		
Fire extinguisher (ABC) nearby		

Notes / Deviations:

Installer Signature

Date: _____

Inspector / Municipal Official

Date: _____