SUNNY CENTRAL

Maintenance protocol

Version: 1.1 Mat. no.: 98-4029111

Project name:	**Customer:**
Address, location of the plant	

City code and serial number MV station (if any):	
City code and serial number Sunny Central 1:	
City code and serial number Sunny Central 2 (if any):	

Contents of the maintenance protocol

The maintenance protocol together with the rest of the inverter documentation ensures trouble-free operation of the inverter and peripheral devices supplied by SMA Solar Technology AG. The maintenance work does not automatically guarantee electrical safety.

The maintenance protocol contains all necessary Sunny Central maintenance intervals as well as the preventative replacement intervals of the individual components.

Storage of the maintenance protocol

After the maintenance work the maintenance protocol remains with the Sunny Central.

Maintenance instructions

All steps required for the maintenance work and listed in this protocol are described in the maintenance manual.

Appendices

No.	Annex

1 Check list of the maintenance protocol

1.1 Sunny Central

No.	Maintenance work	Interval	OK
1.1.1	Read out the long-term data and error memory.	1 month * depending on the plant size	
1.1.2	Clean or replace the filter pads in the air inlet filters.	24 months *	
1.1.3	Clean the insect guards at the air inlets and outlets.	24 months *	
1.1.4	Check the interior of the switch cabinet, the ventilation ducts and the EVR resistor for heavy dust deposits, contamination, moisture, and water penetration from outside. If necessary, clean the Sunny Central and take suitable corrective measures.	24 months	
1.1.5	Check all power cable connections for looseness and tighten them if necessary. Check the connectors and insulation for discoloration or degradation. Replace any damaged connectors or corroded contacts. Tighten the aluminum terminal connections only when they are loosened.	24 months	
1.1.6	Visually check the coils and pay attention to discoloration or deformation.	24 months	
1.1.7	Check all adhesive warning labels and replace them if necessary.	24 months	
1.1.8	Functional test of cooling fans Check all cooling fans for functionality and operating noise. The fans can be switched on by adjusting the thermostats. If present: cabinet fan, heat sink fan(s), internal circulation fan(s), diode fan, heating fan	24 months	
1.1.9	Functional test of heating	24 months	
1.1.10	Functional test of the protective equipment: Residual current circuit breaker Line circuit breaker Circuit breaker Motor overload switch	24 months	
1.1.11	Visually check all fuses and disconnectors, and lubricate the contacts if necessary.	24 months	
1.1.12	Check the overvoltage protector	24 months	
1.1.13	Check the 230 V und 24 V control and auxiliary voltages.	24 months	

No.	Maintenance work	Interval	OK
1.1.14	Functional test overtemperature Check the overtemperature safety circuit.	24 months	
1.1.15	Functional test of the emergency stop Check the function of the internal and external emergency stop switch.	24 months	
1.1.16	Functional test of the door contacts	24 months	
1.1.17	Functional test of insulation monitoring / ABB high-performance circuit breaker / GFD/ soft grounding Check the function and the signaling.	24 months	
1.1.18	Check the covers and function of the lockings.	24 months	
1.1.19	Sunny Central 100outdoor Check the space between the roof and exhaust air area in the plinth.	24 months	
1.1.20	Check the concrete substation's basement and the air shafts. Is a filter in the door?	24 months	

* The maintenance interval may need to be shortened, depending on the location or ambient conditions.

Regular Data Backups

Backup and archive the Sunny Central Control data regularly with Sunny Data Control, for example. This can be done by means of remote querying, or during routine maintenance.

1.2 SSM - Sunny String-Monitor

No.	Maintenance work	Interval	OK
1.2.1	Check all power cable connections for looseness and tighten them if necessary. Check the connectors and insulation for discoloration or degradation. Replace any damaged connectors or corroded contacts.	24 months	
1.2.2	Check all string cable connections for looseness and replace them if necessary. Check the insulation, and the terminals on the assembly and on the busbar for discoloration or degradation.	24 months	
1.2.3	Check all cable connections of the optional DC main switch for looseness and tighten them if necessary. Check the insulation and the switch for discoloration or degradation.	24 months	
1.2.4	Check the attachment of the Sunny String-Monitor, i.e. horizontal installation.	24 months	
1.2.5	Check the cover locks	24 months	
1.2.6	Check that the screw fittings are securely positioned and sealed and replace them, if necessary.	24 months	
1.2.7	Check whether there is condensation water in the device.	24 months	
1.2.8	Check the shield connection.	24 months	
1.2.9	Check the ground connection and the contact resistance to the ground rod.	24 months	
1.2.10	Check the pressure adjusting screw for contamination and replace it if necessary	24 months	
1.2.11	Check the installation site for accessibility, inflammable materials and safe positioning.	24 months	
1.2.12	Check the mounting of the Plexiglass covers.	24 months	
1.2.13	Check the adhesive warning labels and replace them if necessary.	24 months	
1.2.14	Visually check all existing fuses and tension springs on the fuse holders.	24 months	
1.2.15	Check the overvoltage protector	24 months	
1.2.16	Check the auxiliary voltage of +55V DC at the terminals.	24 months	

1.3 SSM-C - Sunny String-Monitor-Cabinet

No.	Maintenance work	Interval	OK
1.3.1	Check all power cable connections for looseness and tighten them if necessary. Check the connectors and insulation for discoloration or degradation. Replace any damaged connectors or corroded contacts.	24 months	
1.3.2	Check all string cable connections for looseness and replace them if necessary. Check the insulation, the disconnectors, the assembly, and busbars for discoloration or degradation.	24 months	
1.3.3	Check all cable connections of the optional DC main switch for looseness and tighten them if necessary. Check the insulation and the switch for discoloration or degradation.	24 months	
1.3.4	Check that the entries of the output cables are sealed.	24 months	
1.3.5	Check whether there is condensation water in the device.	24 months	
1.3.6	Check the shield connection.	24 months	
1.3.7	Check the ground connection and the contact resistance to the ground rod.	24 months	
1.3.8	Check the filter material for contamination and replace it if necessary	24 months	
1.3.9	Check the installation site for accessibility and safe positioning. Open the upper front plate.	24 months	
1.3.10	Check the mounting of the Plexiglass covers.	24 months	
1.3.11	Check the adhesive warning labels and replace them if necessary.	24 months	
1.3.12	Visually check all existing fuses and tension springs on the fuse holders.	24 months	
1.3.13	Check the overvoltage protector.	24 months	
1.3.14	Check the auxiliary voltage of +55V DC at the terminals.	24 months	

1.4 SMB(-C) - Sunny Main Box(-Cabinet)

No.	Maintenance work	Interval	OK
1.4.1	Check all string cable connections for looseness and replace them if necessary. Check the insulation, the disconnectors, the assembly, and busbars for discoloration or degradation.	24 months	
1.4.2	Check that the entries of the output cables are sealed.	24 months	
1.4.3	Check whether there is condensation water in the device.	24 months	
1.4.4	Check the adhesive warning labels and replace them if necessary.	24 months	
1.4.5	Check the attachment of the SMB, i.e. horizontal installation.	24 months	
1.4.6	Check the filter material for contamination and replace it if necessary	24 months	
1.4.7	Check the installation site for accessibility, inflammable materials and safe positioning.	24 months	

2 Protocol of the preventative replacement intervals

No.	Replacement parts	Replacement intervals	OK
2.1.1	Fan at the Sunny Central Control, if available.	48 months	
2.1.2	GFDI / soft grounding/ ABB high-performance circuit breaker	100 trippings	
2.1.3	Diode cooling fan	10 years	
2.1.4	Overvoltage protector • DEHNguard • BLITZDUCTOR	 • If tripped. • If not within the tolerance range.	

Your signature confirms that the work listed above has been carried out.

Customer or contractor company (in block letters)	Last name, first name (in block letters)	Date Signature