String Inverter PV Grid Connected Inverter Pre-Commissioning Checklist

Date:

PROJECT NAME:	
TYPE OF PROJECT:	
LOCATION (CITY):	
CONTACT NAME & NO:	

NOTE

This Pre-commissioning report and other documentations about Inverter Commissioning, are provided to ensure **SOLIS** inverter and accessories pass the commissioning and enter into operation. Please keep these documentations properly.

Pre-Commissioning report includes all the parameters should be checked during Commissioning.

This report can't displace installation report from plant installer and product's certifications.

For the Reverse Polarity, if the reverse polarity gets detected after switching the DC Switch,

- Do not connect the AC Side to the inverter,
- Do not pull out the string but wait for the radiation to become low then only remove the string, else it can damage the inverter.

NOTE

Complete the Report and return to SOLIS (by email, fax, etc.)

Before commissioning, all the installation and connection must be strictly in compliance with the relevant rules and documentations.

Inverter Check List (Pre-Commissioning)

SR NO.	ITEMS	REQUIREMENTS & COMMENTS	RESULTS	REMARKS
1.	Unpacking of the inverter. Cross verify, the inverter has been supplied with all the accessories as per Manual.	All the SOLIS Inverters are supplied with accessories like mounting bracket, MC4 Connector pairs and other documentations.	[ ] GOOD [ ] POOR	
2.	Inverters are installed according to the relevant documentations (Installation drawings, installation manual, installation guide)	Inverters are intact with no visible damage and fixed firmly in proper place. Also Inverter installation is 1. Vertical 2. Tilting at 10 deg	[ ] GOOD [ ] POOR	
3.	Clearance requirement. Inverter must be installed with the min clearance requirement as per the installation manual.	Take Site Photos of Installed Inverters	[ ] GOOD [ ] POOR	
4.	Sizes of the AC and DC Cable. Need to mention the SQ mm sizes with No of Core of cable used for both DC and AC.	1. AC Cable Size ..... 2. AC Cable Type ..... 3. DC Cable Size ..... 4. DC Cable Type	[ ] GOOD [ ] POOR	
5.	Crimping of the MC4 Connector. MC4 Connector for +ve and -ve DC cables are different to each other. For +ve cables (Male Type) For -ve cables (Female Type)	While crimping the DC cables With the provided MC4 Connectors with Inverter, we need to make sure all matches with Inverter MC4 Connectors. 1. +ve MC4 ..... 2. -ve MC4 ..... Also check with MC4 Connection tool	[ ] YES [ ] NO	
6.	For AC Cable termination, Suitable lug to be chosen as per item no .4. Then need to tighten with proper torque value as per Bolt size.	If Cu cable is used, then need to use Cu Lug only. If Al Cable is used, need to use the Bi-metallic lug only.		
7.	AC MCCB. AC MCCB or Isolator used for the AC Circuit isolation or not. Also need to mention the point of disconnection through AC MCCB	1. AC MCCB 2. Isolator 3. Distance from Inverter	[ ] YES [ ] NO [ ] YES [ ] NO	
8.	Grounding Cable Size. All the connection of the grounding circuit along with the structure need to be grounded.	Cable Size ..... 1. External Earthing Point 2. Internal Earthing Point 3. Structure Earthing 4. Earthing Resistance	[ ] YES [ ] NO [ ] YES [ ] NO [ ] YES [ ] NO	
9.	DC and AC Switch in OFF Condition	1. DC Switch No. ..... 2. AC Switch No. ..... 3. AC MCCB/Isolator 4. Mention other points in remarks, if any.	[ ] ON [ ] OFF [ ] ON [ ] OFF	
10.	Installation Environment & Canopy	Ensure installation site meets environmental & physical constraints. Inverter Canopy angle & Length should be calculated to avoid direct sunlight.	[ ] GOOD [ ] POOR	

General Comments & Observations

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NOTE For More than 1 Inverter use Separate sheet, specify it with serial number.

Inverter Check List (Cold Commissioning)	PROJECT LOCATION:
No. of Inverters	Serial No. ..... (For More than 1 Inverter use separate sheet.)

NO.	ITEMS	REQUIREMENTS & COMMENTS	RESULTS	REMARKS
1	DC Connections	Before Connecting the DC MC4 to the Inverter, all string must be check for reverse polarity as well as floating voltage and recorded in the following table.	[ ] GOOD [ ] POOR	

Checking DC Connections

STRING	POS/ NEG	POS/GRND	NEG/GRND	STRING	POS/NEG	POS/GRND	NEG/GRND
1				16			
2				17			
3				18			
4				19			
5				20			
6				21			
7				22			
8				23			
9				24			
10				25			
11				26			
12				27			
13				28			
14				29			
15				30			

Checking AC Connections

Line to Ground		Line to Line Voltage	
L1PE, L1N		**L1 L2**	
L2PE, L2N		**L2 L3**	
L3PE, L3N		**L3 L1**	
NPE			

General Comments & Observations

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NOTE For More than 1 Inverter use Separate sheet, specify it with serial number.

NO.	ITEMS	REQUIREMENTS & COMMENTS	RESULTS	REMARKS
2	AC Distribution Transformer			
	Transformer Capacity			
	Impedance (LV to HV)			
	Vector (Dyn11)			
3	Communication Cable (if the function is used)	Connect the RS 485 Cable to the Communication Port. Set Communication with a unique address for each inverter	[ ] COMPLETED	
	Communication Setting (if it's available)			
4	Power Generation	After Grid Connection, Record Power Output of Inverter	[ ] COMPLETED	
5	Date & Time Setting	Set the Current date and time using the Front Panel Interface of the display.	[ ] COMPLETED	
6	Machine Version	For maintenance and reference, please record the firmware version	[ ] COMPLETED	
7	Operating Parameter	Record operating parameters of the Inverter.	[ ] COMPLETED	
		Verify IEC61727 setting is selected.		
8	Testing	Open and Close the DC breaker to confirm whether the inverter reboots and shuts down automatically.	[ ] COMPLETED	
9	Attach Site Photos of Installation	Inverter body grounding photo	[ ] COMPLETED	
		DC Connection photo	[ ] PENDING	
		AC Connection photo		
10	Completion	Installation and Commissioning is complete, if not check for the abnormality.	[ ] GOOD	
			[ ] ISSUES DETECTED	

General Comments & Observations

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Inverter Check List (Cold Commissioning)

No of Inverters. ..... Inverter serial numbers

1.	.....	31	.....
2.	.....	32	.....
3.	.....	33	.....
4.	.....	34	.....
5.	.....	35	.....
6.	.....	36	.....
7.	.....	37	.....
8.	.....	38	.....
9.	.....	39	.....
10.	.....	40	.....
11.	.....	41	.....
12.	.....	42	.....
13.	.....	43	.....
14.	.....	44	.....
15.	.....	45	.....
16.	.....	46	.....
17.	.....	47	.....
18.	.....	48	.....
19.	.....	49	.....
20.	.....	50	.....
21.	.....	51	.....
22.	.....	52	.....
23.	.....	53	.....
24.	.....	54	.....
25.	.....	55	.....
26.	.....	56	.....
27.	.....	57	.....
28.	.....	58	.....
29.	.....	59	.....
30.	.....	60	.....

SUMMARY OF INSTALLATION & COMMISSIONING CHECKLIST

Customer:		**Date**	
Site Address:		Call Type:	
		Plant Name:	
Site Engineer:		Plant location:	
Mobile No:		Total plant capacity:	
INV-Capacity:		Installation type:	
INV-Model:		Installation Date:	
INV-S/N:			
TYPE OF PV MODULE:			
PV MODULE MAKE:		INV S/W Ver:	
DC STRING CONFIGURATION			
FSR S/N.			
CALL DESC.			

DATE	Observation / Activity Details	SITE START	SITE END

SPARES RECOMMENDED / CONSUMED

(Pl. indicate in below rows R for Recommended and C for Consumed / Replaced)

S/N	PART DESCRIPTION	PART NO.	QTY	R /C

CUSTOMER COMMENTS	BILLING INFORMATION

_____ _____ _____ **Authorized Sign & Company Stamp** **Designation** **Date**	IS SERVICE CALL COMPLETE ☐ YES ☐ NO _____ SOLIS Representative Signature Date

Note: Authorized Signature hereby approves billing charges

ANNEXURE

FSR REF #		DATE	
INV - MODEL		S/W Ver.	
INV - S/N.			

DATE	ACTIVITY DETAILS

(Please enter Service / Installation / Warranty Remarks as applicable)

Solis Remark:

CUSTOMER REPRESENTATIVE

SOLIS REPRESENTATIVE

solis inverters