

SMARTER ENERGY SOLUTION

Preventive Maintenance Solar System



Customer Name : Botanica Modern Loft M13 Maintenance : MA Date : 9 November 2024

Solar Panel				Inverter			
Brand	Model	Capacity	Install	Brand	Model	S/N	
<u>Sonax</u>	<u>SNX-D60HND-480M</u>	<u>10 Kwp.</u>	<u>36 Panels</u>	<u>Solis</u>	<u>SS-GR3P10K</u>	<u>18090 B023B180036</u>	

Before Preventive Maintenance Solar System										
Solar Panels	Operating Voltage / Current					Time	Inspection		Remark	
String 1	<u>18</u> Panels	Voc <u>710.0</u>	Vdc	Vmp <u>622.0</u>	Vdc	Isc <u>5.13</u> A.	<u>13 : 10</u>	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 2	<u>18</u> Panels	Voc <u>710.0</u>	Vdc	Vmp <u>619.0</u>	Vdc	Isc <u>4.85</u> A.	:	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 3	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 4	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 5	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 6	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 7	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 8	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 9	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 10	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 11	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 12	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	

After Preventive Maintenance Solar System										
Solar Panels	Operating Voltage / Current					Time	Inspection		Remark	
String 1	<u>18</u> Panels	Voc <u>722.0</u>	Vdc	Vmp <u>575.2</u>	Vdc	Isc <u>4.48</u> A.	<u>14 : 00</u>	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 2	<u>18</u> Panels	Voc <u>722.0</u>	Vdc	Vmp <u>618.8</u>	Vdc	Isc <u>4.75</u> A.	:	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 3	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 4	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 5	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 6	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 7	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 8	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 9	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 10	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 11	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 12	_____ Panels	Voc _____	Vdc	Vmp _____	Vdc	Isc _____ A.	:	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	

Inverter Inspection				Remark
Device	Readings from Smarter Meter	Readings from Inverter Display	Field Measured Readings	
Inverter	AC Line Voltage		AC Line Voltage	
	Phase L1 to Grd :	<u>233.3</u> Vac	Phase L1 to Grd :	<u>233.9</u> Vac
	Phase L2 to Grd :	<u>232.2</u> Vac	Phase L2 to Grd :	<u>231.9</u> Vac
	Phase L3 to Grd :	<u>234.9</u> Vac	Phase L3 to Grd :	<u>235.8</u> Vac
	AC Line Current		AC Line Current	
	Phase L1 to Grd :	<u>9.70</u> A	Phase L1 to Grd :	<u>6.5</u> A
	Phase L2 to Grd :	<u>8.90</u> A	Phase L2 to Grd :	<u>6.5</u> A
	Phase L3 to Grd :	<u>9.40</u> A	Phase L3 to Grd :	<u>6.5</u> A
	Phase L1 to Grd :	<u>231.5</u> Vac	Phase L1 to Grd :	<u>233.4</u> Vac
Phase L2 to Grd :	<u>233.4</u> Vac	Phase L2 to Grd :	<u>233.4</u> Vac	
Phase L3 to Grd :	<u>233.4</u> Vac	Phase L3 to Grd :	<u>233.4</u> Vac	
Phase L1 to Grd :	<u>6.73</u> A	Phase L1 to Grd :	<u>6.73</u> A	
Phase L2 to Grd :	<u>6.76</u> A	Phase L2 to Grd :	<u>6.76</u> A	
Phase L3 to Grd :	<u>6.69</u> A	Phase L3 to Grd :	<u>6.69</u> A	

Comment : _____

SMARTER ENERGY SOLUTION

Electrical Room Inspection



Customer Name :		Date :	
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Solar Panel				Inverter		
Brand	Model	Capacity	Install	Brand	Model	S/N
		Kwp.	Panels			

Device	Ambient Temperature	Temperature				Remark
Inverter	49.9 C	Inside : 50.7 C	Outside : 46.3 C	Heatsync : 52.9 C		
AC Cabinet	39.1 C	MCB Breaker : 40 A. 40.6 C	RCCB Breaker : 40 A. 38.4 C	AC SPD : 3 Phase 38.2 C		
		AC Cable : 10 Sq.m.	Smart Meter : 39.7 C	CT Ratio : 150 9 A.		
		AC Terminal : 39.1 C	3 Phase Meter Ratio : 30 A.			
		String No.	DC Fuse	DC Breaker	DC SPD	MC4 Connector
DC Cabinet 1	38.0 C	String 1	44.6 C A.	44.6 C Vdc A.	43.2 C Vdc A.	42.8 C
		String 2	41.7 C A.	46.3 C Vdc A.	43.2 C Vdc A.	42.3 C
		String 3	C A.	C Vdc A.	C Vdc A.	C
		String 4	C A.	C Vdc A.	C Vdc A.	C
EE Room	39.1 C	AC Cable : 25 Sq.m.	Main Breaker : 100 A.	MCCB Feed : A.		
		Wireway : 37.9 C	MDB / LC : 39.9 C	C		

Comment : _____

Inspection By : _____
 (Bunharn Libnoy)
 Project Engineer
 Date : ____/____/____

SMARTER ENERGY SOLUTION

Preventive Maintenance Solar System



Item	Solar System Inspection	Inspection		Remark
1	Clean the Solar panel (Use clean water) ทำความสะอาดแผงโซลาร์เซลล์ (ใช้น้ำสะอาด)	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
2	Check to see if the solar panel's condition ตรวจสอบการแตกร้าวของแผงโซลาร์เซลล์	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
3	Inspect the mounting points of the roof mounting support legs for the risk of water leaking. (Use water Proof , Polyurethane PU,Sika MultiSeal AP to prevent water leakage) ตรวจสอบจุดยึดของ Support ที่ยึดกับหลังคา ว่ามีจุดเสี่ยงที่จะทำให้เกิดน้ำรั่วได้หรือไม่ (ใช้ water proof , สิริโตรน PU , แผ่นซีก้าป้องกันน้ำ)	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
4	Inspect the mounting parts of the solar cell. ตรวจสอบสภาพโครงสร้างทั้งหมด เพื่อดูว่า PV, Mounting และอุปกรณ์ประกอบอื่นๆ ไม่หลวม	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
5	Inspect the condition of all cables to make sure The cables does not sag down to the roof. ตรวจสอบสภาพของสายทั้งหมดเพื่อให้แน่ใจว่า สาย ไม่หย่อนลงไปที่หลังคา	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6	Inspect the tightness of the wire terminals. ตรวจสอบความแน่นของขั้วสายไฟ			
6.1	-AC - Grid in Inverter	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.2	-Back - up in Inverter (Specific model Hybrid)	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.3	-Battery (Specific model Hybrid)	<input type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.4	-AC Breaker	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.5	-DC Breaker	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.6	-Fuse Holder	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.7	-Surge Protection	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
6.8	- Smarter Meter & CT (Current Transformer)	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
7	Check whether the SISO Switch is defective ตรวจสอบ SISO Switch ว่าชำรุดหรือไม่	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
8	Inspect for malfunctions of the inverter and other related electrical equipment. ตรวจสอบความผิดปกติของอินเวอร์เตอร์และอุปกรณ์ไฟฟ้าอื่น ๆ ที่เกี่ยวข้อง	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
9	Inspect heat of the solar panel whether there is an abnormal heat point or not (checked by using a thermal camera) การตรวจสอบความร้อนของแผงโซลาร์เซลล์ว่ามีจุดความร้อนผิดปกติหรือไม่ (ตรวจสอบโดยใช้กล้องถ่ายภาพความร้อน)	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	

Comment : _____

Inspection By : _____
 (Bunharn Libnoy)
 Project Engineer
 Date : ____/____/____