

SMARTER ENERGY SOLUTION

Preventive Maintenance Solar System



Customer Name : Desman Foo Maintenance : MA Date : 12 December 2024

Solar Panel			Inverter		
Brand	Model	Capacity	Brand	Model	S/N
<u>Exxon</u>	<u>EX450TC</u>	<u>10</u> Kwp.	<u>Solis</u>	<u>S9-GR3P10K</u>	<u>18050B023B180031</u>

Before Preventive Maintenance Solar System

Solar Panels	Operating Voltage / Current				Time	Inspection		Remark
String 1	<u>12</u> Panels	Voc <u>504.0</u> Vdc	Vmp <u>500.8</u> Vdc	Isc <u>0.82</u> A.	<u>16:00</u>	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 2	<u>12</u> Panels	Voc <u>509.9</u> Vdc	Vmp <u>502.9</u> Vdc	Isc <u>0.95</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>12</u> Panels	Voc <u>509.2</u> Vdc	Vmp <u>500.9</u> Vdc	Isc <u>2.94</u> A.	<u>17:00</u>	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
String 2	<u>12</u> Panels	Voc <u>524.4</u> Vdc	Vmp <u>491.2</u> Vdc	Isc <u>5.56</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

Device	Readings from Smarter Meter	Readings from Inverter Display	Field Measured Readings	Remark
Inverter	AC Line Voltage		AC Line Voltage	
	Phase L1 to Grd : <u>232.4</u> Vac	Phase L1 to Grd : <u>233.4</u> Vac	Phase L1 to Grd : <u>232.0</u> Vac	
	Phase L2 to Grd : <u>229.3</u> Vac	Phase L2 to Grd : <u>227.9</u> Vac	Phase L2 to Grd : <u>229.1</u> Vac	
	Phase L3 to Grd : <u>232.6</u> Vac	Phase L3 to Grd : <u>238.5</u> Vac	Phase L3 to Grd : <u>232.1</u> Vac	
	AC Line Current		AC Line Current	
	Phase L1 to Grd : <u>1.90</u> A	Phase L1 to Grd : <u>1.0</u> A	Phase L1 to Grd : <u>5.18</u> A	
	Phase L2 to Grd : <u>2.10</u> A	Phase L2 to Grd : <u>0.9</u> A	Phase L2 to Grd : <u>9.16</u> A	
	Phase L3 to Grd : <u>0.60</u> A	Phase L3 to Grd : <u>0.6</u> A	Phase L3 to Grd : <u>9.13</u> A	

Comment : _____

SMARTER ENERGY SOLUTION

Electrical Room Inspection



Customer Name : _____ Date : _____

Solar Panel				Inverter		
Brand	Model	Capacity	Install	Brand	Model	S/N
		Kwp.	Panels			

Device	Ambient Temperature	Temperature				Remark
Inverter	38.2 °C	Inside : 43.2 °C	Outside : 39.8 °C	Heatsync : 44.8 °C		
AC Cabinet	37.2 °C	MCB Breaker : 40 A. 36.7 °C	RCCB Breaker : 40 A. 36.4 °C	AC SPD : 3 Phase 36.4 °C		
		AC Cable : 10 Sq.m.	Smart Meter : 32.7 °C	CT Ratio : 150/5 A.		
		AC Terminal : 38.6 °C	3 Phase Meter Ratio : _____ A.			
		String No.	DC Fuse	DC Breaker	DC SPD	MC4 Connector
DC Cabinet 1	35.3 °C	String 1	35.6 °C A.	36.2 °C Vdc A.	39.7 °C Vdc A.	37.2 °C
		String 2	37.7 °C A.	39.8 °C Vdc A.	39.8 °C Vdc A.	37.8 °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	36.6 °C	AC Cable : 25 Sq.m.	Main Breaker : 100 A.	MCCB Feed : _____ A.		
		Wireway : 36.0 °C	MDB / LC : 36.7 °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 , สีโรครัน PU , แผ่นซีท้ำป้องกันน้ำ)	<input checked="" type="checkbox"/> Pass	<input type="checkbox"/> Not Pass	
4	Inspect the mounting parts of the solar cell. ตรวจสอบสภาพโครงสร้างทั้งหมด เพื่อตัว 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 สายไม่หย่อนลงไปที่หลังคา	<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. ตรวจสอบความผิดปกติของอินเวอร์เตอร์และอุปกรณ์ไฟฟ้าอื่นๆ 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 : ____ / ____ / ____