

Form B03

# Scheduled Maintenance Work Order



Quantum Medical Solutions sdn bhd  
 Transcending boundaries, transforming lives  
 Format Ref. -QMS/TSD-003 Rev. 00

MCH.

Work Order No	PWO 340104	Scheduled Month	JANUARY 2018
Work Order Date	01/01/2018	Completed Date	23.01.2018
Clinic Name	KU JALAN OYA	Clinic Code	SWK169.
BE No	SWK000808	District	SIBU
Be Category	LIGHTS, EXAMINATION	WO Assigned to	SUBME2
Ownership	<input checked="" type="checkbox"/> Existing Equipment	<input type="checkbox"/> MEET Equipment	
BE Condition	<input type="checkbox"/> Under Warranty	<input type="checkbox"/> BER Proposed	
Work Order Type	<input type="checkbox"/> Preventive Maintenance (PM)	<input type="checkbox"/> Third Party Calibration (TPC)	
	<input checked="" type="checkbox"/> Routine Inspection (RI)	<input type="checkbox"/> Statutory Certification (SC)	

## Third Party Calibration / Statutory Certification Details

Company Name	N/A	Cal / Cert Date	N/A
Company Number		Cal / Cert Expiry Date	

## Action Taken

- PPM done.  
 - Unit is functioning good.

## Schedule Maintenance Execution Details

SI No	QMS Engineer / Technician Name	Date	Start Time	End Time
005012	Charles Tham	23-01-2018	11:30	12:00

## Customer Remarks

Engineer / Technician Signature

Name

Date

**CHARLES THAM**  
 Biomedical Engineer  
 Quantum Medical Solutions  
 Sibu Division

23.01.2018

Customer Signature

Name

Designation

Date

Seal

ASTUTI KUMAR KUMAR  
 Pen. Pegawai Pasukan T302  
 0204 6303

27/1/2018

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First Verification


QMS Circle Incharge

James Bo

Sr. Biomedical Engineer  
 Quantum Medical Solutions

Final Verification

QMS State Incharge

 <small>quantum medical solutions sdn bhd</small>	<b>Quantum Medical Solutions Sdn Bhd</b> <b>BEMS Planned Preventive Maintenance Checklist</b> <b>Light, Examination</b> <small>9E CODE 12-276</small>	<small>CHECKLIST NO: CL-091 REV.000</small>
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**PART 1 ASSET DETAILS**

WORK ORDER NO ▶ <b>PW0340104</b>	ASSET NO ▶ <b>SWK004808</b>
MANUFACTURER ▶	MODEL ▶
FREQUENCY ▶ 3 MONTHLY ( )    6 MONTHLY ( )    12 MONTHLY ( <input checked="" type="checkbox"/> )	PPM HOURS ▶ <b>0.5H</b>

**PART 2 SPECIAL PRECAUTION**

If there is evidence of body fluid contamination, submit the device for cleaning and decontamination before inspecting it.

Wear appropriate Personnel Protection Equipment (PPE) during work.

Wear grounded electrostatic wristband when handling PCB or electronic components.

Refer to the safety procedure for additional precautions and guidance as per manufacturer guidelines.

Make sure the test equipment used are duly calibrated.

**PART 3 TEST APPARATUS**

*✓ (✓) where appropriate*

NO	ASSET NO	DESCRIPTION	SERIAL NO	CALIBRATION DUE ON
1)	TEESA0007	ELECTRICAL SAFETY ANALYZER	348073	20/12/18
2)	TEESA0116	LUX METER	150106816	7/10/18


**PART 4 QUALITATIVE TASKS**

*Tick (✓) where appropriate*

	PASS	FAIL	NA		PASS	FAIL	NA
1 Chassis - verify physical integrity, cleanliness and condition	( <input checked="" type="checkbox"/> )	( )	( )	7 Easy handling of all the articulation - verify performance	( <input checked="" type="checkbox"/> )	( )	( )
2 Fittings/Connectors - verify integrity	( <input checked="" type="checkbox"/> )	( )	( )	8 Maneuver stability - verify balance	( <input checked="" type="checkbox"/> )	( )	( )
Controls/Switches - verify proper operation of controls	( <input checked="" type="checkbox"/> )	( )	( )	9 Stand by power - verify operation	( <input checked="" type="checkbox"/> )	( )	( )
Indicators/ Displays - verify proper illumination and operation	( <input checked="" type="checkbox"/> )	( )	( <input checked="" type="checkbox"/> )	10 Circular appearance of the light path - verify performance	( <input checked="" type="checkbox"/> )	( )	( )
5 Brightness Control - verify operation	( )	( )	( <input checked="" type="checkbox"/> )	11 Check light focus	( )	( )	( <input checked="" type="checkbox"/> )
6 Lighthouse - verify fixation	( <input checked="" type="checkbox"/> )	( )	( )	12 Suspension - verify fixation	( <input checked="" type="checkbox"/> )	( )	( )

**PART 5 PREVENTIVE MAINTENANCE TASKS**

Tick (✓) where appropriate			
	DONE	NOT DONE **	NA
Lenses/Heat Filter - Check and clean	( ✓ )	( )	( )
Cleanliness - Clean the exterior and interior of the equipment	( ✓ )	( )	( )
Bulb - Check / replace***	( ✓ )	( )	( )
Notes:  * For all Parts, NA is defined as NOT APPLICABLE **If you have ticked 'NOT DONE', then justify in Part 8 *** Choose Whichever Applicable			

 <small>Quantum Medical Solutions Sdn Bhd</small> <small>10, Jalan Puncak Borneo, 94000 Kemaman, Terengganu, Malaysia</small>	<b>Quantum Medical Solutions Sdn Bhd</b> BEMS Planned Preventive Maintenance Checklist Light, Examination BE CODE : 12-278	CHECKLIST NO: CL-091 REV.000
	WORK ORDER NO ▶ PW0340104	
	<b>PART 6 QUANTITATIVE TASKS</b>	
	<i>Tick (✓) where appropriate</i>	

No	Description	Units / UOM	Set Values	Measured Values	Limit/Tolerance	PASS	FAIL	NA
	Light intensity at 1 m distance	Lux				( )	( )	( )

<b>PART 7 ELECTRICAL SAFETY TEST</b> ELECTRICAL SAFETY TEST, (attach report) <small>(In accordance to IEC 60601)</small> <input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL <input type="checkbox"/> NA
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<b>PART 8 NOTES</b>  -ppm done.  -Unit is functioning good.
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<input type="checkbox"/> CORRECTIVE MAINTENANCE REQUIRED <input checked="" type="checkbox"/> FUNCTIONING <input type="checkbox"/> NOT FUNCTIONING
WORK ORDER NO ▶ _____      NEXT PPM DATE ▶ JAN 2019

PPM has been performed in accordance to the checklist and the equipment is functioning to the intended purpose. COMPLETED BY: <b>CHARLES I HAM</b> Biomedical Engineer Quantum Medical Solutions Sibu Division DATE: 19-01-2018
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## Test Setup

Operator ID : A  
 Calibration Tech : 99699  
 Calibration Date : 20/12/2018  
 Firmware Version : 2.12.01  
 Serial Number : 3218073  
 Date & Time : 23/01/2018 & 11:50  
 JOB Name : PPM

## DUT Information

Equipment Number : SWK004808  
 Serial Number : N/A  
 Manufacturer : N/A  
 Model : N/A  
 Location : KK JLN OYA  
 Other :

## Template Information

Template Name : Light, Examination  
 Pause after Power ON: NO  
 Power ON delay: 2  
 Test Speed: NORMAL  
 Halt on Test Failure: YES  
 Include Time: YES  
 Insulation Resistance V<sub>i</sub>: 500V  
 Multi Enclosure Test : NO

Standard : IEC60601-1-2nd Ed  
 Pause before Power OFF: NO  
 Power OFF delay: 0  
 Test Mode: AUTO  
 Multi PE Test: NO  
 Multi Resstore: WORST/LAST  
 Reverse Polarity: YES  
 Classification: I

## PLC Configuration-Applied part setup

AP Name	AP Type	AP Num
	B	II

## ESA615 Test Results

Test Name	Value	High Limits	Low Limits	Status
Protective Earth Resistance	0.098 Ohm	0.2	-	P
Insulation Resistance				
Mains to Protective Earth	999 MOhm	-	-	P
Mains to Non-Earth Accessible Conductive Part	999 MOhm	-	-	P
Mains to Applied Parts	999 MOhm	-	-	P
Applied Parts to Non-Earth Accessible Conductive Part	999 MOhm	-	-	P
Mains Voltage				
Live to Neutral	239.1 V	-	-	P
Neutral to Earth	3.8 V	-	-	P
Live to Earth	240.5 V	-	-	P
Equipment Current	0.0 A	-	-	P

# Earth Leakage Current


Normal Condition	16.3 uA-OPEN	500	-	P
Open Neutral	33.5 uA-OPEN	1000	-	P
Open Neutral- Reversed Mains	33.4 uA-OPEN	1000	-	P
Normal Condition- Reversed Mains	17.7 uA-OPEN	500	-	P

# Enclosure Leakage Current

Normal Condition	0.7 uA-OPEN	100	-	P
Open Earth	0.9 uA-OPEN	500	-	P
Open Neutral	1.2 uA-OPEN	500	-	P
Open Neutral- Reversed Mains	1.2 uA-OPEN	500	-	P
Normal Condition- Reversed Mains	0.7 uA-OPEN	100	-	P
Open Earth- Reversed Mains	0.9 uA-OPEN	500	-	P

# Patient Leakage Current

Normal Condition				
	0.5 uA-OPEN	100	-	P
Open Earth				
	0.6 uA-OPEN	500	-	P
Open Neutral				
	0.7 uA-OPEN	500	-	P
Open Neutral- Reversed Mains				
	0.6 uA-OPEN	500	-	P
Normal Condition- Reversed Mains				
	0.5 uA-OPEN	100	-	P
Open Earth- Reversed Mains				
	0.5 uA-OPEN	500	-	P

  
Signature