Form B03
Scheduled Maintenance Work Order

Quantum Medical Solutions sdn bhd
transcending boundaries, transforming life

Format Ref: - QMS/TSD-022 Rev 01

Work Order No.	PWO366443	Schedule Month	July 2018
Work Order Date	01/07/2018	Completed Date	10/7/2018
Clinic Name	Klinik Kesihatan Sungai Rengit	Clinic Code	JHR047
BE No.	JHNMOP072	Distict	KOTA TINGGI
BE Category	Monitoring Systems, Physiologic	WO Assigned to	kktgbme3
Ownership	☐ Existing Equipment	☐ Purchase	☑ New
BE Condition	☑ Active	☐ BER Proposed	
Work Order Type	☑ Preventive Maintenance (PM)	☐ Third Party Calibration (TPC)	
	☐ Routine Inspection (RI)	☐ Statutory Certification (SC)	

Reschedule Date	MD

BE Third Party Calibration / Statutory Certification Details

Company Name	NA	Cal / Cert Date	NA
Contact Number	NA	Cal / Cert Expiry Date	NA

Action Taken

☑ PM / ~~RI~~ job done as per checklist. Unit tested functioning good & ready to use.

☐ Corrective Maintenance / ☐ Breakdown

BE Sticker Availability : ☑ Yes / ☐ NA

Remarks:

Manufacturer : MINDRAY

Model : IPM10

Serial No : FG-72033875

Schedule Maintenance Execution Details

Sl No	QMS Engineer / Technician Name	Date	Start Time	End Time
MD	SAFWAN	10/7/18	1400	1430

Customer Remarks: MD

Engineer / Technician Signature

Name: MOHAMAD SAFWAN BIN ROSLAN

Date: 10/7/18

Biomedical Technician
Quantum Medical Solution Sdn. Bhd

Customer Signature

Name: NORHASMAH BINTI BAHRUN

Designation: Jururawat Kesihatan U29
KK Sungai Rengit

Date

Seal: 10/7/18

For Internal Use

MUHD RAMADHAN B. TAMAR SAYA
Biomedical Engineer
Technical Service Department
Quantum Medical Solutions Sdn. Bhd.
Tel: +60 12-396 1697

First Verification
QMS Circle Incharge

Final Verification
QMS State Incharge

KEMENTERIAN KESIHATAN MALAYSIA

MEET Planned Preventive Maintenance Checklist

Monitoring Systems, Physiologic

BE CODE : 12-636

CHECKLIST NO: CL-101-000
REV.000

PART 1 ASSET DETAILS

WORK ORDER NO ► PW0366443

ASSET NO ► ~~3174~~ JHNMoP072

MANUFACTURER ► MINORAY

MODEL ► iPm 10

FREQUENCY ► 3 MONTHLY ( ) 6 MONTHLY ( ) 12 MONTHLY (√)

PPM HOURS ► 1.00

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

Tick (√) where appropriate

NO	ASSET NO	DESCRIPTION	SERIAL NO	CALIBRATION DUE ON
1	TESSA 0010	ELECTRICAL SAFETY ANALYZER	3218071	24/8/18
2	TEESA 0186	PATIENT SIMULATOR /NIBP ANALYZER	3233028	12/10/18
3	MD	OXYGEN SATURATION/PULSE RATESIMULATOR	MD	MD
4	TEESA 0186 ~~MD~~	NIBP ANALYZER /NIBP ANALYZER	3231028 ~~MD~~	12/10/18 ~~MD~~

PART 4 QUALITATIVE TASKS

Tick (√) where appropriate

		PASS	FAIL	NA
1	Chassis - verify physical integrity, cleanliness and condition	(✓)	( )	( )
2	Mount/ Fasteners - verify physical integrity	(✓)	( )	( )
3	Cables - verify integrity	(✓)	( )	( )
4	AC Plug - verify integrity	(✓)	( )	( )
5	Power Cord - verify proper insulation and integrity	(✓)	( )	( )
6	Strain Relief - verify physical integrity at both ends of line cord	(✓)	( )	( )
7	Circuit Breaker/ Fuse - verify integrity of external circuit breaker and/or rating of external fuse	(✓)	( )	( )
8	Fittings/ Connectors - check all fittings/connectors	(✓)	( )	( )
9	Controls/Switches - verify proper operation of controls	(✓)	( )	( )
10	Indicators/ Displays - verify illumination and operation	(✓)	( )	( )
11	Alarms - verify proper operation and automatic activation	(✓)	( )	( )
12	Cuff & hose - verify connectivity and physical integrity	(✓)	( )	( )
13	ECG cable - verify physical integrity, connection and proper operation	(✓)	( )	( )
14	SPO^2 probe - verify proper operation and condition	(✓)	( )	( )

PART 5 PREVENTIVE MAINTENANCE TASKS

Tick (√) where appropriate

		DONE	NOT DONE **	NA
1	Clean the exterior and interior of the equipment	(✓)	( )	( )
2	Battery - 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

KEMENTERIAN KESIHATAN MALAYSIA

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REV.000

WORK ORDER NO ► PWO 366443

PART 6 QUANTITATIVE TASKS

Tick (√) where appropriate

No	Description	Units / UOM	Set Values	Measured Values	Limit/Tolerance	PASS	FAIL	NA
1	NIBP Pressure (Systolic/Diastolic)	mmHg	80	80	75-85	(√)	( )	( )
			50	50	45 - 55	(√)	( )	( )
		mmHg	120	120	115 - 125	(√)	( )	( )
			70	70	65 - 75	(√)	( )	( )
		mmHg	200	200	195 - 205	(√)	( )	( )
			150	150	145 - 155	(√)	( )	( )
2	Heart Rate Accuracy	bpm	30	30	29 - 31	(√)	( )	( )
		bpm	60	60	59 - 61	(√)	( )	( )
		bpm	120	120	118 - 122	(√)	( )	( )
3	SpO2 Accuracy	%	80	80	78 - 82	(√)	( )	( )
		%	90	90	88 - 92	(√)	( )	( )
		%	98	98	96 - 100	(√)	( )	( )

PART 7 ELECTRICAL SAFETY TEST

ELECTRICAL SAFETY TEST, (attach report)

Tick (√) where appropriate

Standard use: ☑ IEC 60601 ☐ IEC 61010 ☐ IEC 62353

Result: ☑ PASS ☐ FAIL ☐ NA

PART 8 NOTES

MA

☐ CORRECTIVE MAINTENANCE REQUIRED ☑ FUNCTIONING ☐ NOT FUNCTIONING

WORK ORDER NO ► MA

NEXT PPM DATE ► July 2019

PPM has been performed in accordance to the checklist and the equipment is functioning to the intended purpose.

COMPLETED BY:

MOHAMAD SAFWAN BIN ROSLAN
Biomedical Technician
Quantum Medical Solution Sdn. Bhd

DATE : 10/7/19

Test Setup

Operator ID :	
Calibration Tech :	MOHANA
Calibration Date :	24/08/2018
Firmware Version :	2.08.01
Serial Number :	3218071
Date & Time :	10/07/2018 & 02:15pm
JOB Name :	

DUT Information

Equipment Number :	JHNMOP072
Serial Number :	
Manufacturer :	
Model :	
Location :	KK SUNGAI RENGIT
Other :	

Template Information

Template Name :	MONITORING	Standard :	IEC60601-1-2nd Ed
Pause after Power ON:	NO	Pause before Power OFF:	NO
Power ON delay:	2	Power OFF delay:	0
Test Speed:	NORMAL	Test Mode:	AUTO
Halt on Test Failure:	YES	Multi PE Test:	NO
Include Time:	YES	Multi Resstore:	WORST/LAST
Insulation Resistance Volta	500V	Reverse Polarity:	YES
Multi Enclosure Test :	NO	Classification:	I

PLC Configuration-Applied part setup

AP Name	AP Type	AP Num

ESA615 Test Results

Test Name	Value	High Limits	Low Limits	Status
Protective Earth Resistance	0.361 Ohn		0.2 -	F
Insulation Resistance				P
Mains to Protective Earth	49.0 MOh	-	-	P
Mains to Non-Earth Accessible Conductive Part	999 MOhn	-	-	P
Mains Voltage				P
Live to Neutral	259.5 V	-	-	P
Neutral to Earth	5.4 V	-	-	P
Live to Earth	254.0 V	-	-	P
Equipment Current	0.0 A	-	-	P
Earth Leakage Current				P
Normal Condition	50.6 uA-O		500 -	P
Open Neutral	58.9 uA-O		1000 -	P
Open Neutral- Reversed Mains	27.4 uA-O		1000 -	P
Normal Condition- Reversed Mains	15.4 uA-O		500 -	P
Enclosure Leakage Current				P
Normal Condition	0.6 uA-OP		100 -	P
Open Earth	1.1 uA-OP		500 -	P
Open Neutral	0.7 uA-OP		500 -	P
Open Neutral- Reversed Mains	0.7 uA-OP		500 -	P
Normal Condition- Reversed Mains	0.6 uA-OP		100 -	P
Open Earth- Reversed Mains	0.7 uA-OP		500 -	P

Signature