

## 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.	PWO371612	Schedule Month	June 2018
Work Order Date	01/06/2018	Completed Date	13-06-2018
Clinic Name	Klinik Kesihatan Pesta / Kampung Ken.	Clinic Code	JHR015
BE No.	JHNMOP051	Distict	BATU PAHAT
BE Category	Monitoring Systems, Physiologic	WO Assigned to	MUHD SHAZRUL
Ownership	<input type="checkbox"/> Existing Equipment	<input type="checkbox"/> Purchase	<input checked="" type="checkbox"/> New
BE Condition	<input checked="" type="checkbox"/> Active	<input type="checkbox"/> BER Proposed	
Work Order Type	<input checked="" type="checkbox"/> Preventive Maintenance (PM)	<input type="checkbox"/> Third Party Calibration (TPC)	
	<input type="checkbox"/> Routine Inspection (RI)	<input type="checkbox"/> Statutory Certification (SC)	

Reschedule Date	
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## BE Third Party Calibration / Statutory Certification Details

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

## Action Taken

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

Manufacturer :

☐ Corrective Maintenance / ☐ Breakdown

Modal :

BE Sticker Availability : ☒ Yes / ☐ No

Serial No :

Remarks:

## Schedule Maintenance Execution Details

SI No	QMS Engineer / Technician Name	Date	Start Time	End Time
	MUHD SHAZRUL	13-06-2018	15:05	16:05

## Customer Remarks

NA

Engineer / Technician Signature	Customer Signature
Name	Name
Date	Date
	Seal
<p>13/06/2018</p> <p>QUANTUM MEDICAL SOLUTION</p> <p>MUHAMMAD SHAZRUL BIN MOHD SAMSURI</p> <p>BIOMEDICAL TECHNICIAN</p>	<p>Nur Hazirah Negeri Abdullah</p> <p>(No. Pendaftaran Penuh: 54451)</p> <p>Jururawat U29</p> <p>KK Kg. Kelangan Dato Onn</p> <p>9/7/18</p>

For Internal Use

First Verification  
QMS Circle Incharge

RAZILA MISKAN

Biomedical Engineer (Circle In-Charge)

Quantum Medical Solutions Sdn. Bhd.

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 ▶ PWO 371612 ASSET NO ▶ JHNMOP 051  
MANUFACTURER ▶ Mindray 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	TEESA 0074	ELECTRICAL SAFETY ANALYZER	3226908	10/11/2018
2	TEESA 0186	PATIENT SIMULATOR	3233828	10/12/2018
3	TEESA 0186	OXYGEN SATURATION/PULSE RATESIMULATOR	3233028	10/12/18
4	TEESA 0186	NIBP ANALYZER	3233028	10/12/2018

## PART 4 QUALITATIVE TASKS

Tick ( ✓ ) where appropriate

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

MEET Planned Preventive Maintenance Checklist  
Monitoring Systems, Physiologic  
BE CODE : 12-636

CHECKLIST NO: CL-101-000  
REV.000

WORK ORDER NO ▶

## 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

NA

☐ CORRECTIVE MAINTENANCE REQUIRED

☒ FUNCTIONING

☐ NOT FUNCTIONING

WORK ORDER NO ▶ NA

NEXT PPM DATE ▶ JUNE 19

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

COMPLETED BY: MUHD SHAZRUL

DATE : 13-06-2018

## Test Setup

Operator ID :  
 Calibration Tech : DINA  
 Calibration Date : 9/10/2017  
 Firmware Version : 2.08.01  
 Serial Number : 3226906  
 Date & Time : 06/13/2018 & 15:10  
 JOB Name :

## DUT Information

Equipment Number : JHNMOP051  
 Serial Number :  
 Manufacturer : MINDRAY  
 Model : iPM10  
 Location : KK PESTA  
 Other :

## Template Information

Template Name : JHNMOP051  
 Pause after Power ON: NO  
 Power ON delay: 2  
 Test Speed: NORMAL  
 Halt on Test Failure: YES  
 Include Time: YES  
 Insulation Resistance \ 500V  
 Multi Enclosure Test : NO

Standard : IEC60601-1-2nd Ed  
 Pause before Power O 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

## ESA615 Test Results

Test Name	Value	High Limits	Low Limits	Status
Protective Earth Resistance	0.591 Ohm	0.2 -		F
Insulation Resistance				P
Mains to Protective Earth	999 MOhm -	-		P
Mains to Non-Earth Accessible Conductive Par	999 MOhm -	-		P
Mains Voltage				P
Live to Neutral	248.0 V -	-		P
Neutral to Earth	1.8 V -	-		P
Live to Earth	247.5 V -	-		P
Equipment Current	0.0 A -	-		P
Earth Leakage Current				P
Normal Condition	15.1 uA-OI	500 -		P
Open Neutral	29.4 uA-OI	1000 -		P
Open Neutral- Reversed Mains	29.6 uA-OI	1000 -		P
Normal Condition- Reversed Mains	15.1 uA-OI	500 -		P
Enclosure Leakage Current				P



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Normal Condition	0.1 $\mu$ A-OPI	100 -	P
Open Earth	15.1 $\mu$ A-OI	500 -	P
Open Neutral	0.1 $\mu$ A-OPI	500 -	P
Open Neutral- Reversed Mains	0.2 $\mu$ A-OPI	500 -	P
Normal Condition- Reversed Mains	0.1 $\mu$ A-OPI	100 -	P
Open Earth- Reversed Mains	15.3 $\mu$ A-OI	500 -	P

  
Signature

