

## METRON QA-90 Safety Test Report

### protokol o testu elektrické bezpečnosti

Technik : Ing.J.Vrána

Firma : S&amp;T Plus s.r.o. Praha

QA-90 serial # : 10525

Datum: 28.2.2005

Firmware : 03.47

Cas: 13:50

Appliance Code : M1205A

Výrobní číslo : 4335A22248

Výrobce : Hewlett-Packard / Agilent Technologies / PHILIPS

Typ : M1205A

Model : V26E

Uživatel : Neurochirurgie JIP

Adresa : FN Olomouc

Klasifikace přístroje : CL1

Mezní hodnoty podle : IEC 60601.1

## VYSLEDKY TESTU

### -- MODULE INFORMATION --

Module Code

Module Type

No of leads

5 LEAD ECG

CF

5

SPO2

CF

1

### -- SETUP DATA --

Power Up Delay Time

: 2

Stop after new power config

: No

Stop at new module

: No

Stop before new power config

: No

Multiple Protective Earth Tests

: No

Multiple Enclosure Tests

: No

Protective Earth test current

: 25 A

External Isolating Transformer

: No

| Test                             | Limit   | Result  | Warning |
|----------------------------------|---------|---------|---------|
| <b>Supply Voltage</b>            |         |         |         |
| N-G                              |         | 97,5 V  |         |
| L-G                              |         | 143,4 V |         |
| L-N                              |         | 234,9 V |         |
| <b>Current Consumption</b>       |         | 206 mA  |         |
| <b>Protective Earth</b>          | 200 mΩ  | 67 mΩ   |         |
| <b>Insulating Resistance</b>     |         |         |         |
| Applied Part-Case                |         | >200 MΩ |         |
| Applied Part-Case                |         | >200 MΩ |         |
| Mains-Case                       |         | >200 MΩ |         |
| <b>Earth Leakage Current</b>     |         |         |         |
| OS                               | 1000 μA | 161 μA  |         |
| NC                               | 500 μA  | 29 μA   |         |
| OS-RM                            | 1000 μA | 160 μA  |         |
| NC-RM                            | 500 μA  | 29 μA   |         |
| <b>Enclosure Leakage Current</b> |         |         |         |
| OS                               | 500 μA  | 0 μA    |         |
| NC                               | 100 μA  | 0 μA    |         |
| OE                               | 500 μA  | 29 μA   |         |

**Enclosure Leakage Current (continued)**

|       |             |            |
|-------|-------------|------------|
| OS-RM | 500 $\mu$ A | 0 $\mu$ A  |
| NC-RM | 100 $\mu$ A | 0 $\mu$ A  |
| OE-RM | 500 $\mu$ A | 29 $\mu$ A |

**Patient Leakage Current AC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : SPO2, Lead : 6          | 50 $\mu$ A | 0 $\mu$ A |
| OS, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : SPO2, Lead : 6          | 10 $\mu$ A | 0 $\mu$ A |
| NC, Module : 5 LEAD ECG, Lead : 5    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : SPO2, Lead : 6          | 50 $\mu$ A | 0 $\mu$ A |
| OE, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : SPO2, Lead : 6       | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : SPO2, Lead : 6       | 10 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 5 LEAD ECG, Lead : 5 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : SPO2, Lead : 6       | 50 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |

**Mains on Applied Parts**

|                                         |            |            |
|-----------------------------------------|------------|------------|
| SFC, Module : SPO2, Lead : ALL          | 50 $\mu$ A | 5 $\mu$ A  |
| SFC, Module : 5 LEAD ECG, Lead : ALL    | 50 $\mu$ A | 12 $\mu$ A |
| SFC-RM, Module : SPO2, Lead : ALL       | 50 $\mu$ A | 5 $\mu$ A  |
| SFC-RM, Module : 5 LEAD ECG, Lead : ALL | 50 $\mu$ A | 11 $\mu$ A |

**Patient Auxiliary Current AC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : 5 LEAD ECG, Lead : 5    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 5 LEAD ECG, Lead : 5 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |

**Patient Auxiliary Current DC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : 5 LEAD ECG, Lead : 5    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 5 LEAD ECG, Lead : 5 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |

**Patient Leakage Current DC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : SPO2, Lead : 6          | 50 $\mu$ A | 0 $\mu$ A |
| OS, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : SPO2, Lead : 6          | 10 $\mu$ A | 0 $\mu$ A |
| NC, Module : 5 LEAD ECG, Lead : 5    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : SPO2, Lead : 6          | 50 $\mu$ A | 0 $\mu$ A |
| OE, Module : 5 LEAD ECG, Lead : 5    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : SPO2, Lead : 6       | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : SPO2, Lead : 6       | 10 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 5 LEAD ECG, Lead : 5 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : SPO2, Lead : 6       | 50 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 5 LEAD ECG, Lead : 5 | 50 $\mu$ A | 0 $\mu$ A |

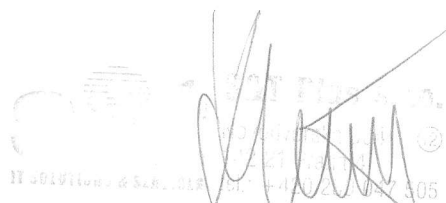
\*\*\*\*\* UNIT PASSED TEST! \*\*\*\*\*

**Remark :**

modul ECG M1001A v.è. 3218G07456

modul SpO2 M1020A v.è. 3224G10003

rack M1041A v.è DE320C6655



Handwritten signature and stamp, likely indicating approval or completion of the test.