

## METRON QA-90

### protokol o testu elektrické bezpečnosti

|                              |                                                              |                             |                              |
|------------------------------|--------------------------------------------------------------|-----------------------------|------------------------------|
| <b>Technik</b>               | : Ing. Josef Vrána                                           |                             |                              |
| <b>Firma</b>                 | : S&T Plus s.r.o., Novodvorská 994, 142 21 Praha 4           |                             |                              |
| <b>QA-90 no:</b>             | <b>12395</b>                                                 | <b>ver :</b>                | <b>04.05</b>                 |
|                              |                                                              | <b>Dne :</b>                | <b>26.6.2006 Hod.: 12:29</b> |
| <b>Model</b>                 | : M1205A                                                     | <b>Výrobní číslo</b>        | : 4006A94342                 |
| <b>Typ</b>                   | : Viridia 24C                                                | <b>Inventurní číslo</b>     | :                            |
|                              | <b>Výrobce:</b> Hewlett-Packard/Agilent Technologies/Philips |                             |                              |
| <b>Umístění/uzivatel</b>     | : IPCHO                                                      |                             |                              |
| <b>Adresa:</b>               | Fakultní nemocnice Olomouc, I.P.Pavlova 6, 775 20 Olomouc    |                             |                              |
| <b>Klasifikace přístroje</b> | : CL1                                                        | <b>Mezní hodnoty podle:</b> | IEC 60601.1                  |

## TEST RESULTS

### -- MODULE INFORMATION --

|                    |                    |                    |
|--------------------|--------------------|--------------------|
| <b>Module Code</b> | <b>Module Type</b> | <b>No of leads</b> |
| 3 LEAD ECG         | CF                 | 3                  |
| SPO2               | CF                 | 1                  |

### -- SETUP DATA --

|                                        |        |                                       |      |
|----------------------------------------|--------|---------------------------------------|------|
| <b>Power Up Delay Time</b>             | : 2    | <b>Stop after new power config</b>    | : No |
| <b>Stop at new module</b>              | : No   | <b>Stop before new power config</b>   | : No |
| <b>Multiple Protective Earth Tests</b> | : No   | <b>Multiple Enclosure Tests</b>       | : No |
| <b>Protective Earth test current</b>   | : 25 A | <b>External Isolating Transformer</b> | : No |

| Test                              | Limit   | Result  | Warning |
|-----------------------------------|---------|---------|---------|
| <b>Supply Voltage</b>             |         |         |         |
| N-G                               |         | 0,3 V   |         |
| L-G                               |         | 228,3 V |         |
| L-N                               |         | 228,1 V |         |
| <b>Current Consumption</b>        |         | 213 mA  |         |
| <b>Protective Earth</b>           |         |         |         |
|                                   | 200 mΩ  | 119 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 | 0 μA    |         |
| NC                                | 500 μA  | 0 μA    |         |
| OS-RM                             | 1000 μA | 0 μA    |         |
| NC-RM                             | 500 μA  | 0 μA    |         |
| <b>Enclosure Leakage Current</b>  |         |         |         |
| OS                                | 500 μA  | 0 μA    |         |
| NC                                | 100 μA  | 0 μA    |         |
| OE                                | 500 μA  | 0 μA    |         |
| OS-RM                             | 500 μA  | 0 μA    |         |
| NC-RM                             | 100 μA  | 0 μA    |         |
| OE-RM                             | 500 μA  | 0 μA    |         |
| <b>Patient Leakage Current AC</b> |         |         |         |
| OS, Module : SPO2, Lead : 4       | 50 μA   | 0 μA    |         |
| OS, Module : 3 LEAD ECG, Lead : 3 | 50 μA   | 0 μA    |         |
| NC, Module : SPO2, Lead : 4       | 10 μA   | 0 μA    |         |
| NC, Module : 3 LEAD ECG, Lead : 3 | 10 μA   | 4 μA    |         |

**Patient Leakage Current AC (continued)**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OE, Module : SPO2, Lead : 4          | 50 $\mu$ A | 0 $\mu$ A |
| OE, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 4 $\mu$ A |
| OS-RM, Module : SPO2, Lead : 4       | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : SPO2, Lead : 4       | 10 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 3 LEAD ECG, Lead : 3 | 10 $\mu$ A | 4 $\mu$ A |
| OE-RM, Module : SPO2, Lead : 4       | 50 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 4 $\mu$ A |

**Mains on Applied Parts**

|                                         |            |           |
|-----------------------------------------|------------|-----------|
| SFC, Module : SPO2, Lead : ALL          | 50 $\mu$ A | 4 $\mu$ A |
| SFC, Module : 3 LEAD ECG, Lead : ALL    | 50 $\mu$ A | 9 $\mu$ A |
| SFC-RM, Module : SPO2, Lead : ALL       | 50 $\mu$ A | 4 $\mu$ A |
| SFC-RM, Module : 3 LEAD ECG, Lead : ALL | 50 $\mu$ A | 9 $\mu$ A |

**Patient Auxiliary Current AC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : 3 LEAD ECG, Lead : 1    | 10 $\mu$ A | 4 $\mu$ A |
| OE, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 4 $\mu$ A |
| OS-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 3 LEAD ECG, Lead : 3 | 10 $\mu$ A | 4 $\mu$ A |
| OE-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 4 $\mu$ A |

**Patient Auxiliary Current DC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : 3 LEAD ECG, Lead : 3    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 3 LEAD ECG, Lead : 3 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |

**Patient Leakage Current DC**

|                                      |            |           |
|--------------------------------------|------------|-----------|
| OS, Module : SPO2, Lead : 4          | 50 $\mu$ A | 0 $\mu$ A |
| OS, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 0 $\mu$ A |
| NC, Module : SPO2, Lead : 4          | 10 $\mu$ A | 0 $\mu$ A |
| NC, Module : 3 LEAD ECG, Lead : 3    | 10 $\mu$ A | 0 $\mu$ A |
| OE, Module : SPO2, Lead : 4          | 50 $\mu$ A | 0 $\mu$ A |
| OE, Module : 3 LEAD ECG, Lead : 3    | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : SPO2, Lead : 4       | 50 $\mu$ A | 0 $\mu$ A |
| OS-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : SPO2, Lead : 4       | 10 $\mu$ A | 0 $\mu$ A |
| NC-RM, Module : 3 LEAD ECG, Lead : 3 | 10 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : SPO2, Lead : 4       | 50 $\mu$ A | 0 $\mu$ A |
| OE-RM, Module : 3 LEAD ECG, Lead : 3 | 50 $\mu$ A | 0 $\mu$ A |

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

**Poznámka :**

modul ECG M1002B v.è. DE01795783

modul SpO2 M1020A v.è. DE805E0267

modul NBP M1008B v.è. DE911E3123

rack M1041A v.è. 3805G89946

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