



**RIGEL MEDICAL**

GMC-INSTRUMENTS GROUP

# How can I manipulate or inspect Rigel 288 data?

## 1. Configuration Data

### 1.1.Data format

Configuration data can be sent to and from the tester. The format is ASCII text strings. This makes it easy to add new configuration data at a later date. It also makes it easy to manipulate configuration data on a PC using a standard text editor.

The format of a configuration data file is :

**[Trace<n>]**

**<value1>**

**<value2>**

**etc...**

**[UserName]**

**<value1>**

**<value2>**

**etc...**

**[Comment]**

**<value1>**

**<value2>**

**etc...**

**[AppModuleName]**

<value1>

<value2>

etc...

[END]

For example a typical configuration file might look like this:

[Trace2]

Peterlee

Hartlepool

[Trace3]

Engineering Dept.

Sales Room

[Trace8]

Client A

Client B

[UserName]

Steve Rudd

Joe Bloggs

Sr Jose Carreras

[Comment]

Defibrillator

ECC

[AppModuleName]

AP module 1

AP module 2

[End]

## 2. CSV Download Data Format

### 2.1. Summary Result format

A Summary Download format is shown below. It consists of the header information from the Complete Result format and the overall status only. Individual test results are omitted.

The enter symbol indicates ASCII <CR><LF> characters.

Words in **bold** text are keywords which will change according to the language setting.

**Tested on**,23 Jan 2008,,,,

**Asset ID**,A000002,,,,

**User Name**,Admin,,,,

**Test Sequence**,62353 - ClassI - Alt,,,,

**Status**,Failed

### 2.2. Complete Result format

The “Complete Result Download” format consists of the following items. NB the “List” items are further defined in the subsequent sections.

**Tested on**,23 Jan 2008,,,,

**Asset ID**,A000002,,,,

<Tester Model>, <Tester Serial Number>,,,,

<Asset Trace Variables List>

<Applied Part Module List>

**User Name**,Admin,,,,

**Test Sequence**,62353 - ClassI - Alt,,,,

<Test Results List>

**User Comment**, < Line 1>,< Line 2>,< Line 3>,< Line 4>,,

**Status**,Failed

Note there is a blank line between each asset, and at the end of all assets is the single line:

**End of Data**

### **2.2.1. <Asset Trace Variables List>**

This is a list of all the active Trace Variables in the form:

<Trace Variable Name>, <Trace Variable>,,,,

Eg:-

Site, London,,,,

Location,Hospital,,,,

Model,Type2,,,,

### **2.2.2. <Applied Part Module List>**

This is a list of all the active AP modules. Data on each module is output in the form:

**AP Setup**,<Module name>, <Type>,<Connection numbers>,,,

Eg:

AP Setup,AP 1, type B, (B 1 - 3),,,

AP Setup,AP 2, type BF, (BF 4 - 6),,,

AP Setup,AP 3, type CF, (CF 7 - 9),,,

### 2.2.3. <Test Results List>

This is a list of all the test results. Each individual test result consists of either

:

**<Test Name>, <Mains state>, <Single Fault Condition>, <measured value>, <Pass/fail status>, <Pass/Fail Threshold> ,<units>**

Possible **<Test Name>** values are:

Custom Test

Visual Test

Earth Bond

Insulation EUT 250V

Insulation EUT 500V

Insulation AP 250V

Insulation AP 500V

Insulation AP-Mains 250V

Insulation AP-Mains 500V

IEC Wiring Test

Load Test

Live Voltage

Load Current

Neutral Voltage

Earth Lkg

Enclosure Lkg

AP Lkg (Dir)

AP Lkg (Alt)

Patient Lkg

Equip Leakage (Dir)

Equip Leakage (Diff)

Equip Leakage (Alt)

Patient Lkg (F Type)

Patient Lkg (Auxiliary)

NFPA 99 Chassis Lkg

NFPA 99 Patient Lkg

NFPA Patient (F Type)

Lead to Lead Lkg

Patient Aux AP-ALL

Possible < **Mains state** > values are:

Mains Normal

Mains Reversed

Possible < **Single Fault Condition** > values are:

SFC: Earth Open

SFC: Neutral Open

SFC: Source Reversed

Possible **<Pass/fail status>** values are:

Pass

Failed

Possible IEC Wiring Test**< measured value >** values are:

OK

Live Open

Live/Neutral reversed

Live/Neutral short

Neutral Open

Live/Neutral Open

Test not complete In the case of user defined tests the format is:

**Custom Test, <Test Name>, <Test Units>, <measured value>, <Pass/fail status>, <Pass/Fail Threshold>**

#### **2.2.4. Example of Complete Download format**

An example of a Complete Result Download format is shown below. The  $\zeta$  symbol indicates ASCII <CR><LF> characters.

Tested on,23 Jan 2008,,,

Asset ID,A000050,,,

Rigel 288,V00-0000,,,

Service Code,SC 0050,,,,  
Site,TestSite 006,,,,  
Location,TestLocn 005,,,,  
Make,Manufacturer 0050,,,,  
Model,Model 0050,,,,  
Description,A small appliance,,,,  
Serial Number,S/No 0850,,,,  
Client,a small client,,,,  
AP Setup,AP 1, type B,(B 1 - 3),,,  
AP Setup,AP 2, type BF,(BF 4 - 6),,,  
AP Setup,AP 3, type CF,(CF 7 - 9),,,  
User Name,Admin,,,,  
Test Sequence,62353 - Classl - Alt,,,,  
Visual Test,,,,Pass,  
Custom Test,Visual PreTest 1,,,,Failed,  
Custom Test,Visual PreTest 2,,,,Failed,  
Earth Bond,,, 0.175,Pass,0.300,Ohms  
Earth Bond -ve,,, 0.325,Failed,0.300,Ohms  
Earth Bond 25A,,, 0.299,Pass,0.300,Ohms  
Insulation EUT 250V,,, 10.0,Pass,7.0,MOhms  
Insulation AP 250V,,, >50,Pass,7.0,MOhms  
Insulation AP 500V,,, 19.9,Pass,7.0,MOhms



Insulation AP-Mains 500V,,, 9.99,Failed,70.0,MOhms

IEC Wiring Test,,,,OK, □ Load Test,,, 1.23,,,kVA

Live Voltage,,, 24,,,V □ Load Current,,, 16.00,,,A

Neutral Voltage,,, 1,,,V □ Live Voltage,,, 20.0,,,V

Earth Lkg,Mains Reversed,SFC: Earth Open, 123,Failed,100,□A

Enclosure Lkg,Mains Normal,SFC: Neutral Open,423,Pass,500,□A

Equip Leakage (Dir),Mains Reversed,SFC: Earth Open, 99,Pass,100,□A

Equip Leakage (Alt),Mains Normal,SFC: Neutral Open,321,Pass,500,□A

AP Lkg (Dir) ,Mains Reversed,SFC: Earth Open, 1500,Failed,1000,□A

Equip Leakage (Diff),Mains Normal,SFC: Neutral Open,936,Pass,1000,□A

Patient Lkg (F Type),Mains Reversed,, 123,Failed,100,□A

Patient Lkg (Auxiliary),Mains Normal,SFC: Neutral Open,<4,Pass,100,□A

Custom Test,A Test name 20 chars,,,,Failed,

User Comment,Generated by:-,Rigel 288,V00-0000,2.19

Status,Failed

End of Data

If you require more help, please contact us at

<https://www.seaward.com/gb/enquire/>.