

|   |  |  |          |
|---|--|--|----------|
|  |  | Date   | 13/07/16 |
|   |  | TR   | 05668    |
| <h1>Test Report</h1>  |  | <h2>CAB-CON</h2>   |          |
| Operator: D.Maclachlan  |  | This report is the property of Phase 3 Connectors Ltd and must not, without their written consent be passed on, copied or used for any other purpose |          |

**Type and description of test**  
**Powersafe Cab-Con Connector . Direct Resistance With 800A Current.**

**Object:**

The object of this test is to assess the current carrying capacity of the Powersafe Cab-Con Connector.

**Test method:**

A specified test current shall be applied to the contacts of the specimen for a minimum period of 3 hours or until equilibrium is reached. (Less than 1 degree per hour).

The Powersafe Cab-Con Connector will be fed with a minimum of 800A from the 3000A load unit via 2 x 1m lengths of HO7RN-F-1C-300 cable each with a A60-M12 Lug attached.

**Requirements:**

The Cab-Con Connector must be capable of carrying the specified test current for a minimum period of 3 hours without exceeding the specified temperature rise.

**Test Items**

1 x Powersafe Cab-Con Connector terminated with 2 x 1m Lengths of HO7RN-F-1C-300 with A60-M12 Lugs

| Instrument                      | Description s/n                         | Expiry calibration |
|---------------------------------|---|--------------------|
| Current generation              | T & R PCU1 Mk3<br>P.C.I.T.S. (21TE0216) | 20/01/2017         |
| External Load Unit              | 3000A Loading Unit                      | 20/01/2017         |
| YF-160A Thermocoupler +5 probes | 060300489                               | 04/02/2017         |

**Recorded Results at the end of testing – (detailed hourly results and graph on pg4)**

| Probe position             | Temperature °C | T (measured – ambient) | Amps |
|----------------------------|----------------|------------------------|------|
| Ambient                    | 22.4           |                        |      |
| Probe 1 = Lug Connection 1 | 84.5           | 62.1                   | 805A |
| Probe 2 = Lug Connection 2 | 84.3           | 61.9                   | 805A |
| Probe 3 = Cable Core       | 82.2           | 59.8                   | 805A |
| Probe 4 = Cab-Con Body     | 44.0           | 21.6                   | 805A |
| Probe 5 = Cable Jacket     | 62.6           | 40.2                   | 805A |



Maximum Allowable Temperature 125°C

Maximum Recorded Temperature Rise @ Insulated Body was 21.6°C above ambient.

Maximum Allowable Temperature of Connections 125°C

Maximum Recorded Temperature Rise was 62.1°C above ambient.

Conclusion: Temperature Rise within EN, BS and VDE allowable limits. PASS

|   |                      |  |                |            |
|---|----------------------|--|----------------|------------|
| <br><b>PHASE 3</b><br>CONNECTORS | <h1>Test Report</h1> | <br><b>bsi.</b> ISO 9001<br>Quality Management<br>FS648709         | Date           | 13/07/2016 |
|   |                      |  | TR             | 05668      |
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## T&R PCU1 Mk 3 P.C.I.T.S 3000A





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## CAB-CON

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| Time | Lug Connection 1 | Lug Connection 2 | Ambient | Cable Core | Connector Body | Cable Jacket | Amps  |
|------|------------------|------------------|---------|------------|----------------|--------------|-------|
| 0.5  | 50.7             | 51.3             | 18.5    | 50.6       | 25.1           | 40.2         | 809.0 |
| 1    | 67.2             | 66.2             | 19.3    | 64.1       | 31.9           | 50.8         | 808.0 |
| 1.5  | 75.9             | 75.1             | 20.2    | 73.5       | 38.3           | 56.5         | 805.0 |
| 2    | 79.2             | 79.2             | 20.6    | 77.4       | 41.2           | 59.3         | 807.0 |
| 2.5  | 82.9             | 82.8             | 21.1    | 80.8       | 42.1           | 61.4         | 814.0 |
| 3    | 83.9             | 83.9             | 21.2    | 81.9       | 43.4           | 62.3         | 812.0 |
| 3.5  | 84.7             | 84.5             | 21.2    | 82.8       | 44.1           | 62.7         | 806.0 |
| 4    | 84.6             | 84.3             | 21.5    | 82.3       | 44.1           | 62.5         | 803.0 |
| 4.5  | 84.4             | 84.1             | 22.1    | 82.3       | 44.2           | 62.5         | 803.0 |
| 5    | 84.5             | 84.3             | 22.4    | 82.2       | 44.0           | 62.6         | 805.0 |

