

		Date	12/07/2016
		TR	05667
<b>Test Report</b>		Powersafe Lug Convertors	
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 Lug Convertor. Direct Resistance With 800A Current.**

**Object:**

The object of this test is to assess the current carrying capacity of the Powersafe 800A Lug Convertor.

**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 Lug Convertors will be fed with between 800A and 815A from the 3000A load unit via 2 x 1m lengths of HO7RN-F single core 300mm<sup>2</sup> cable.

**Requirements:**

The connectors 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 Line Drain Lug Convertor terminated with 300mm<sup>2</sup> cable and an A60-M12 Lug.
- 1 x Powersafe Line Source Lug Convertor terminated with 300mm<sup>2</sup> cable and an A60-M12 Lug.

Instrument	Description s/n	Expiry calibration
Current generation	T & R PCU1 Mk3 P.C.I.T.S. (21TE0216)	20/01//2017
External Load Unit	3000A Loading Unit	20/01/2017
YF-160A Thermocoupler +6 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	21.5		802
Probe 1 = Drain Contact	102.2	80.7	802
Probe 2 = Drain Lug Joint	107.8	86.3	802
Probe 3 = Source Contact	95.4	73.9	802
Probe 4 = Source Lug Joint	109.7	88.2	802
Probe 5 = Cable Core	95.6	74.1	802
Probe 6 = Cable Jacket	72.0	50.5	802
Probe 7 = Insulator	64.4	42.9	802

Maximum Allowable Temperature 125°C

Maximum Recorded Temperature Rise @ Insulator Body was 42.9 °C above ambient.

Maximum Allowable Temperature of Contacts 125°C

Maximum Recorded Temperature Rise was 80.7°C above ambient.

Conclusion: Temperature Rise within BS EN 61984 -2009 and VDE allowable limits. PASS



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## T&R PCU1 Mk 3 P.C.I.T.S 3000A





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Time	Drain Contact	Drain Lug Joint	Ambient	Source Contact	Source Lug Joint	Cable Core	Cable Jacket	Connector Body	Amps
0.5	67.9	73.0	19.0	60.3	74.1	65.3	48.3	43.1	805.0
1	84.9	90.7	19.8	74.1	90.6	79.4	61.6	54.2	803.0
1.5	92.8	97.9	20.2	83.7	97.6	81.6	65.6	58.8	801.0
2	97.1	103.4	20.1	89.1	103.6	89.1	68.2	61.3	802.0
2.5	99.3	105.3	20.4	91.8	105.8	92.1	68.9	61.9	801.0
3	100.4	106.3	19.6	93.4	108.1	94.2	69.1	62.6	801.0
3.5	101.5	107.1	21.7	94.9	109.0	94.9	71.5	63.9	800.0
4	102.1	107.9	21.6	95.3	109.6	95.5	71.9	64.3	801.0
4.5	102.2	107.9	21.8	95.5	109.7	95.7	72.1	64.4	801.0
5	102.2	107.8	21.5	95.4	109.7	95.6	72.0	64.4	802.0

