

TR-05669



Powersafe Phase Convertors

Test Date: 14/07/16 Operator: D.Maclachlan

TYPE AND DESCRIPTION OF TEST

POWERSAFE PHASE CONVERTOR. DIRECT RESISTANCE WITH 800A CURRENT.

OBJECTIVE

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

TEST METHOD

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 Phase Convertors will be fed with between 800A and 815A from the 3000A load unit via 2 x 1m lengths of HO7RN-F single core 300mm² (600MCM) cables attached to Powersafe 800A Line Connectors.

REQUIREMENTS

The Phase Convertor 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 Phase Convertor

1 x Powersafe Line Source C300 800A Connector terminated with 300mm² (600MCM) cable.

1 x Powersafe Line Drain C300 800A Connector terminated with 300mm² (600MCM) cable.

EQUIPMENT USED

INSTRUMENT	DESCRIPTION	CALIBRATION EXPIRY DATE
Current Generation	T & R PCU1 Mk3 P.C.I.T.S. (21TE0216)	20/01/2017
External Load Unit	3000A Loading Unit	20/01/2017
Digital Thermometer	YF-160A Thermocoupler + 6 Probes	04/02/2017

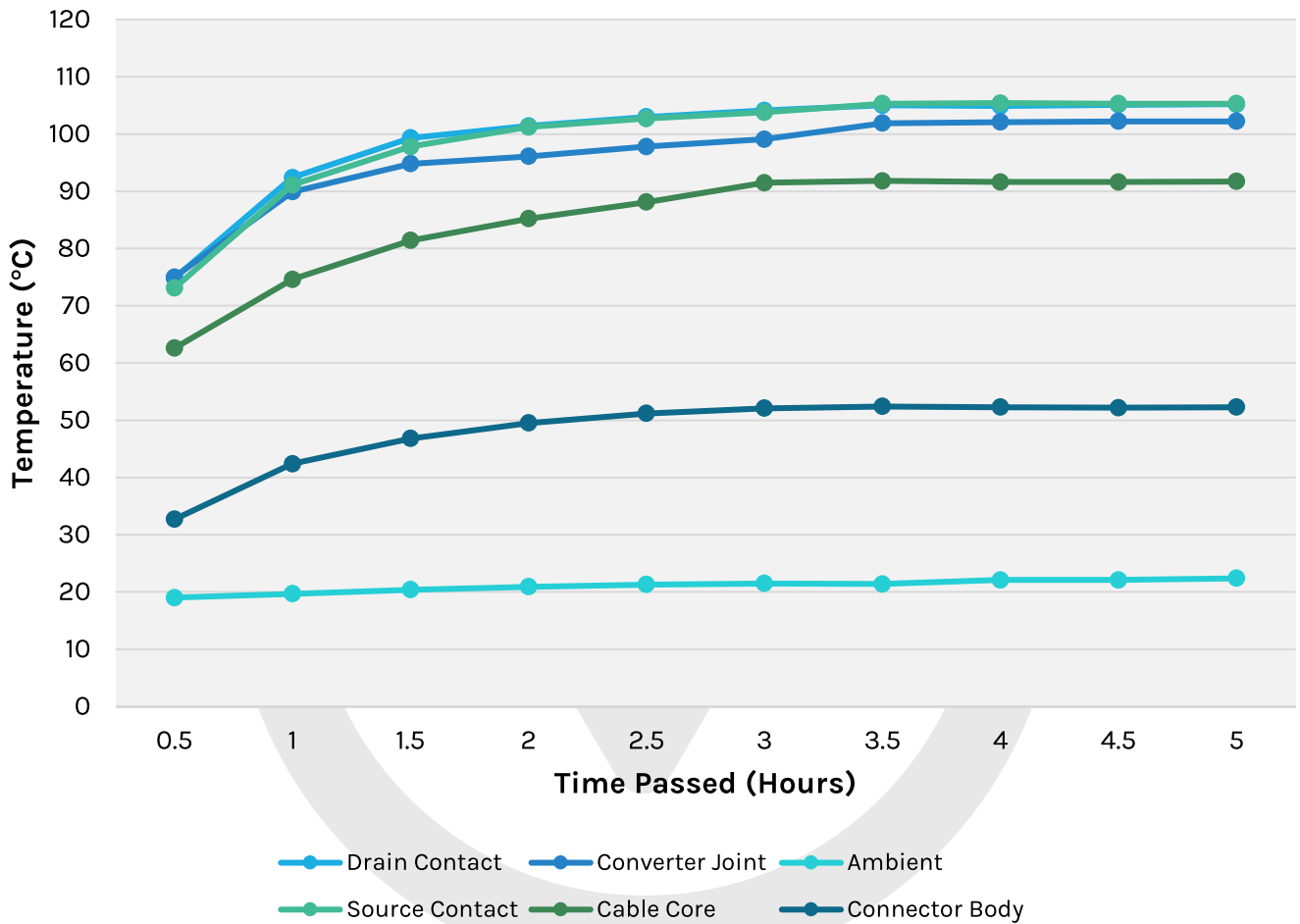


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TIME	DRAIN CON.	CONVERTER JOINT	AMBIENT	SOURCE CON.	CABLE CORE	CABLE JACKET	CONNECTOR BODY	AMPS
0.5	74.8	75.0	19.0	73.1	62.6	50.7	32.7	809
1	92.4	89.9	19.7	91.1	74.6	61.3	42.4	804
1.5	99.3	94.8	20.4	97.8	81.4	65.7	46.8	805
2	101.4	96.1	20.9	101.2	85.2	68.1	49.5	803
2.5	103.0	97.8	21.3	102.7	88.1	69.6	51.2	804
3	104.1	99.1	21.5	103.8	91.5	71.4	52.1	803
3.5	105.0	101.9	21.4	105.3	91.8	71.6	52.4	802
4	104.9	102.1	22.1	105.4	91.6	71.6	52.3	802
4.5	105.1	102.2	22.1	105.3	91.6	71.5	52.2	803
5	105.2	102.2	22.4	105.3	91.7	71.6	52.3	803

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FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	22.4	N/A	803A
Convertor Centre Joint (P1)	102.2	79.8	803A
Drain Contact (P2)	105.2	82.8	803A
Source Contact (P3)	105.3	82.9	803A
Convertor Body (P4)	52.3	29.9	803A
Cable Core (P5)	91.7	69.3	803A
Cable Jacket (P6)	71.6	49.2	803A

CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulator Body (above ambient)	29.9°C
Maximum Allowable Temperature of Contacts	125°C
Maximum Recorded Temperature Rise (above ambient)	82.9°C
TEMPERATURE RISE WITHIN BS EN 61984 - 2009 AND VDE ALLOWABLE LIMITS.	PASS



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