

TR-05667

# Powersafe Lug Convertors



Test Date: 12/07/16 Operator: D.Maclachlan

## TYPE AND DESCRIPTION OF TEST

POWERSAFE LUG CONVERTOR. DIRECT RESISTANCE WITH 800A CURRENT.

## OBJECTIVE

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

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

## 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 + 5 Probes	04/02/2017



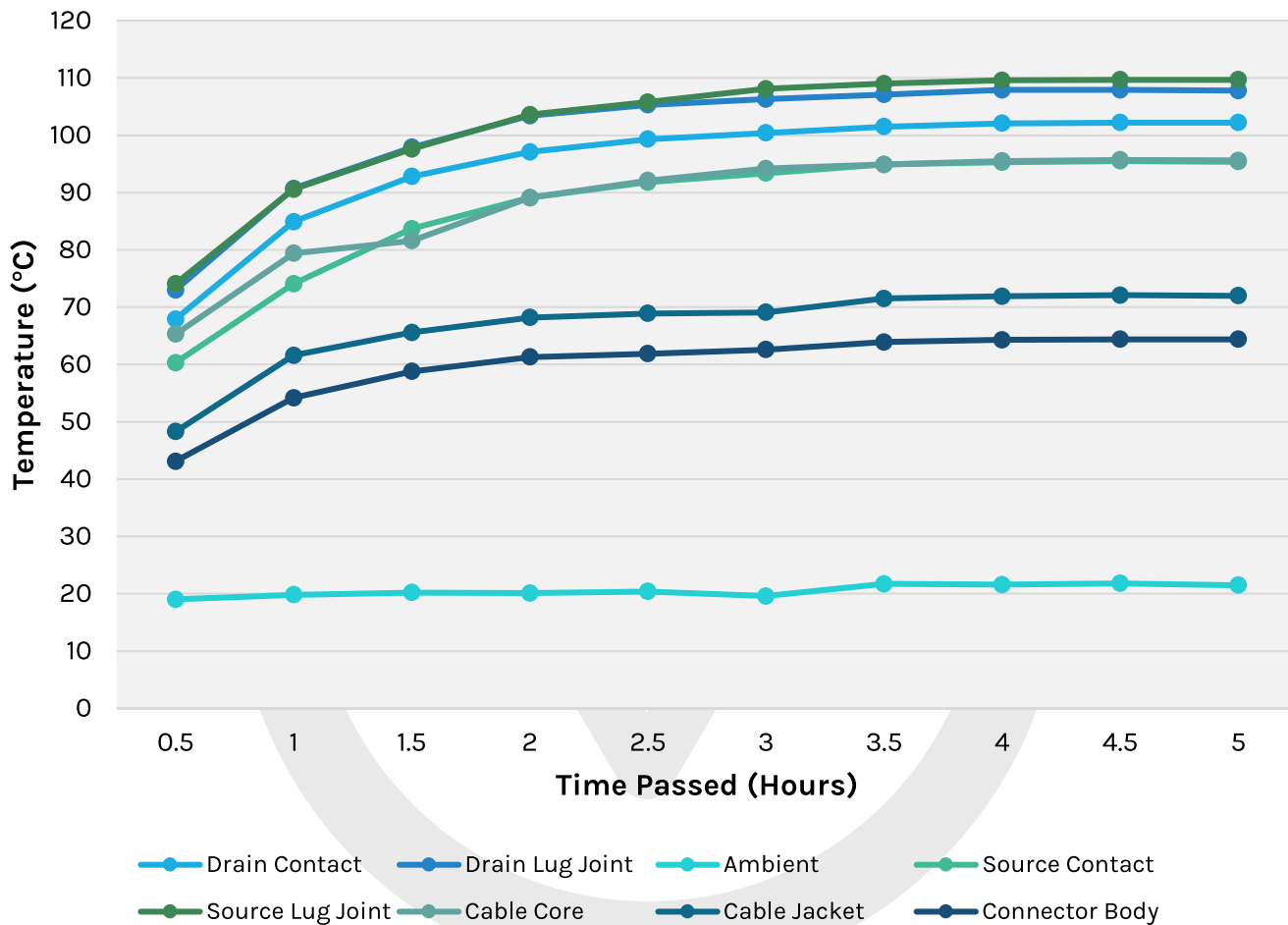
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TIME	DRAIN CONTACT	DRAIN LUG JOINT	AMBIENT	SOURCE CONTACT	SOURCE LUG JOINT	CABLE CORE	CABLE JACKET	CONNECTOR BODY	AMPS
0.5	67.9	73.0	19.0	60.3	74.1	65.3	48.3	43.1	805
1	84.9	90.7	19.8	74.1	90.6	79.4	61.6	54.2	803
1.5	92.8	97.9	20.2	83.7	97.6	81.6	65.6	58.8	801
2	97.1	103.4	20.1	89.1	103.6	89.1	68.2	61.3	802
2.5	99.3	105.3	20.4	91.8	105.8	92.1	68.9	61.9	801
3	100.4	106.3	19.6	93.4	108.1	94.2	69.1	62.6	801
3.5	101.5	107.1	21.7	94.9	109.0	94.9	71.5	63.9	800
4	102.1	107.9	21.6	95.3	109.6	95.5	71.9	64.3	801
4.5	102.2	107.9	21.8	95.5	109.7	95.7	72.1	64.4	801
5	102.2	107.8	21.5	95.4	109.7	95.6	72.0	64.4	802

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## FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	21.5	N/A	802A
Drain Contact (P1)	102.2	80.7	802A
Drain Lug Joint (P2)	107.8	86.3	802A
Source Contact (P3)	95.4	73.9	802A
Source Lug Joint (P4)	109.7	88.2	802A
Cable Core (P5)	95.6	74.1	802A
Cable Jacket (P6)	72.0	50.5	802A
Insulator (P7)	64.4	42.9	802A

## CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulated Body (above ambient)	42.9°C
Maximum Allowable Temperature of Contacts	125°C
Maximum Recorded Temperature Rise (above ambient)	80.7°C
TEMPERATURE RISE WITHIN BS EN 61984 -2009 AND VDE ALLOWABLE LIMITS.	PASS



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