

TR-05663

# Powersafe Panel Drain T5



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

## TYPE AND DESCRIPTION OF TEST

POWERSAFE PANEL DRAIN T5. DIRECT RESISTANCE WITH 500A CURRENT.

## OBJECTIVE

The object of this test is to assess the current carrying capacity of the Powersafe Panel Drain T5 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 Connectors will be fed with between 500A and 510A from the 3000A load unit via 2 x 1m lengths of HO7RN-F single core 150mm<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 S120 Line Source Connector terminated with 150mm<sup>2</sup> cable

1x Powersafe Panel Drain T5 Connector terminated with A30-M12 Lug on 150mm<sup>2</sup> 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 + 5 Probes	04/02/2017

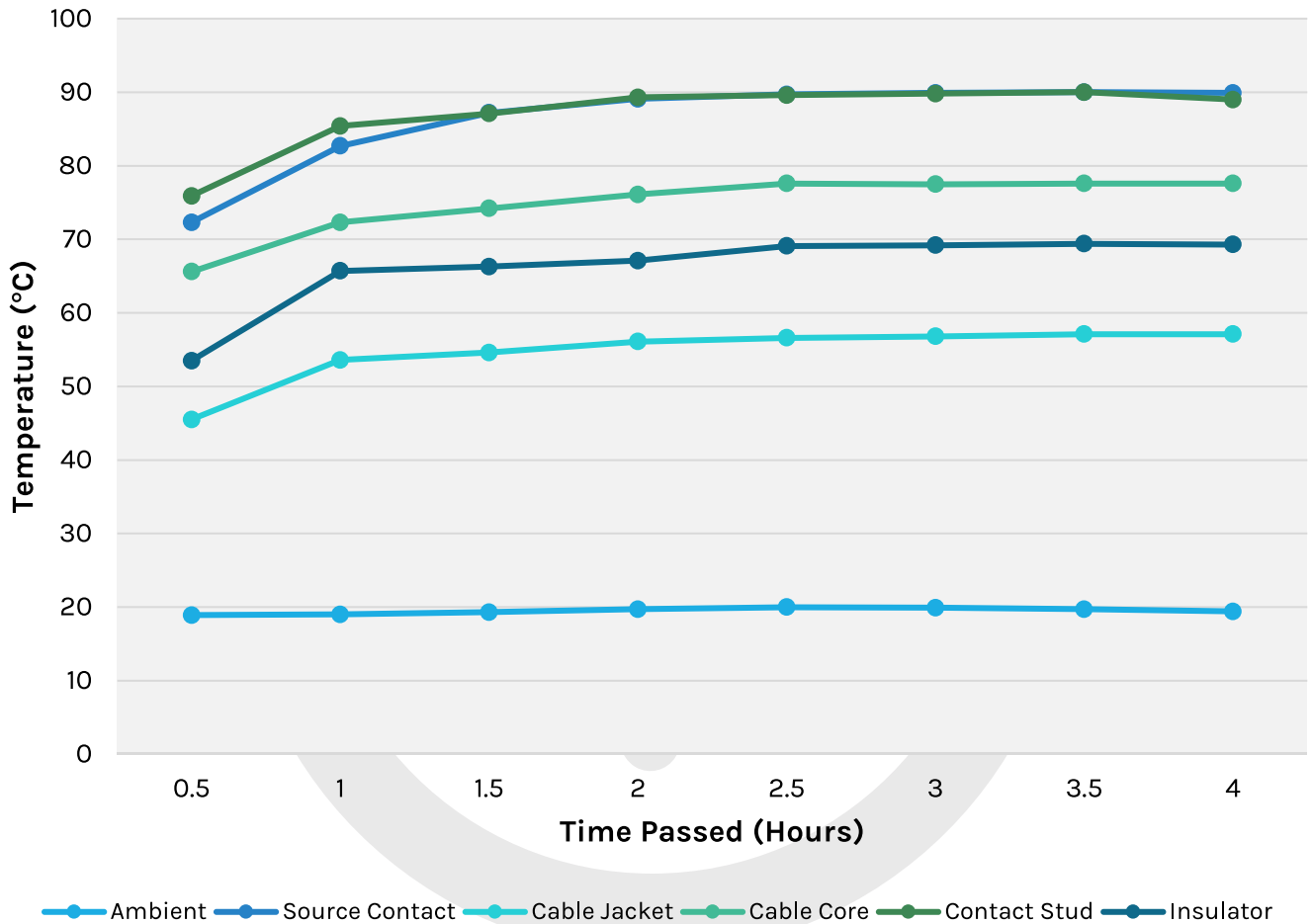


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TIME	AMBIENT	SOURCE CONTACT	CABLE JACKET	CABLE CORE	CONTACT STUD	DRAIN CONTACT	INSULATOR	AMPS
0.5	18.9	72.3	45.5	65.6	75.9	76.6	53.5	508.0
1	19.0	82.7	53.6	72.3	85.4	86.3	65.7	506.0
1.5	19.3	87.2	54.6	74.2	87.1	89.1	66.3	506.0
2	19.7	89.1	56.1	76.1	89.3	91.2	67.1	504.0
2.5	20.0	89.7	56.6	77.6	89.6	92.5	69.1	504.0
3	19.9	89.9	56.8	77.5	89.8	92.6	69.2	503.0
3.5	19.7	90.0	57.1	77.6	90.0	92.7	69.4	503.0
4	19.4	89.9	57.1	77.6	89.9	92.7	69.3	505.0

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## FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	19.4	N/A	N/A
Line Source Contact (P1)	89.9	70.5	505A
Cable Jacket (P2)	57.1	37.7	505A
Cable Core (P3)	77.6	58.2	505A
Panel Contact Stud (P4)	89.9	70.5	505A
Panel Drain Contact (P5)	92.7	73.3	505A
Panel Drain Insulator (P6)	69.3	49.9	505A

## CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulated Body (above ambient)	49.9°C
Maximum Allowable Temperature of Contacts	125°C
Maximum Recorded Temperature Rise (above ambient)	73.3°C
TEMPERATURE RISE WITHIN BS EN 61984 -2009 AND VDE ALLOWABLE LIMITS.	PASS



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