

TR-05680

Powersafe 500A Connectors



Test Date: 18/05/22

Operator: D.Maclachlan

OBJECTIVE

The object of this test is to assess the current carrying capacity of the Powersafe 500A connectors.

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 500A connectors will be fed with between 500A and 515A from the 5000A load unit via 2 x 1.5m lengths of Radaflex-A single core 150mm² cables.

REQUIREMENTS

The Powersafe 500A 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 S120/150 500A connector terminated with 150mm² cable

1 x Powersafe Panel Source T5 500A connector terminated with 150mm² cable.

EQUIPMENT USED

INSTRUMENT	DESCRIPTION	CALIBRATION DATE
Current Generation	T & R PCU1 -SPmk2 P.C.I.T.S. (6TE1838)	11/04/2022
External Load Unit	5000A Loading Unit	11/04/2022
Digital Thermometer	YF-160A Thermocoupler +6 probes SN: 210107534	30/04/2022



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FINAL RESULTS

PROBE POSITION	TEMPERATURE (C)	T (MEASURED-AMBIENT)	AMPS
Ambient	20.8	N/A	511
Panel Source T5 Contact (P1)	74.9	54.1	511
Panel Source Insulator (P2)	49.8	29.0	511
T5 Connection to Lug (P3)	78.4	57.6	511
Cable Core (P4)	70.2	49.4	511
Line Drain Contact (P5)	74.0	53.2	511
Cable Jacket (P6)	49.0	28.2	511
Line drain Insulator (P7)	43.4	22.6	511

CONCLUSION

MEASUREMENT	RESULT
Maximum Allowable Temperature	125°C
Maximum Recorded Temperature Rise @ Insulator Body (above ambient)	29.0°C
Maximum Allowable Temperature of Contacts	125°C
Maximum Recorded Temperature Rise (above ambient)	53.2°C
TEMPERATURE RISE WITHIN BS EN 61984 -2009 AND VDE ALLOWABLE LIMITS.	PASS



NEXT TEST IS DUE ON 18TH MAY 2027