

Temperature Rise Test Report

Panel source to line drain current carrying capacity test

Test date: 2026-08-11

Associated third-party report: SEMT Report No. 2026JC (KP) 009

Purpose and scope

To evaluate the current carrying capacity and temperature rise of the PowerFit 500A connector assembly under the specified test conditions. Measurements cover conductors, connection points and insulating components as listed in the results table.

Test conditions

Parameter	Recorded condition
Test current	503A
Ambient temperature	25.0°C
Cable cross-section	150mm ²
Test voltage	0.313V
Frequency / duration	50 Hz / 3 hours

Tested samples

PFPS-2BK-T5

PowerFit 500A panel source connector assembled with 150mm² cable

PFLD-2BK-S150M40A

PowerFit 500A line drain connector assembled with 150mm² cable

Measured results

Temperature rise (ΔT) = measured temperature (T) – ambient temperature (T_a).

#	Measurement point	Ambient T_a (°C)	Measured T (°C)	Rise ΔT (°C)	Load (A)
1	Panel Source-Lug Connection	25.0	80.0	55.0	503
2	Panel Source Conductor	25.0	90.9	65.9	503
3	Panel Source Outer Casing	25.0	61.4	36.4	503
4	Drain-side Outer Casing*	25.0	64.0	39.0	503
5	Line Drain Conductor	25.0	91.8	66.8	503
6	Line Drain Cable Core	25.0	90.0	65.0	503
7	Cable Jacket	25.0	75.0	50.0	503

* Original English label: “Panel Drain Outer Casing”. The neutral label “Drain-side Outer Casing” is used here without asserting a more precise sensor location. Values are unchanged.

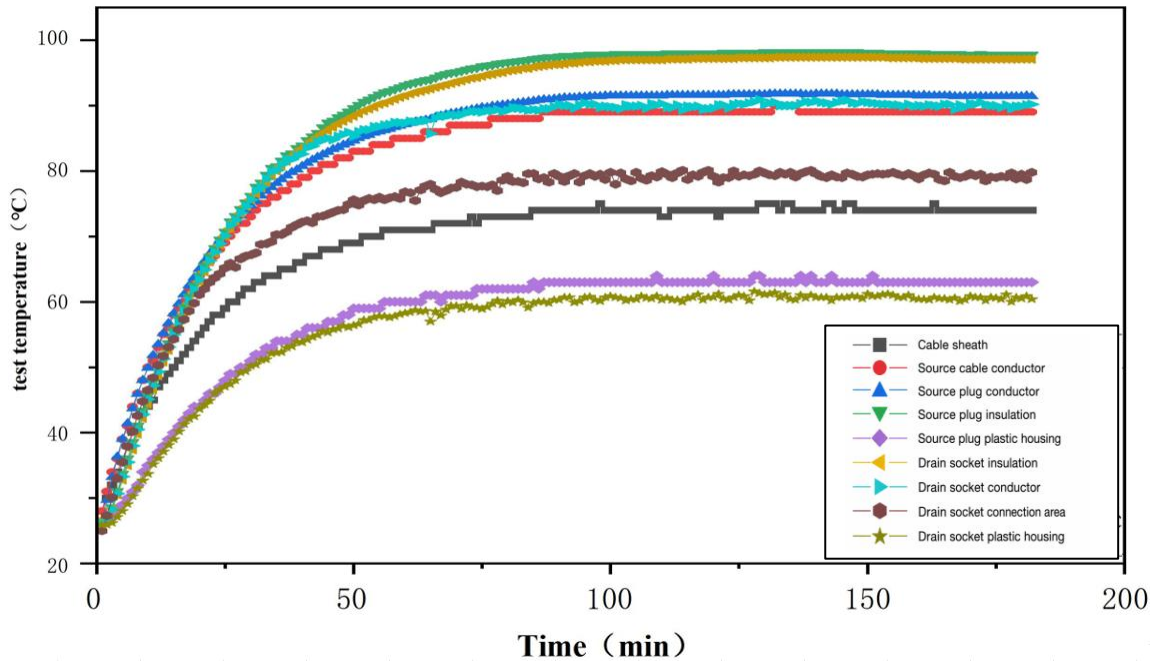
Report evaluation summary

Criterion	Result	Assessment
Maximum allowable temperature	125°C	
Maximum contact temperature rise	66.8°C	PASS
Maximum outer-casing temperature rise	39.0°C	PASS
Temperature rise within the cited allowable limits		PASS

Assessments are reproduced from the supplied report and apply to the stated test conditions. The 125°C figure is an allowable temperature, not a 125°C temperature-rise limit.

Original temperature test curve

Original curve reproduced from the supplied English PDF. Vertical axis: test temperature (°C). Horizontal axis: time (min).



The original curve includes nine legend entries; the measured-results table contains seven points. The curve is retained as supplied. Numerical values in this report come from the measured-results table.

Test basis

The source acceptance statement records energization at 500-515A for 3 hours and cites “IEC EN61984:2009/ BS EN 61984 -2009”. The recorded test current is 503A.

Test equipment

Equipment	Calibration date
Strong Current Generator	2026.7.28
Multi-Channel Temperature Tester	2026.7.12
Clamp-On Multimeter	2026.7.12

Source: POWERFIT 500A PANEL SOURCE-LINE DRAIN TEMP RISE TEST ENG.pdf
The source document identifies SEMT Report No. 2026JC (KP) 009 as its associated third-party report. This English revision preserves the supplied numerical data and is not a new third-party test report.