POWERFIT–POWERSAFE 800A

PHASE 3 POWERSAFE PANEL SOURCE – KUPO POWERFIT LINE DRAIN INTERCONNECTION TEMPERATURE-RISE TEST

ASSOCIATED THIRD-PARTY REPORT NUMBER	TEST DATE
SEMT Report No. 2026JC (KP) 019	2026-10-30

01 PURPOSE AND SCOPE

Purpose

To evaluate the current-carrying capability and temperature-rise performance of the 800 A interconnection between KUPO POWERFIT and PHASE 3 POWERSAFE connectors, and assess the thermal stability of the tested configuration during continuous operation under the specified current conditions.

Scope

This test evaluates the current-carrying and temperature-rise performance of interconnected KUPO POWERFIT and PHASE 3 POWERSAFE connectors under rated current conditions. Temperature measurements are conducted at critical locations, including connection terminals, conductors, connector housings and cable termination points, to assess the thermal performance and stability of cross-brand connector interconnections.

02 TEST BASIS AND ACCEPTANCE CRITERIA

Acceptance statement

Under specified test conditions, the product was energized at 800–815 A for 3 hours. Temperature rise at critical points was measured and verified to comply with the allowable limits specified in IEC/EN 61984:2009 / BS EN 61984:2009.

03 TESTED SAMPLES

ITEM	PRODUCT PART NUMBER	CONFIGURATION
1	SPS-2-BN-T8	PHASE 3 POWERSAFE 800 A panel source, assembled with 400 mm² cable
2	PFLD-1BN-C300-C400-M40/M50	KUPO POWERFIT 800 A line drain, assembled with 400 mm² cable

04 TESTING EQUIPMENT

INSTRUMENT	CALIBRATION DATE
High-current generator	2026-07-28
Multi-channel temperature tester	2026-07-12
Clamp-on multimeter	2026-07-12

05 TEST PARAMETERS AND CONDITIONS

PARAMETER	CONDITION
Ambient temperature	24.6 °C
Test current	805 A
Test voltage	0.374 V
Test frequency	50 Hz
Test run duration	3 hours

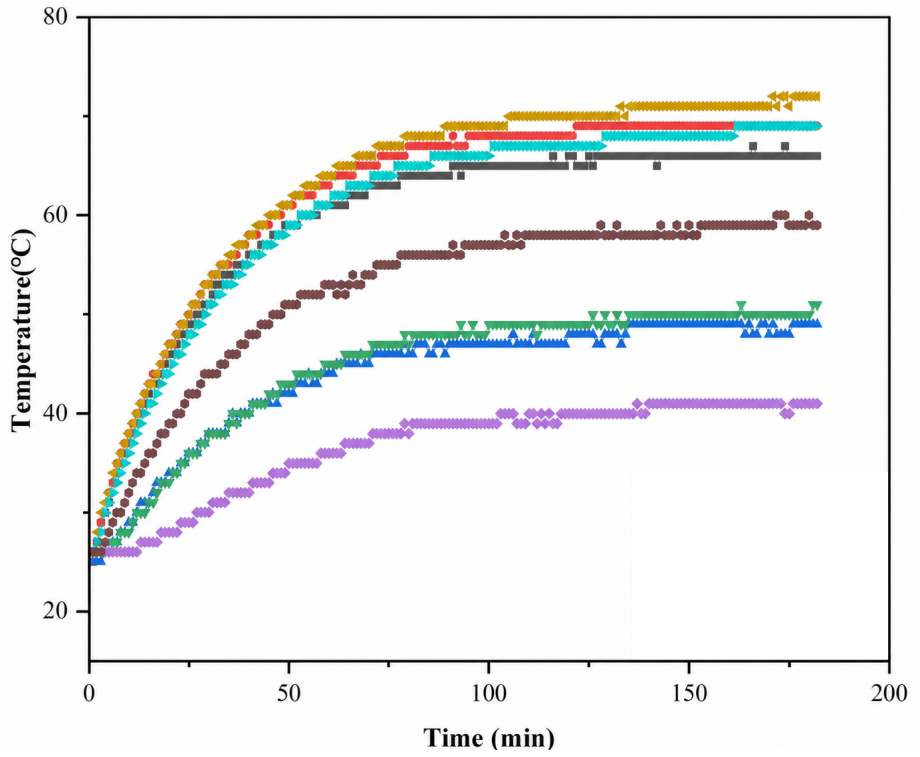
06 EVALUATION SUMMARY

CRITERION	RESULT	ASSESSMENT
Maximum allowable temperature	125 °C	
Maximum recorded contact temperature rise (above ambient)	44.4 °C	PASS
Maximum recorded temperature rise of outer casing (above ambient)	26.5 °C	PASS
Temperature rise within IEC/EN 61984:2009 / BS EN 61984:2009 allowable limits		PASS
Temperature-rise assessment of the tested assembly		PASS

Interconnection compatibility conclusion

KUPO POWERFIT and PHASE 3 POWERSAFE connectors were tested at 800–815 A for 3 hours, with temperature rise at all critical points meeting the applicable requirements of IEC/EN 61984:2009 / BS EN 61984:2009. The results confirm the thermal stability of the tested interconnection and support safe cross-brand interoperability under the specified conditions.

07 TEMPERATURE TEST CURVES



08 MEASURED RESULTS

NO.	MEASUREMENT POINT	AMBIENT (°C)	MEASURED (°C)	RISE ΔT* (°C)	LOAD (A)
1	POWERSAFE panel source terminal-lug connection	24.6	66.8	42.2	805
2	POWERSAFE panel source conductor	24.6	69.0	44.4	805
3	POWERSAFE panel source outer casing	24.6	49.0	24.4	805
4	POWERFIT line drain outer casing	24.6	51.1	26.5	805
5	POWERFIT line drain conductor	24.6	68.2	43.6	805
6	Drain cable copper core	24.6	69.2	44.6	805
7	Drain cable outer jacket	24.6	59.7	35.1	805

* Rise = Measured temperature − Ambient temperature

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