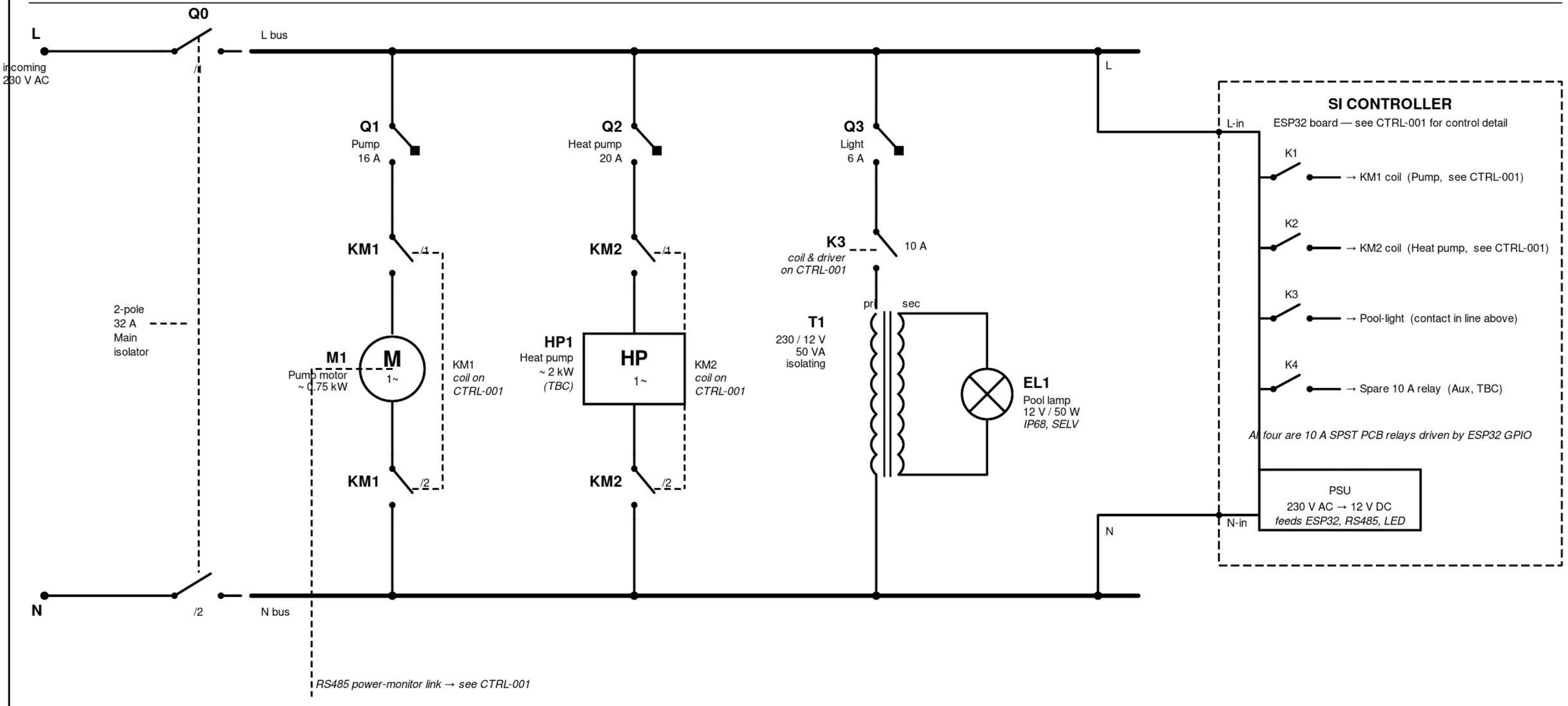
SI POOL CONTROLLER — POWER CIRCUIT

230 V AC, 50 Hz, single phase · IEC 60617 / SANS 10142 symbols



COMPONENT SCHEDULE

Q0	Mains isolator, 2-pole, 32 A	SANS 60898-1 / IEC 60947-3
Q1	Pump branch MCB, 1P, 16 A C-curve	SANS 60898-1
Q2	Heat pump branch MCB, 1P, 20 A C-curve	SANS 60898-1
Q3	Light branch MCB, 1P, 6 A C-curve	SANS 60898-1
KM1	Pump contactor, 2-pole, 20 A AC-3, 230 V AC coil	IEC 60947-4-1
KM2	Heat-pump contactor, 2-pole, 20 A AC-1, 230 V AC coil	IEC 60947-4-1
M1	Pool pump motor, 230 V, 1-ph, ~ 0.75 kW (TBC)	IEC 60034
HP1	Pool heat pump unit, 230 V, 1-ph, ~ 2 kW (TBC)	manufacturer spec
T1	Transformer 230 V / 12 V, 50 VA, isolating, SELV	IEC 61558-2-6
EL1	Pool lamp, 12 V AC, 50 W, IP68	IEC 60598-2-18
K1..K4	PCB relays on ESP32 board, 10 A SPST, GPIO-driven	see CTRL-001
PSU	SMPS 230 V AC → 12 V DC, ≥ 1 A	UL/IEC 62368-1

NOTES

1. All wiring per SANS 10142-1. Earth bonding on EARTH-001.
2. Q0 (2-pole) disconnects BOTH L and N when open.
3. KM1 / KM2 each switch BOTH L and N for full load isolation.
4. Contactor coils 230 V AC, driven by 10 A relays K1 / K2 on ESP32 board — see CTRL-001.
5. Pool light switched by K3 on 230 V primary side.
T1 secondary is SELV — keep isolated from mains earth.
6. RS485 power-monitor (pump motor only) — see CTRL-001.
7. Wire colour: brown = L, blue = N, green/yellow = PE.
8. Drawing shows components in DE-ENERGISED state.
9. M1 & HP1 ratings are typical — confirm on commissioning.

CLIENT **RiddsAqua**		PROJECT **SI Pool Controller Board**	
DRAWING TITLE **Power Circuit Schematic**			
DRAWING No. **SI-POOL / PWR-001**	REV **B — draft**	DATE **2026-05-21**	SHEET **1 of 2**
DRAWN BY **M. Trollip**	CHECKED **—**	APPROVED **—**	SCALE **NTS**