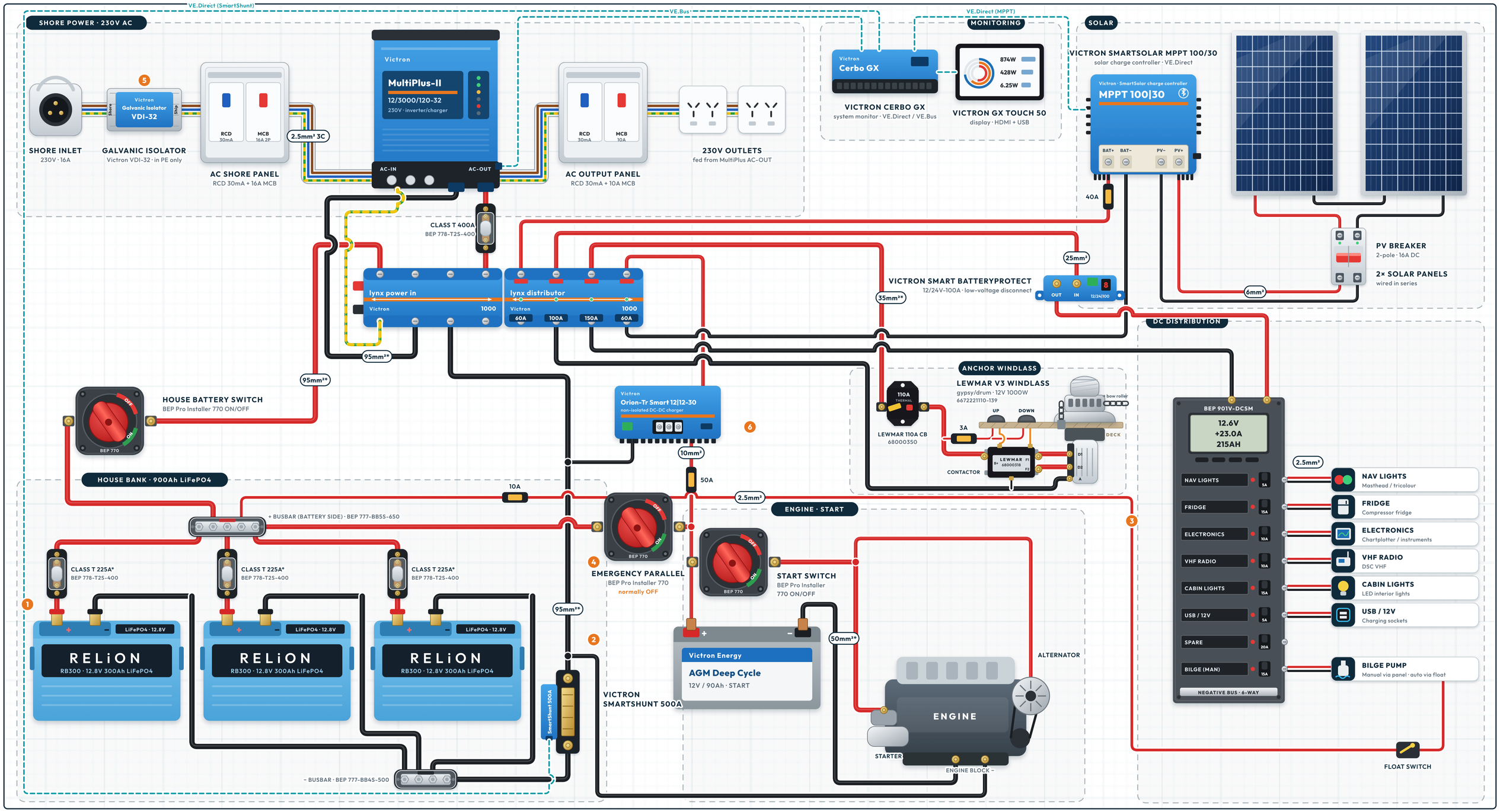
AdverPower
MARINE & MOBILE POWER SYSTEMS

MARINE LITHIUM HOUSE SYSTEM

WIRING DIAGRAM · 12V DC + 230V AC

SYSTEM	DRAWING
12V DC · 230V AC	AP-MHS-01
REVISION	**DATE**
A	FEB 2026



CABLE SCHEDULE

* confirmed on assessment

CIRCUIT	ROUTE	CABLE	PROTECTION
House bank +	Each RELiON RB300 + → Class T → + busbar (equal)	50mm²*	Class T 225A*
House bank −	Each RB300 − → − busbar → SmartShunt battery side	50mm²*	—
House main +	+ busbar → house switch → Lynx Power In	95mm²*	Class T per battery
System −	SmartShunt system side → Lynx Power In −	95mm²*	—
Inverter/charger	Lynx + → Class T → MultiPlus DC+ · DC− → Lynx −	95mm²*	Class T 400A
DC panel feed	Lynx → BatteryProtect → BEP 901V panel + · − → Lynx	25mm²	MEGA 100A
Windlass	Lynx → 110A CB → contactor → V3 D1/D2 · A → Lynx −	35mm²*	MEGA 150A + 110A CB
Solar charge	MPPT BAT+ → 40A fuse → Lynx · BAT− → Lynx	10mm²	40A + MEGA 60A

CIRCUIT	ROUTE	CABLE	PROTECTION
Solar PV	2 panels in series → PV breaker → MPPT PV±	6mm² PV	2-pole 16A DC
DC-DC charger	Start batt + → 50A fuse → Orion IN · OUT → Lynx	10mm²	50A + MEGA 60A
Emergency parallel	+ busbar (battery side) → EP switch → start batt +	50mm²*	Normally OFF
Engine start	Start batt + → start switch → starter · alternator B+	50mm²*	—
Engine negative	Start batt − → engine block → shunt system side	50mm²*	—
Bilge auto	+ busbar (battery side) → float switch → pump	2.5mm²	10A fuse
DC loads	901V-DCSM breakers → loads (red/black duplex)	2.5–4mm²	5–20A breakers
Shore / AC out	Inlet → VDI-32 → RCD/MCB → MultiPlus → RCD → outlets	2.5mm² 3C	RCD 30mA · 16A / 10A

LEGEND

- DC positive (+)
- DC negative (−)
- 230V AC 3-core: L brown · N blue · PE green/yellow
- AC earth (PE) bond to DC negative
- Data: VE.Direct · VE.Bus · HDMI
- Duplex load cable (+/−)
- Crossing, not connected ● joined
- 25mm² cable size · 1 see note · fuse

NOTES

1. 3× RELiON RB300 (12.8V 300Ah, 100A continuous each) in parallel: 900Ah and 300A to suit the 3000VA MultiPlus-II. Equal-length + and − cables, Class T fuse at every battery positive.
2. Only the battery negatives land on the SmartShunt battery side. Every load, charger and the engine negative lands on the system side (Lynx −) so the Cerbo GX reads true state of charge.
3. Bilge float circuit is fused direct from the battery-side busbar and stays live with the house switch OFF. Manual pump runs from the panel BILGE breaker.
4. Emergency parallel switch stays OFF in normal use. Close it only to start the engine from the house bank.
5. VDI-32 galvanic isolator sits in the shore PE (earth) conductor only. AC earth bonded to DC negative.
6. Orion-Tr Smart charges the house bank from the alternator / start battery (engine-run detection). Smart BatteryProtect drops the DC panel on low voltage; bilge auto circuit is not switched by it.

© 2026 ADVERPOWER · FOR GUIDANCE ONLY · INSTALL TO BE ASSESSED BY QUALIFIED TECHNICIANS & ENGINEERS

Brand and model names for identification only. Cable sizes in mm². Not to scale.