

POWER DISTRIBUTION FOR THE MUXEN NETWORK

BLOC 8

Eight of the boat's circuits, switched, measured and protected, with their own panel on the front of the box.

A BLOC 8 is a power distribution box: it is wired into the circuits themselves and carries their current. Each output measures what it delivers and trips at its own level and after its own delay, so a short circuit takes out one circuit rather than the boat.

The e-paper face shows a cell per output under the printed name of its circuit, and its eight buttons reach the outputs without going through the CAN bus. The boat still switches with the Brain off.



BLOC 8

KEY SPECIFICATIONS

MUXEN CAN port	500 kbit/s, fixed · M12 orange, 5-pin	
Power outputs	8, dimmable, each measuring its own current · 80 A total	
Overcurrent	BARE WITH HARNESS	eFuse · 8 × 30 A eFuse · 2 × 25 A + 6 × 13 A
Open-load detection	Per output, optional, off by default	
Virtual signals	4, for complex equations · computed like outputs, driving nothing	
Dry-contact inputs	3 active to GND + 3 active to +VBAT, debounced in the box · 0 – 14 V	
Analog inputs	3 channels, 0 – 5 V, resolution 1 mV	
Supply voltage	9 – 36 V DC	
Supply monitoring	Over and under voltage protection, configurable	
E-paper panel	Local display and control, working with the bus down	
Configuration	With Raken	
Firmware	Signed · updated over the CAN bus	
Diagnostics	One system LED	
Size	140 × 205 × 60 mm	
Weight	BARE WITH HARNESS	530 g 1,040 g
IP rating	IP65	

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ON THE BOAT

WHAT IT DOES

One box and one firmware cover all of the features highlighted below.

01 EIGHT CIRCUITS

A light, a pump, a fridge, a winch: the load is wired to an output and switched from there. Each of the eight **dims as well as switches**, so a lamp runs at any level rather than only on or off.

05 RULES OF THEIR OWN

An output can follow a **logical expression** over the signals the boat publishes: a rule of its own, set once at commissioning. A bilge pump following its float switch needs no screen and no finger.

02 ITS OWN BREAKER

Every output carries a **trip level** and a delay of its own, so a short cuts one circuit and not the boat. A trip latches off and comes back on a deliberate off-then-on, never automatically.

06 IT READS AS WELL

Six **dry contacts**, three analog inputs, the supply voltage and the current in each output, all published on the bus — so a circuit drawing nothing, or too much, is visible from the screens.

03 NOTHING TO REPLACE

There is no **fuse** behind a panel and no spare to carry. An output that has tripped is a line on a screen and a symbol on the panel, and the circuit it protects is named rather than numbered.

07 OPEN LOAD

An output drawing far less than it should points to a wiring fault or a broken load — a pump that has lost its prime. An **open-load** check flags it per output, before the missing function is noticed.

04 THE PANEL KEEPS WORKING

An **e-paper** panel on the face of the box: eight cells and eight buttons, each under the localized printed name of its circuit. The buttons reach the outputs without the CAN bus, and a local press overrides the last CAN command.

08 LOAD SHEDDING

When the Brain declares a **degraded power mode**, each output drops out at a level of its own: the essentials stay on while the rest go off. When the level falls back, each one returns automatically or waits for a **press**, as chosen at commissioning.

MORE THAN EIGHT CIRCUITS?

Blocs are addressed one by one and their virtual signals are published on the bus, so several of them share one boat's logic. Tell us what the installation has to switch and we will size it with you.

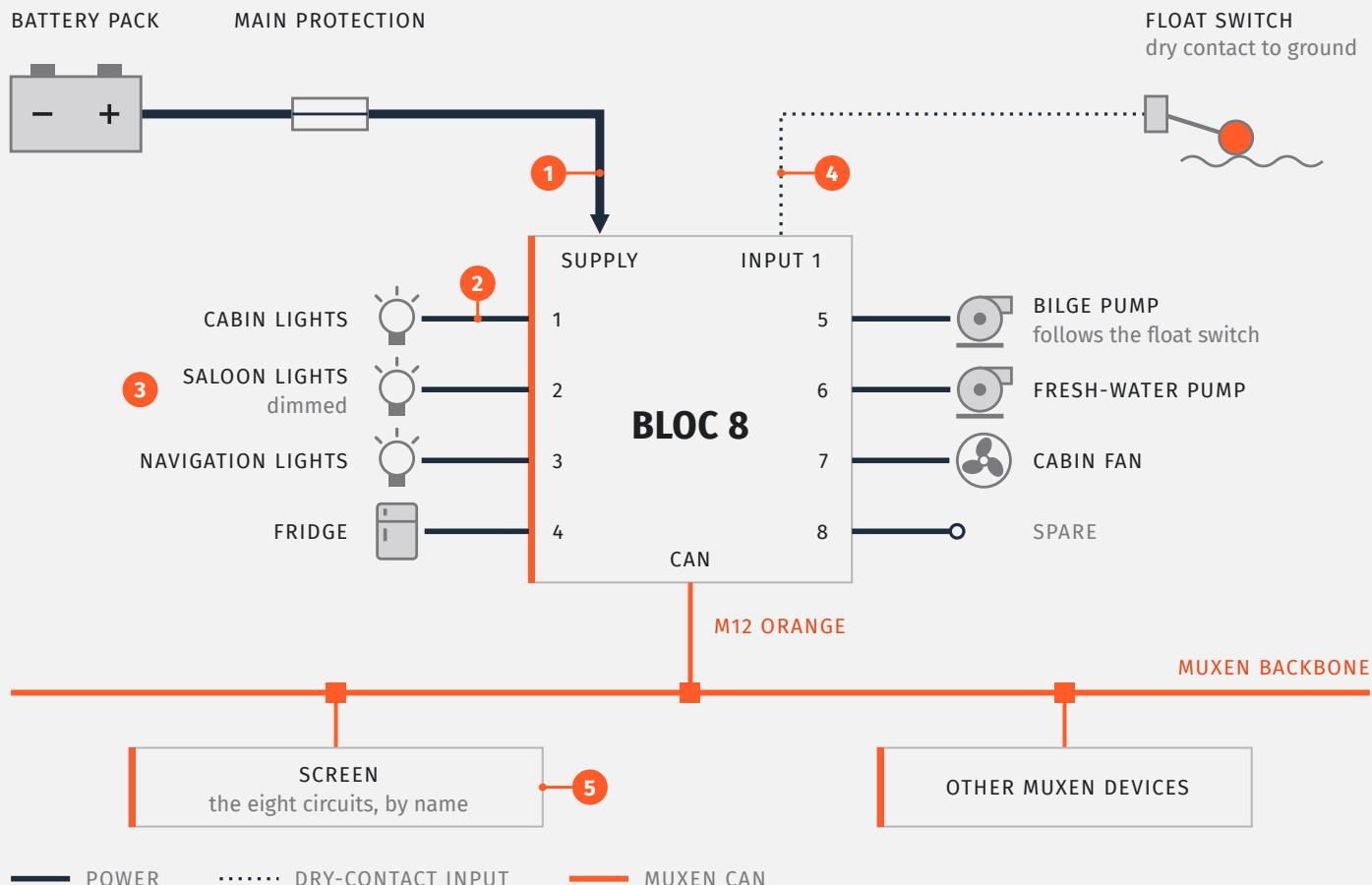
Contact us by email: contact@muxen.fr

WIRING IT IN

TYPICAL INSTALLATION

One BLOC 8 feeds the eight circuits of one zone of the boat from the battery pack, and one cable joins it to the MUXEN bus. A float switch wired to one of its inputs runs the bilge pump without a screen.

ONE PACK, ONE BLOC, EIGHT CIRCUITS



1 THE SUPPLY

Fed from the battery pack through the main protection, at 9 to 36 V DC. Plan the eight circuits for **80 A in total**. A supply that sags under load switches them all off.

2 ONE CIRCUIT PER OUTPUT

Each output switches, measures and protects its own circuit. Its trip level is a **setting**, 5 A after 200 ms by default: set it for the load, within the output's rating.

3 A DIMMED CIRCUIT

Dimming **chops the output**. Incandescent lamps and LED strips tolerate it; most motors and electronics do not. A long press on its button sets the level.

4 THE FLOAT SWITCH

A **dry contact** between input 1 and ground; no resistor is needed. The box publishes its state, and the bilge pump follows it by a rule of its own, written in Raken.

5 WHAT THE BOAT READS

Each circuit's state, dimming level and current, the inputs and the supply voltage. A **screen** switches and dims each circuit, under the name given to it in Raken.

WHEN SOMETHING FAILS

THE BOAT KEEPS SWITCHING

There are three ways to reach the outputs. When the CAN bus is down, the panel buttons still switch them; if the electronics fail, mini-fuses fitted by hand bypass them and the outputs run as a plain fused panel.

01 CAN

NORMAL OPERATION

Day to day, the Brain and the boat's screens control each output over the **CAN bus** and read its state back.



02 LOCAL

CAN BUS DOWN

The **panel buttons** on the box reach the outputs directly, with no CAN bus involved, and a **local press** overrides the last CAN command.



03 FUSE FAILOVER

ELECTRONICS DOWN

Regular **automotive mini-fuses** drop in and bypass all the electronics: the outputs run as a plain fused panel.

ON THE E-PAPER PANEL

LABELS THAT READ AT A GLANCE

One circuit, three ways to name it on the panel: in words, as an icon, or in the crew's own language.

TEXT OR ICONS

Each label is drawn in **Raken** for this boat: the circuit's name, an **icon** from Material Design or Boat Assist, or a picture of your own — for the eight outputs, the bloc itself and its input pages.



TEXT

NO TRANSLATION NEEDED

Some symbols are a **universal language**: a pump, a light or a fridge reads the same to every crew, so an icon label needs **no translation** and stays right whatever language the panel is set to.



ICON, IN ANY LANGUAGE

IN THE CREW'S LANGUAGE

Names and labels are kept per **language** in the boat's project, and one command repaints the panel in another language without touching a setting. The labels stay through a **power cut**.



TEXT, IN FRENCH