

SIDE-POWER
Thruster Systems

PJC-222 S-link Control Panel

GB Installation and user's manual
v1.0.9

Keep this
manual onboard!



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Made in Norway

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PJC-222

Control panel with S-link™ CAN-bus connection

Product features

- For proportional thruster control with Side-Power hydraulic thruster systems
- Finger tip control speed control with purpose designed joysticks
- Hold - function for easy docking, runs thrusters at selected power
- Back-lit LCD display with instant feedback
 - System status
 - Amount of thrust & direction of thrust
 - Oil temperature
- Interactive multi-language menus
- CAN-Bus communication with thrusters and accessories
- Plug & play cables, waterproof and compact connectors
- Built-in audible alarm "buzzer"
- Connector for external "buzzer"/loud audible alarms



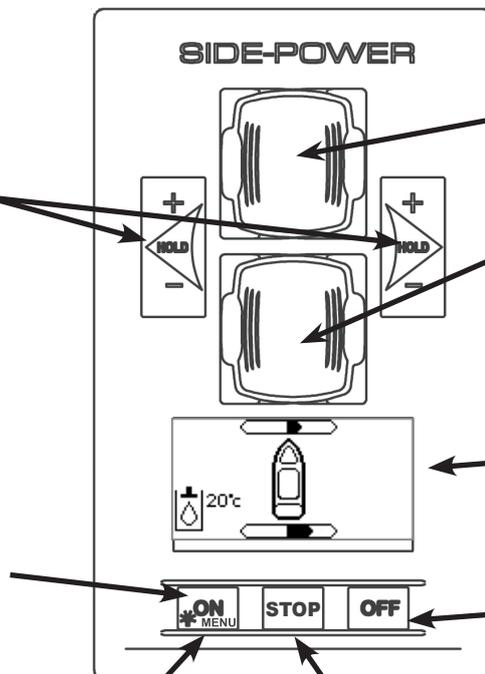
DO NOT connect any other control equipment to the S-link controlled products except Side-Power original S-link products or via a Side-Power supplied interface product made for interfacing with other controls. Any attempt to directly control or at all connect into the S-link control system without the designated and approved interface, will render all warranties and responsibilities for the complete line of Side-Power products connected void and null. If you are interfacing by agreement with Sleipner and through a designated Side-Power supplied interface, you are still required to also install at least one original Side-Power control panel to enable efficient troubleshooting if necessary.

Holding function for auto-running of bow and stern thrusters together in the direction of the arrows at selected power

Press "+" for more and "-" for less power.

If other control units are running the thruster in opposite direction to the hold function, the hold function will be deactivated.

Press and hold "ON" button for 3 seconds to activate control panel.



Speed control joystick for bow thruster

Speed control joystick for stern thruster

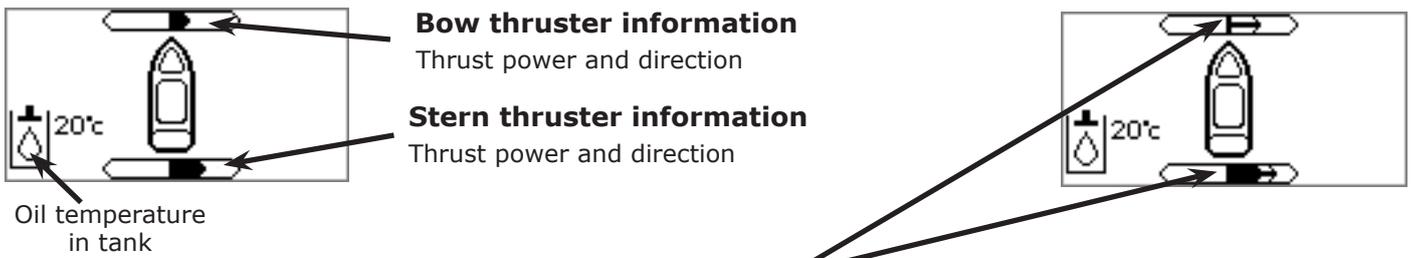
Information display, see following pages for details.

Press to de-activate control panel or cancel or go back in menu system

Press to change between day and night light.
Press and hold for 3 seconds to enter menu system

Emergency stop button

DISPLAY IN NORMAL USE:



Indicating amount of thrust set by other control units in the system, i.e additional PJC-322/321/222/221 panels, input via 8730 S-link external switch interface (remote control, foot switches etc.)

If two or more units is set to run the thruster in opposite direction, this information will not be shown.

WARNING AND ALARMS:

When there is a problem or a fault, the panel will show this alarm situation by the LCD display in red color. All alarms and warnings will show in display when panel is turned OFF. This requires the S-link and other system devices has power. Critical alarms are also triggering internal and external buzzer. The buzzer can be silenced by pushing the OFF button, this will also silence all other panels in the system

Critical alarms: LOW OIL LEVEL, HIGH OIL TEMPERATURE, EMERGENCY STOP, HIGH SPEED STABILIZER NOT ACTIVE and HYDRAULIC AC MOTOR POWER PACK OVERTEMP, AC THRUSTER OVERTEMP, AC THRUSTER FAIL, STABILIZER FAULT

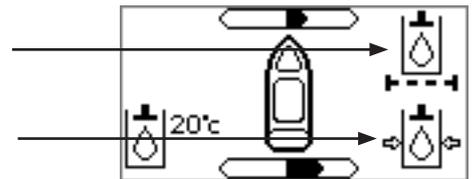
For safety!

When oil pressure goes below 10bar, the HOLD function are deactivated.
FILTER Warnings (if filter sensors are installed)

Return Filter: A return filter symbol appears and flashes, upper right, when the return filter element requires replacing.

Pressure filter: A pressure filter symbol appears & flashes lower right, when the pressure filter element requires replacing.

Warnings will disappear automatically when the filter elements are replaced
 Thrusters can be operated when the filter warnings are shown.



ALARMS

OIL LEVEL & TEMPERATURE (FIG. 1)

When the oil level is low, the screen will illuminate red, a external buzzer will sound & a low oil level symbol will appear & flash upper left

When the oil temperature is higher than 75°C the screen will illuminate red, a internal buzzer will sound & and the oil temp symbol will flash. The alarm will stop when the temperature drops below 65°C.

The buzzer can be silenced by pushing the OFF button.
 The thrusters can be operated when the alarms are active.

COMMUNICATION FAILURE (FIG. 2)

When the panel loses communication with tank equipment the screen will illuminate red and a symbol for communication failure will flash in the centre of the screen. Both internal & external buzzers will sound.

The buzzer can be silenced by pushing the OFF button.

STOP BUTTON (FIG. 3)

Pressing the STOP button will the dump valve operate and the thruster will stop. NB: FOR EMERGENCY USE ONLY

WARNING! HIGH SPEED. STABILIZER NOT ACTIVE! (FIG. 4)

(Only for yachts equipped with a Side-Power Stabilizer system)
 Warning will show when yacht is driven at high speed with stabilizer system inactive. Please refer to the **Stabilizer ECU manual** for speed settings.

FIG. 1



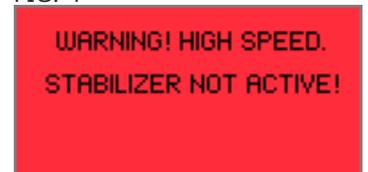
FIG. 2



FIG. 3



FIG. 4



AC MOTOR ALARMS

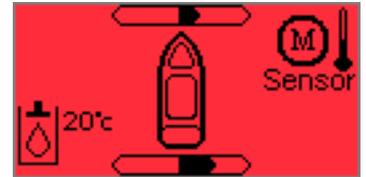
HYDRAULIC AC MOTOR POWER PACK OVERTEMP:

The overtemp symbol will show in the upper right corner of the display when the AC motor temperature is above 120°C and automatically reset when temperature goes below 110°C.



HYDRAULIC AC MOTOR POWER PACK TEMP SENSOR:

The AC motor temp sensor fail symbol will show in the upper right corner if the system is set up with an hydraulic AC motor power pack and the sensor has an open circuit.

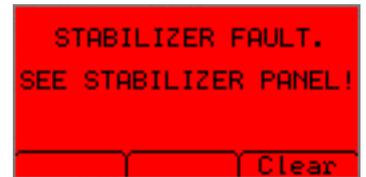


STABILIZER ALARM

(Only for yachts equipped with a Side-Power Stabilizer system)

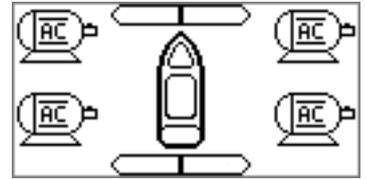
Alarm will show when an stabilizer alarm occurs. See stabilizer panel for more detailed information.

Clear: Clears the alarm in the panel and mutes the buzzer alarm



AC THRUSTER

If an SAC thruster(s) is installed you will see an AC motor symbol corresponding to the installed location. There can be up to 4 SAC thrusters installed. The symbols shows up automatic when SAC thrusters is installed and needs no extra setup from the panel.



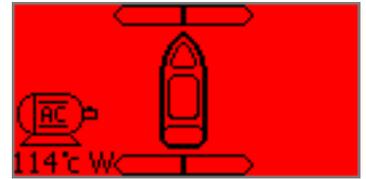
AC THRUSTER ALARMS AND WARNINGS

All alarms can be muted by pushing the "OFF" button.

HIGH TEMP WARNING

When the SAC reach the warning level, the screen will illuminate red, an buzzer will sound & the SAC temperature will show with a W.

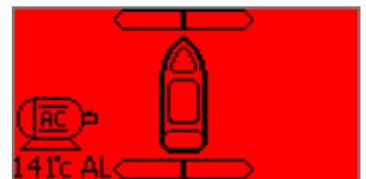
See SAC Manual for more details.



HIGH TEMPERATURE ALARM

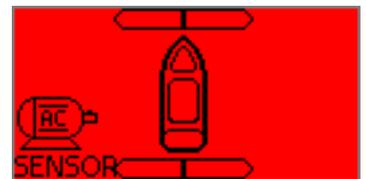
When the SAC reach the alarm level, the screen will illuminate red, an buzzer will sound & the SAC temperature will show with a AL.

See SAC Manual for more details.



TEMPERATURE SENSOR FAIL

When there is something wrong with the temperature sensor in the SAC or bad connection - the screen will illuminate red, a buzzer will sound & SENSOR will show.



VFD WARNING

When there is an warning from the VFD, the screen will illuminate red, an buzzer will sound & VFD symbol with WARNING will show.

See SAC Manual for more details.



VFD NOT READY

When the VFD is not ready, the screen will illuminate red, an buzzer will sound & VFD symbol with NOT READY will show. And the thruster stops.

See SAC Manual for more details.



VFD FAULT

When there is an alarm from the VFD, the screen will illuminate red, an buzzer will sound & VFD symbol with ALARM will show, and the thruster stops.

See SAC Manual for more details.

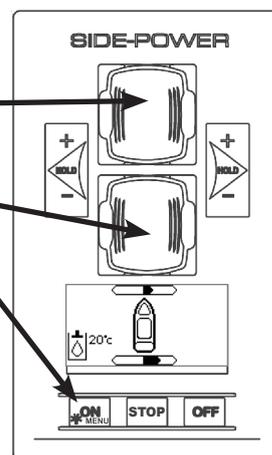


MENU SYSTEM:

Access menu system by pressing and holding menu button ('ON' button) for 3 seconds

Move around in menus by using joysticks

Follow instructions on the screen and press buttons as indicated on LCD screen



LANGUAGE

Choose language by moving joystick:
English, Norwegian, German, French, Spanish and Italian.
OK: Saves language setup and returns to Main Menu
Cancel: Returns to "SETUP"-menu without saving changes



STABILIZER

(Shown only for yachts equipped with a Side-Power Stabilizer system)

STABILIZER: Switches the stabilizer ON or OFF.

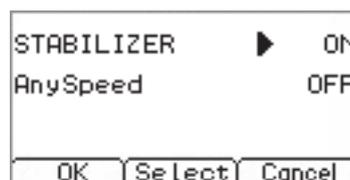
AnySpeed: Switches the AnySpeed function ON or OFF.

OK: Changes stabilizer setting and returns to main menu.

Select: Selecting parameter.

Cancel: Returns to main menu without changes.

Use stern joystick to make changes.



SETUP

Use stern joystick to choose function

Select: Opens selected function

Back: Returns to Main Menu

CONTROL SETUP

Use stern joystick to choose controller or parameter.

Edit: To edit the selected controllers parameters.

Save: Saves the edited value to PHC024.

Cancel: Cancels without saving.

Back: Returns to Setup or Control Setup.

PHC024 controllers connected to the S-link will be listed here with the controller instance, firmware version and serial number.

Bow Direction:

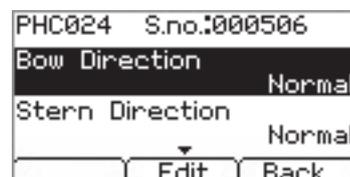
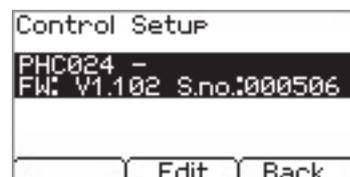
Bow thrust direction Normal or Inverted.

Default: Normal

Stern Direction:

Stern thrust direction Normal or Inverted.

Default: Normal





SETUP
(cont.)

Pump Control:

Pump2 (PTO mounted) could be set to 'Always On' or 'Power Save'. When Pump is set to 'Power Save' and SPS stabilizers are active, the pump2 will start automatically when the oil pressure drops below 80 Bar and keep running for 15 min. or as long as the thrusters are running. When SPS stabilizers are inactive, Pump2 will run all the time. The 'Power Save' function is used for reduced energy consumption while SPS Stabilizers are active.

Default: Power Save



Cooling Pump:

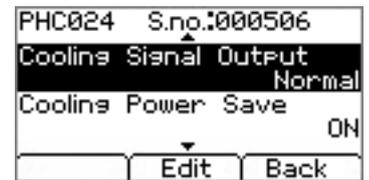
The cooling pump can be selected to 'Always Running' or 'Temp Controlled'. When 'Temp Controlled' is selected the cooling pump will start operation when the oil temperature reaches 50°C and stop when the oil temp drops below 40°C.

Default: Temp Controlled

Cooling Signal Output:

Normal output for normally open cooling pump valve. Inverted output for electrical cooling pump.

Default: Normal



Cooling Power Save:

Can be set to ON or OFF. When set to ON the Cooling Output is turned off when system oil pressure is below 10bar for 10seconds. This to save power when hydraulic system is not used.

Default: ON

Tank Monitor:

Can be set to ON or OFF. When set to OFF the PHC024 will deactivate the tank sensor. (Oil temp and oil level).

Default: ON



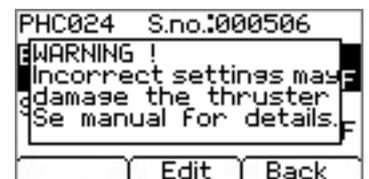
Bow Bypass:

Can be set to ON or OFF. Must be set to ON when the thruster has an crossover valve. All 513mm and 610mm tunnel thrusters have crossover.

If you have an crossover valve on the thruster and you set this to OFF it can damage the hydraulic motor.

Editing this parameter you will be displayed an warning first.

Default: OFF



Stern Bypass:

Can be set to ON or OFF. Must be set to ON when the thruster has an crossover valve. All 513mm and 610mm tunnel thrusters have crossover.

If you have an crossover valve on the thruster and you set this to OFF it can damage the hydraulic motor.

Editing this parameter you will be displayed an warning first.

Default: OFF



Instance:

Can be set to -, PORT or STARBOARD. On a single hull boat and one PHC024 controller this should be set to '-'. On a catamaran with two PCH024 controller, set the PHC024 controller in the port hull to PORT and the PHC024 controller in the starboard hull to STARBOARD.

Default: -

NB!

Control Setup only works with PHC024 firmware V1.102 or newer!



SETUP
(cont.)

HOLD CALIBRATION

Calibrates the HOLD-function to get balanced thrust from the bow and stern thruster.

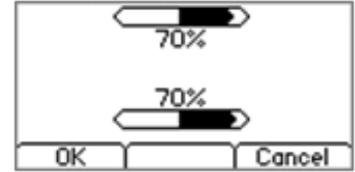
Start: Starts calibration. An instruction explaining the calibration procedure will be shown on the display. In some languages it will be necessary to press "More" to read the complete instructions.

Press port or starboard "HOLD"-button for calibration in the desired direction. This will make both thrusters run in the selected direction. Adjust amount of bow thrust with bow joystick and stern thrust with the stern joystick until a balanced thrust is achieved

OK: Saves the calibration setup and returns to "SETUP"-menu

Cancel: Returns to "SETUP"-menu without saving changes

Any changes made will be relayed to all other installed panels (Firmware 1.007 or newer)



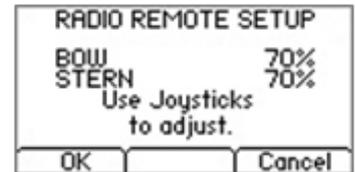
RADIO REMOTE SETUP

Adjusts the amount of thrust which the ON/OFF remote control will run at. Use joysticks to adjust applied thrust

OK: Saves changes and returns to "SETUP"-menu

Cancel: Returns to "SETUP"-menu without saving changes

Any changes made will be relayed to 8730 INTERFACE units with Firmware 1.203 or newer



SYSTEM DEVICES

View all devices connected to S-Link and manually change setup values.

Slide between devices with the joystick to see device information as location, thruster direction, function, firmware version and serial number.

Edit: Change location to BOW, STERN, BOW-PORT or STERN-PORT, thruster direction to Normal or Inverted or Function. For interface 8730, you can only change location. Use joystick to alter values.

Location:

Can change selected device location between BOW, STERN, BOW-PORT or STERN-PORT.

Direction:

Can change thruster direction to Normal or Inverted. Change this value if the thruster is running in the wrong direction.

Function:

Change function.

OK: Saves changes and quit editing.

Select: Switch between Location, Direction and Function settings.

Cancel: Cancel operation without saving changes.

Cancel: Returns to "SETUP" -menu.





INFO

The info selection is a service screen. Choose the Info screen if you wish to check your system. Use joystick to highlight desired choice.

Select: Selects highlighted info menu.
Back: Returns to main menu.

PANEL INFO

Shows panels firmware version, hardware version, serial number and S-Link voltage into the panel.

Back: Returns to Info menu.

HYDRAULIC INFO

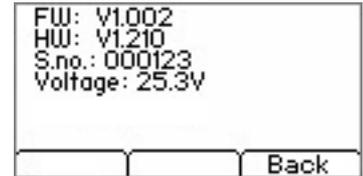
Shows system pressure and oil temperature. Thruster can be operated with the joystick.

STOP: Emergency stop – Activates dump valve and Stop thrusters.
Back : Returns to Info menu

AC THRUSTER INFO

Shows AC thruster temperature and rpm for every AC thrusters installed. Blank square indicates no AC thruster installed in this instance. Thruster can be operated with the joystick.

STOP: Emergency stop – Stop thrusters.
Back : Returns to Info menu.



	Port	Starboard
Bow	85°C 300 rpm	115°C 1520 rpm
Stern		

STOP Back

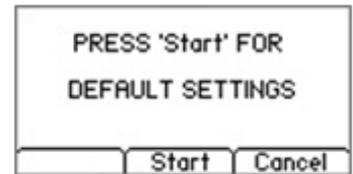


DEFAULT

DEFAULT SETTINGS

Reset all settings to factory default - follow instructions on screen

Start: Resets system to default factory settings
Cancel: Returns to main menu without changes



PANEL

PANEL SETUP

BACKLIGHT LEVEL

Set level of panel backlight in daylight mode, 1-5

NIGHTLIGHT - COLOR

Select color of backlight in nightlight mode:
GREEN, BLUE, RED, WHITE

NIGHTLIGHT - LEVEL

Set level of panel backlight in nightlight mode, 1-3

TIMER AUTO OFF

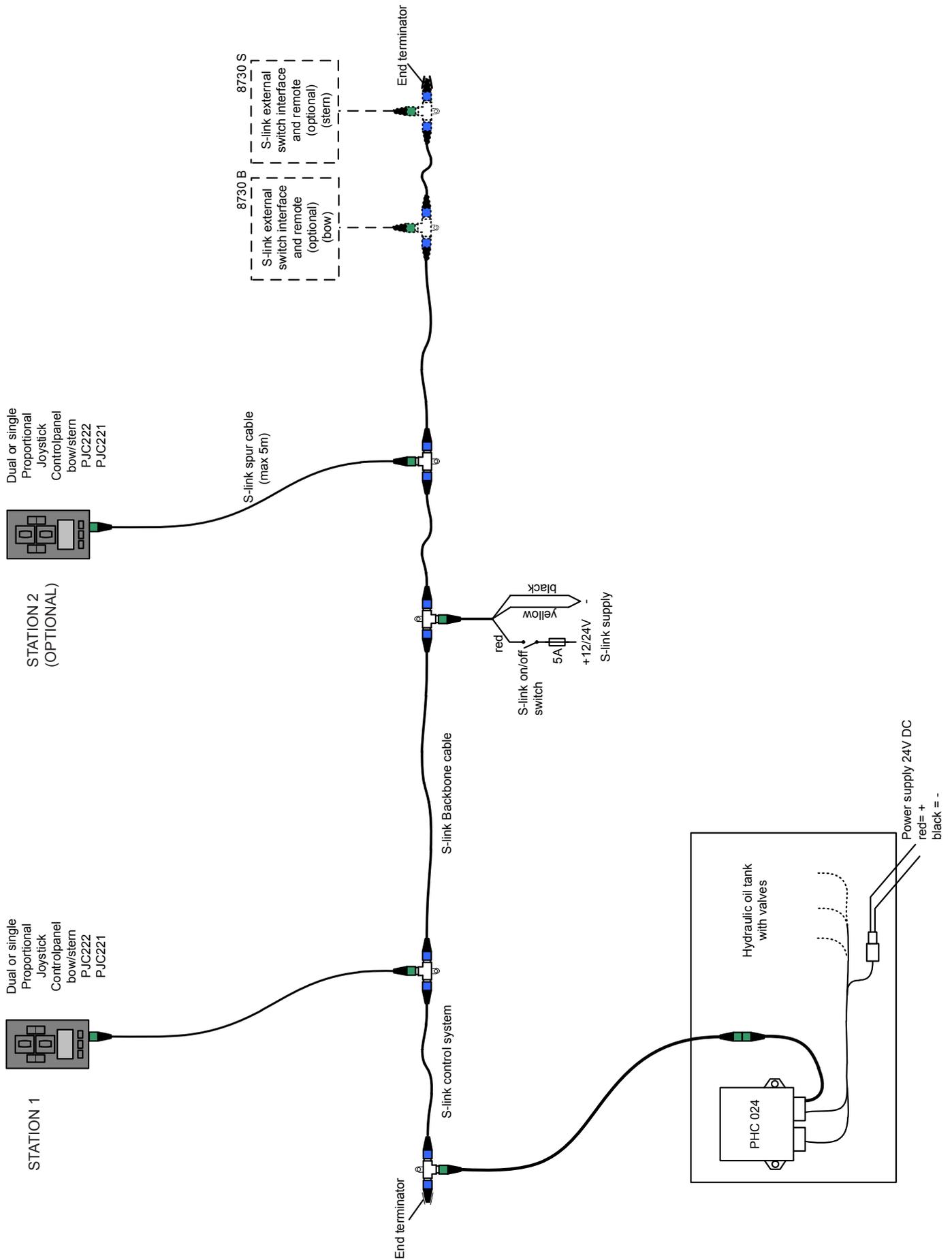
Set the time from last use to auto panel shutdown. Set from 5-60 minutes in 5 minute steps or OFF (panel will not turn off automatically)

OK: Saves changes and returns to main menu
Select: Selecting parameter
Cancel: Returns to main menu without saving changes

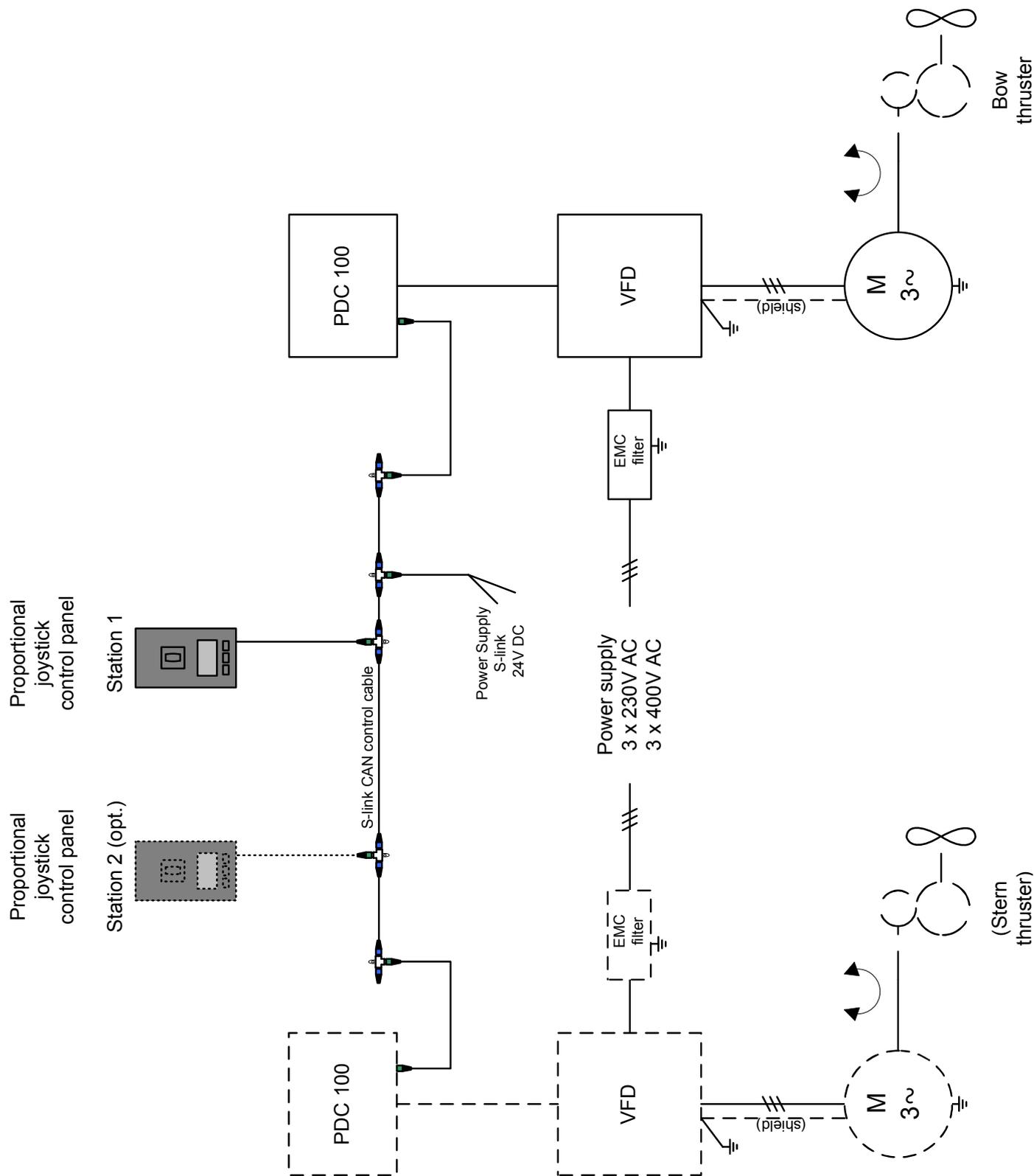
Use stern joystick to change value up or down



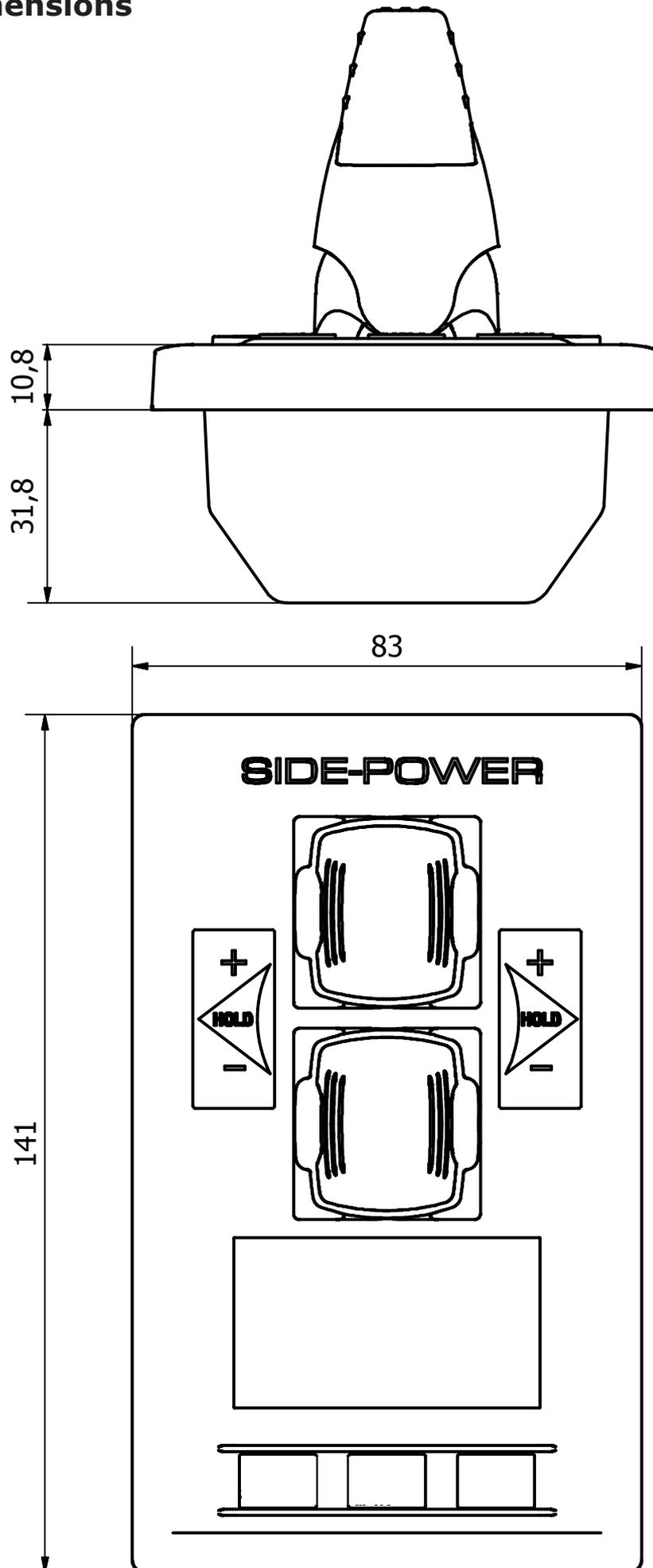
S-link System Overview, Hydraulic



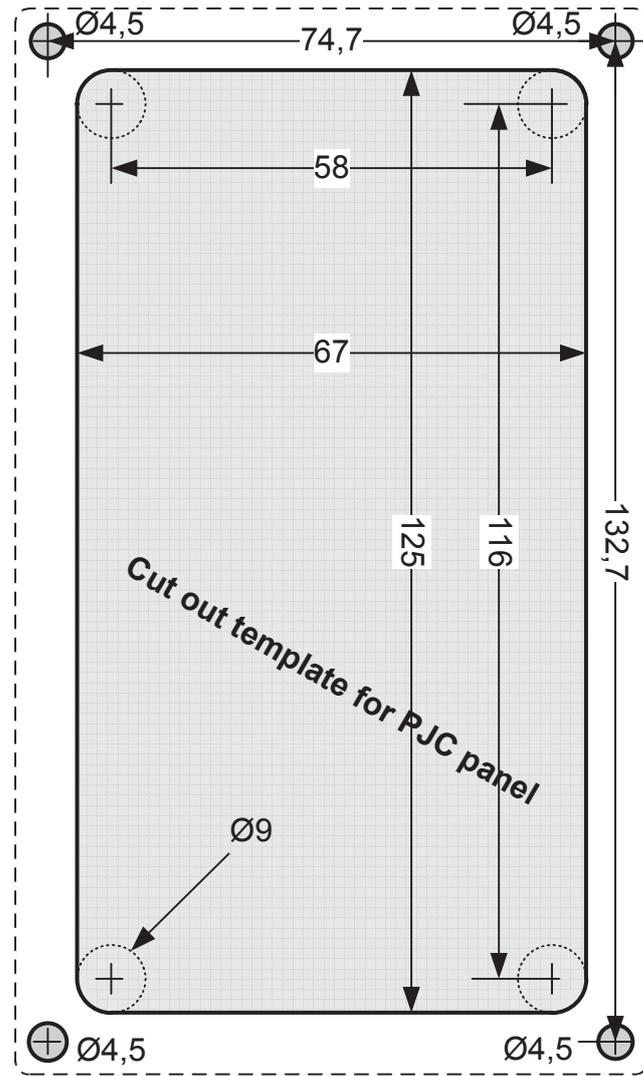
S-link System Overview, AC



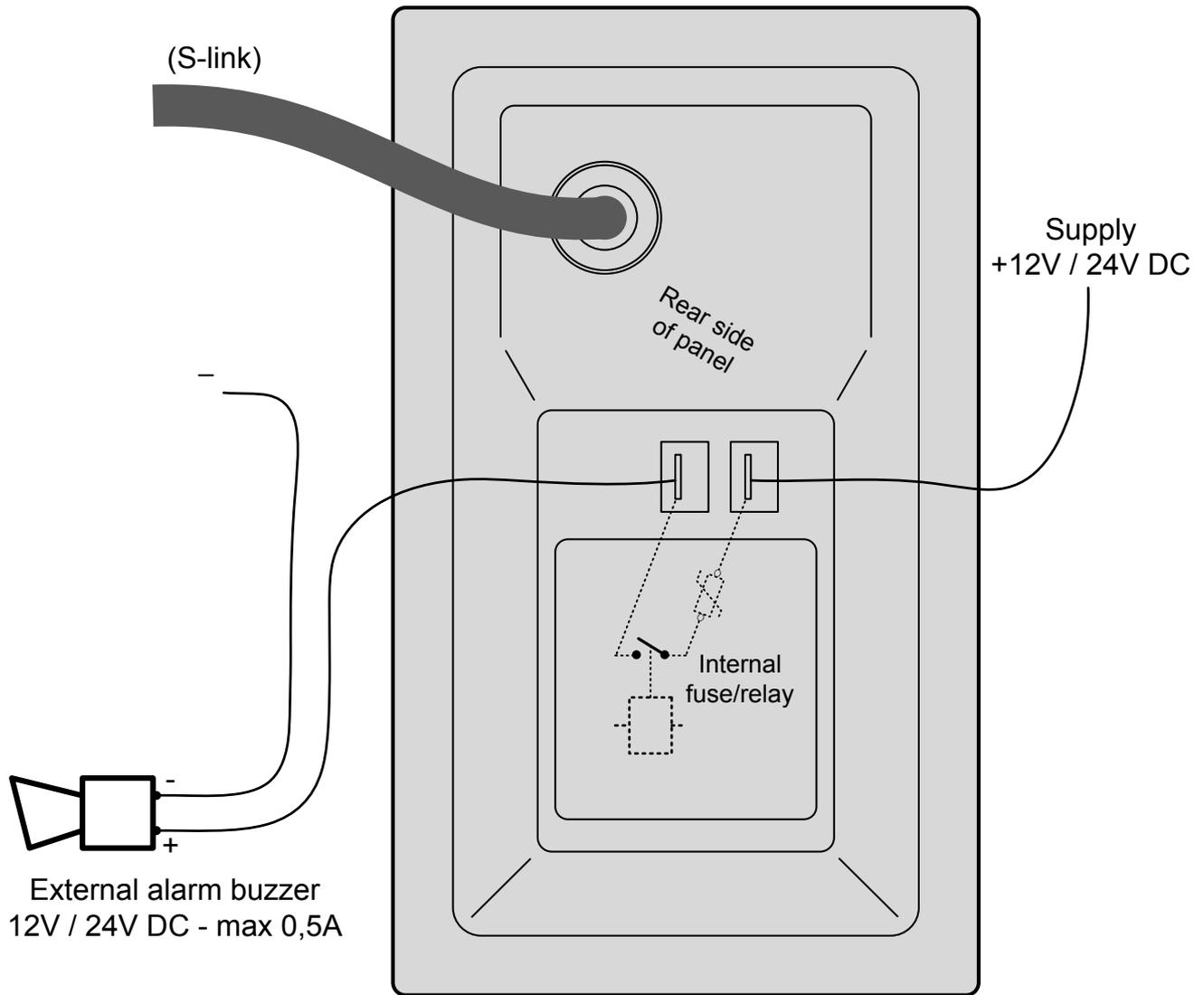
Panel dimensions



Panel cutout template



Connections for optional external buzzer/audible alarm



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