

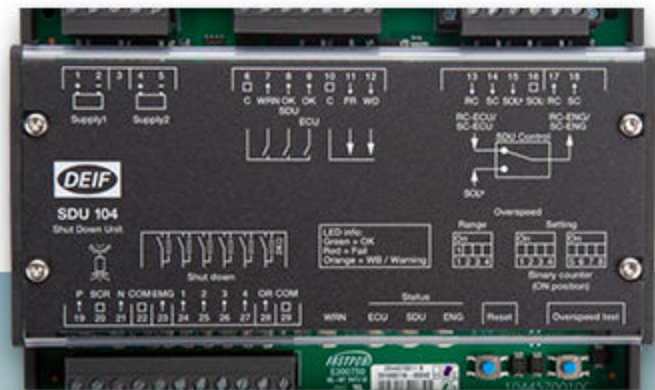
SDU 104

Application with Marine controllers

Application notes



Improve
Tomorrow



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1. About this manual

1.1 Intended users of the Application note

This document is for the designer or the commissioning engineer, who configures the SDU 104 with a compatible controller.



DANGER!



Hazardous live currents and voltages

The installation must only be carried out by authorised personnel who understand the risks involved in working with electrical equipment.

NOTICE



Read the manual

This manual contains important information.

1.2 Compatible controllers

Product	Software version
iE 350 Marine	2.0.9.0 or later
iE 250 Marine	2.0.9.0 or later
iE 150 Marine	1.31.0 or later
AGC 150 Generator Marine	1.31.0 or later
AGC 150 Engine Drive Marine	1.31.0 or later

1.3 Legal information

Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.

The English version of this document always contains the most recent and up-to-date information about the product. DEIF does not take responsibility for the accuracy of translations, and translations might not be updated at the same time as the English document. If there is a discrepancy, the English version prevails.

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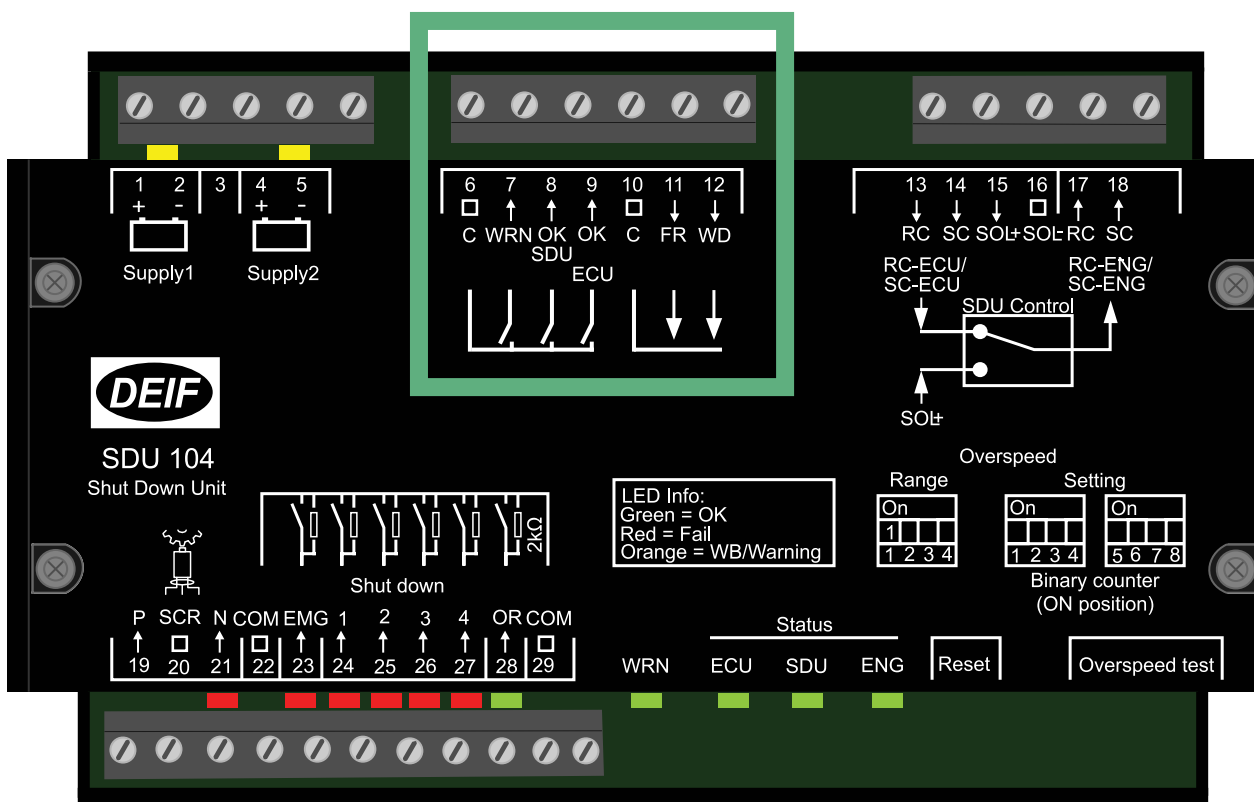
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2. Configuration

2.1 Requirements

Product	Requirement
PICUS	Must be used to configure the controller inputs and outputs to work together with the SDU 104. You can download PICUS for free directly from the DEIF homepage: https://www.deif.com/software/?product=28998
iE 350 Marine	- Two digital outputs and four digital inputs must be available. - See the Data sheet for wiring and technical specifications.
iE 250 Marine	
iE 150 Marine	
SDU 104	See the Data sheet for wiring and technical specifications.

2.2 Input/Output



Terminal	Type	Function
7	Output	Warning
8	Output	Shutdown unit OK
9	Output	Engine control unit OK
11	Input	Fault reset
12	Input	Watchdog (Alive pulse signal)

2.2.1 Configure outputs

Two digital outputs from the controller are required. These must be connected to terminal 11 and 12 on the SDU 104. Use any available outputs and configure them in PICUS.

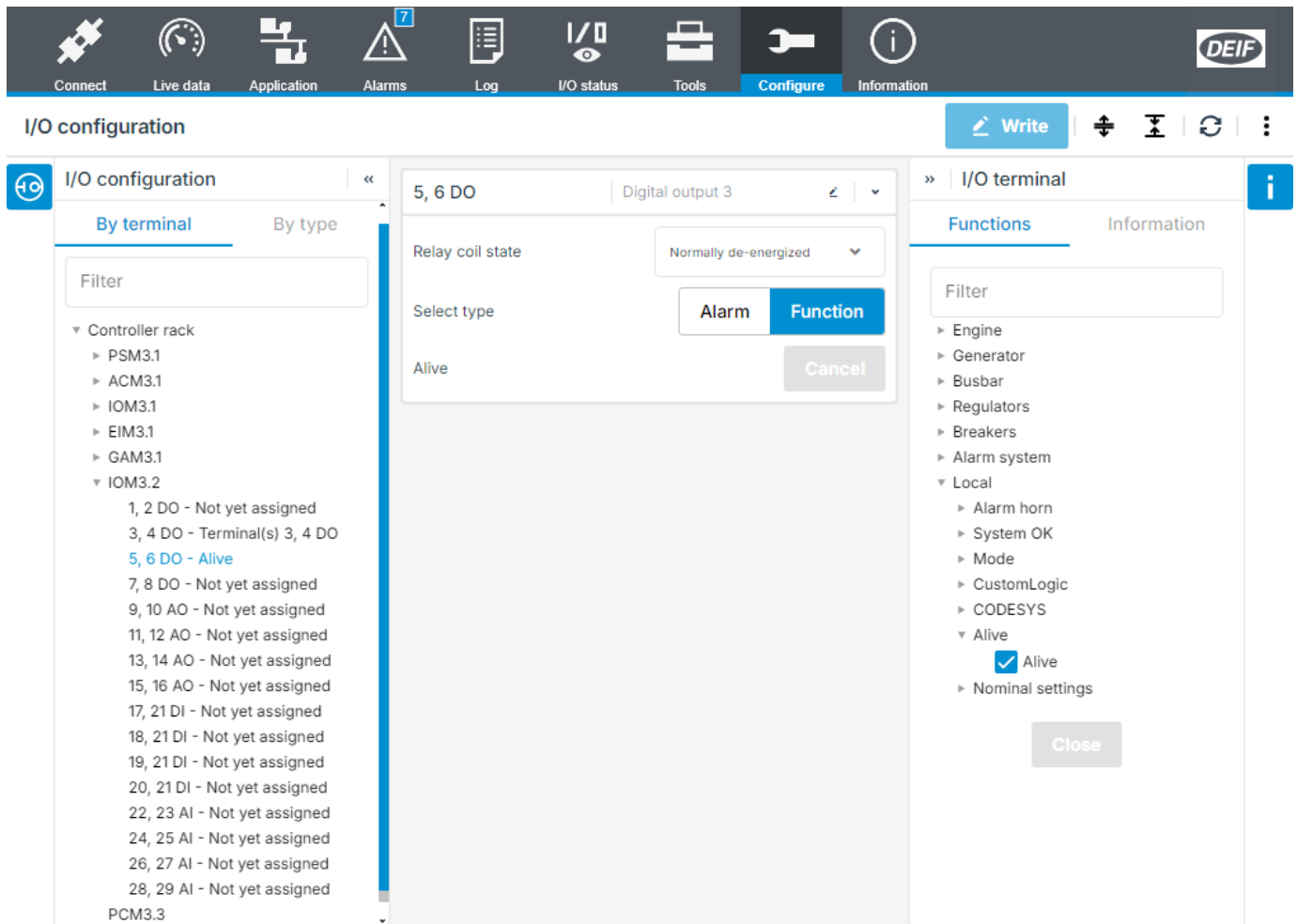
Output	Function
1 x CustomLogic SDU reset output	Fault reset
1 x Custom digital output	Watchdog (Alive pulse signal)

Digital outputs

1. Select an available digital output for the Fault reset.
 - Local > CustomLogic > Outputs > Custom digital output
2. Select CustomLogic output function.

The screenshot displays the PICUS software interface for I/O configuration. The top navigation bar includes icons for Connect, Live data, Application, Alarms, Log, I/O status, Tools, Configure (active), and Information. The main window is titled 'I/O configuration' and features a 'By terminal' tab. On the left, a tree view shows the 'Controller rack' with components like PSM3.1, ACM3.1, IOM3.1, EIM3.1, GAM3.1, IOM3.2 (selected), and PCM3.3. The central panel lists various I/O modules: 1, 2 DO (Digital output 1), 3, 4 DO (Digital output 2), Relay coil state (Normally de-energized), 5, 6 DO (Digital output 3), 7, 8 DO (Digital output 4), 9, 10 AO (Analog output 1), 11, 12 AO (Analog output 2), 13, 14 AO (Analog output 3), 15, 16 AO (Analog output 4), 17, 21 DI (Digital input 1), and 18, 21 DI (Digital input 2). A 'Select type' dialog box is open, showing 'Alarm' and 'Function' tabs, with 'Function' selected. The 'Custom digital output' option is highlighted. On the right, the 'I/O terminal' panel shows a list of functions under 'Local' and 'CustomLogic' categories. The 'CustomLogic' category is expanded, and the 'Outputs' sub-category is selected, showing a list of 'Custom digital output' functions. The first 'Custom digital output' function is checked.

3. Select an available digital output for the Watchdog (Alive pulse signal).
 - Local > Alive > Alive
4. Select Alive output function.



5. Select Write to update the controller configuration.

Alive parameter

1. Configure Alive pulse with a period of 0.4 seconds.
 - Local > Alive > Alive configuration

The screenshot shows the DEIF configuration software interface. At the top is a navigation bar with icons for Connect, Live data, Application, Alarms (highlighted with a blue '7'), Log, I/O status, Tools, Configure, and Information. Below this is a 'Parameters' section with a dropdown for 'DG 1' and a 'Write changes' button. The main area is divided into three panels:

- Filter panel:** A tree view showing various system components. Under 'Local', 'Alive' is expanded, and 'Alive configuration' is selected.
- Alive configuration panel:** Contains two input fields: 'Duty cycle' set to 50.0% and 'Period' set to 0.40s.
- Information panel:** Displays a table of parameters for 'Alive configuration':

Parameter	Period
Minimum	0.10
Maximum	60.00
Default value	2.00 Set
Written value	0.40 Set

 Below the table is a 'Tags' section showing 'No tags'.

2. Select Write to update the controller configuration.

2.2.2 Configure inputs

Four digital inputs to the controller are required. Configure three of these alarm inputs as digital custom alarms and connect to terminals 7, 8 and 9 on the SDU 104.

Digital custom alarms

For digital input:

1. Select an available digital input to configure.
2. Enable Custom alarm.
3. Configure settings:
 - Enter Alarm name.
 - Set Severity to High.
 - Set Action to Block.
 - Set delay to 0 seconds.
 - Set Trigger to Low.

CustomLogic project

Configure the CustomLogic project to use the digital input.

1. Add input contact and output coil connected together.
2. Configure the input with the Custom digital input function for SDU reset.

The screenshot shows the 'Configure' tab of the CustomLogic project. The left sidebar has a 'Functions' section with 'I/O' selected. The main area displays a ladder logic diagram for 'Block 0'. A normally open contact is connected to a custom digital output coil. The contact is configured with the variable 'Terminal(s) 19, 21 DI'. The output coil is labeled 'Custom digital output'.

3. Configure the output with the Custom digital output for SDU reset.

The screenshot shows the 'Configure' tab of the CustomLogic project. The left sidebar has a 'Functions' section with 'I/O' selected and 'Outputs' expanded. The main area displays a ladder logic diagram for 'Block 0'. A normally open coil is connected to a custom digital output coil. The coil is configured with the variable 'Custom digital output'. The output coil is labeled 'Custom digital output'.

4. Save and Write the project to the controller.

NOTE CustomLogic must be enabled and running on the controller. CustomLogic can not be used with CODESYS installed on the controller.