Multi-line
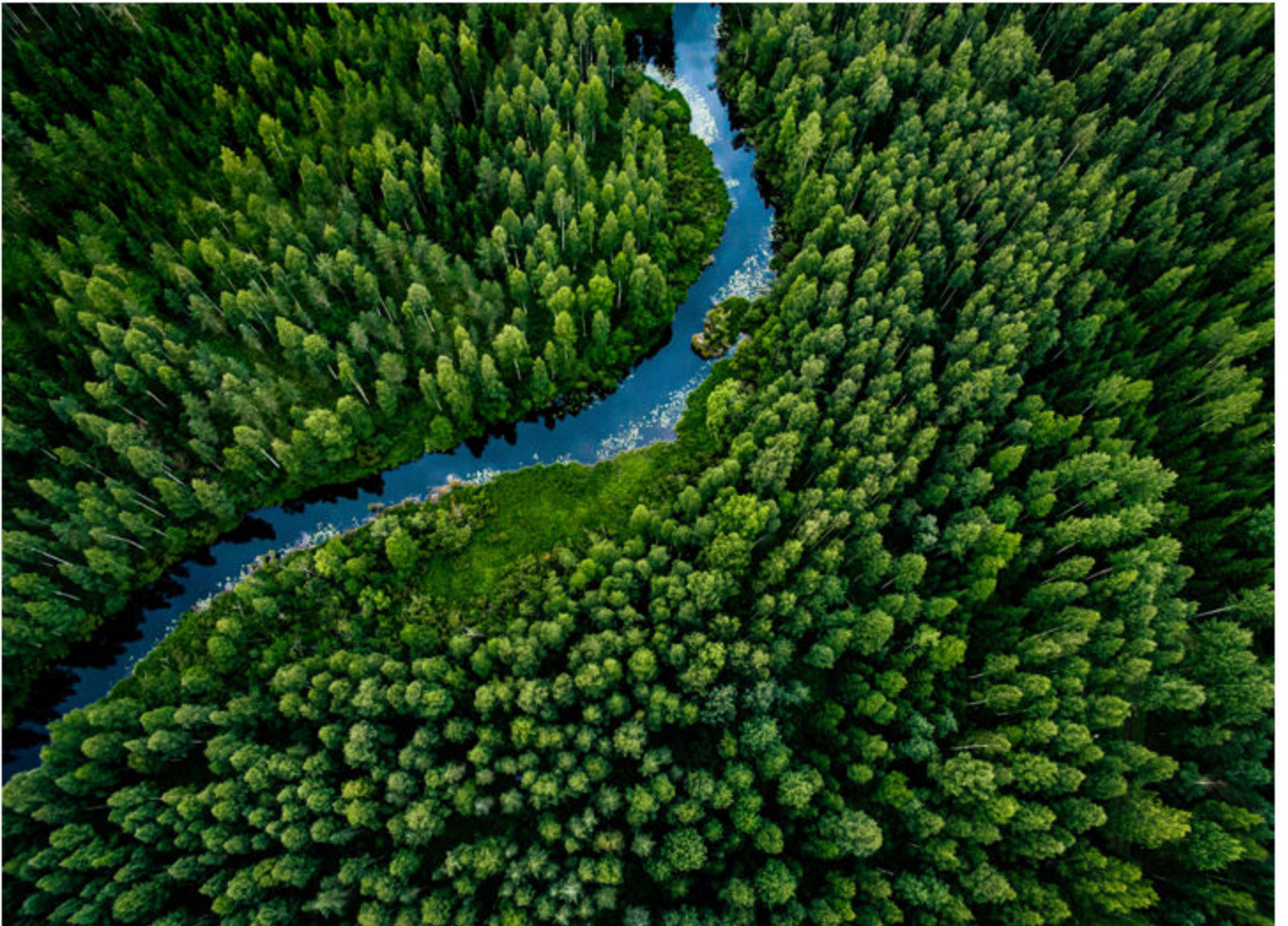
Configurable I/O extension card: 4 relay outputs

Option M14.x

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1. Delimitation

1.1   Scope of option M14

This description of options covers the following products:

AGC-4 Mk II	SW version 6.0x.x or later
AGC-4	SW version 4.0x.x or later
AGC-3	SW version 3.6x.x or later
GPC/GPU Hydro	SW version 3.06.0 or later
GPU/PPU	SW version 3.06.0 or later
PPM	SW version 3.0x.x or later

2. General information

2.1 Warnings, legal information and safety

2.1.1 Warnings and notes

Throughout this document, a number of warnings and notes with helpful user information will be presented. To ensure that these are noticed, they will be highlighted as follows in order to separate them from the general text.

Warnings

⚠️ **DANGER!**
⚠️ **This shows dangerous situations.** If the guidelines are not followed, these situations will result in death, serious personal injury, and equipment damage or destruction.

Notes

NOTE Notes provide general information, which will be helpful for the reader to bear in mind.

2.1.2 Legal information and disclaimer

DEIF takes no responsibility for installation or operation of the generator set. If there is any doubt about how to install or operate the engine/generator controlled by the Multi-line 2 unit, the company responsible for the installation or the operation of the set must be contacted.

NOTE The Multi-line 2 unit is not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

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.

2.1.3 Safety issues

Installing and operating the Multi-line 2 unit may imply work with dangerous currents and voltages. Therefore, the installation should only be carried out by authorised personnel who understand the risks involved in working with live electrical equipment.

⚠️ **DANGER!**
Be aware of the hazardous live currents and voltages. Do not touch any AC measurement inputs as this could lead to injury or death.

2.1.4 Electrostatic discharge awareness

Sufficient care must be taken to protect the terminals against static discharges during the installation. Once the unit is installed and connected, these precautions are no longer necessary.

2.1.5 Factory settings

The unit is delivered from the factory with default settings. These are not necessarily correct for the engine/generator set. Check all the settings before running the engine/generator set.

3. Description of option

3.1 Option M14.x

Option M14.x is a hardware option, and therefore a separate PCB is installed in addition to the standard-installed hardware. M14.2 is installed in slot #2, M14.6 is installed in slot #6 and M14.8 is installed in slot #8.

3.2 ANSI numbers

Function	ANSI no.
4 x configurable relay outputs for alarms or limit switches	74

3.3 Terminal description

NE: Normally energised.

ND: Normally de-energised.

The below relay numbers are to be used when selecting the specific relay.

3.3.1 Option M14.2 (AGC-4 Mk II/AGC-4/AGC-3/GPC-3/PPU-3 only)

Term.	Function	Technical data	Description
29	NE/ND	Relay 29 250V AC/5 A	Configurable
30	Com.		
31	NE/ND	Relay 31 250V AC/5 A	Configurable
32	Com.		
33	NE/ND	Relay 33 250V AC/5 A	Configurable
34	Com.		
35	NE/ND	Relay 35 250V AC/5 A	Configurable
36	Com.		

3.3.2 Option M14.4 (GPU/GPU Hydro only)

Term.	Function	Technical data	Description
65	NE/ND	Relay 65 250V AC/5 A	Configurable
66	Com.		
67	NE/ND	Relay 67 250V AC/5 A	Configurable
68	Com.		
69	NE/ND	Relay 69 250V AC/5 A	Configurable
70	Com.		
71	NE/ND	Relay 71 250V AC/5 A	Configurable
72	Com.		

3.3.3 Option M14.6

Term.	Function	Technical data	Description
90	NE/ND	Relay 90 250V AC/5 A	Configurable
91	Com.		
92	NE/ND	Relay 92 250V AC/5 A	Configurable
93	Com.		
94	NE/ND	Relay 94 250V AC/5 A	Configurable
95	Com.		
96	NE/ND	Relay 96 250V AC/5 A	Configurable
97	Com.		

3.3.4 Option M14.8

Term.	Function	Technical data	Description
126	NE/ND	Relay 126 250V AC/5 A	Configurable
127	Com.		
128	NE/ND	Relay 128 250V AC/5 A	Configurable
129	Com.		
130	NE/ND	Relay 130 250V AC/5 A	Configurable
131	Com.		
132	NE/ND	Relay 132 250V AC/5 A	Configurable
133	Com.		

4. Function description

4.1 Relay setup

Each relay has a function and an OFF delay setting as described below.

Function	Description
Alarm relay NE	When the relay is activated, an alarm is displayed. The relay will remain activated for as long as the alarm is present and unacknowledged. (NE = normally energised)
Alarm relay ND	When the relay is activated, an alarm is displayed. The relay will remain activated for as long as the alarm is present and unacknowledged. (ND = normally de-energised)
Alarm/reset (GPC/GPU/GPU Hydro/PPU only)	The functionality is similar to "Alarm", but with a short-time reset if the relay is ON and another alarm tries to activate the same relay.
Limit relay	When the relay is activated, no alarm message is displayed. After the condition activating the relay has returned to normal, the relay will deactivate when the "OFF delay" has expired.
Horn relay	When the relay is activated, an alarm message is displayed. The relay will be activated until the time set in menu 6130 "Alarm horn" has expired or the alarm activating the relay has been acknowledged.
Siren relay	The output activates on all alarms, like "Horn output". If the relay is ON and another alarm is active, a short-time reset = 1 sec will be activated.
OFF delay	The "OFF delay" is used when limit relay is selected. It is the time between the disappearance of the event that caused the relay to activate and the actual deactivation of the relay.

INFO
It is possible to configure the relay outputs to be used for speed and/or voltage regulation. See the **Designer's Handbook**.

INFO
The relays can also be used together with M-Logic. See the help function in the PC utility software.

5. Parameters

5.1   Further information

Option M14.x relates to parameters 5070-5100 (M14.2), 5150-5180 (M14.4), 5190-5220 (M14.6) and 5230-5260 (M14.8).

For further information, see the separate parameter list:

AGC-4 Mk II	Document number 4189341273
AGC-4	Document number 4189340688
AGC-3	Document number 4189340705
GPC-3/GPU-3 Hydro	Document number 4189340580
PPU-3/GPU-3	Document number 4189340581
PPM	Document number 4189340672