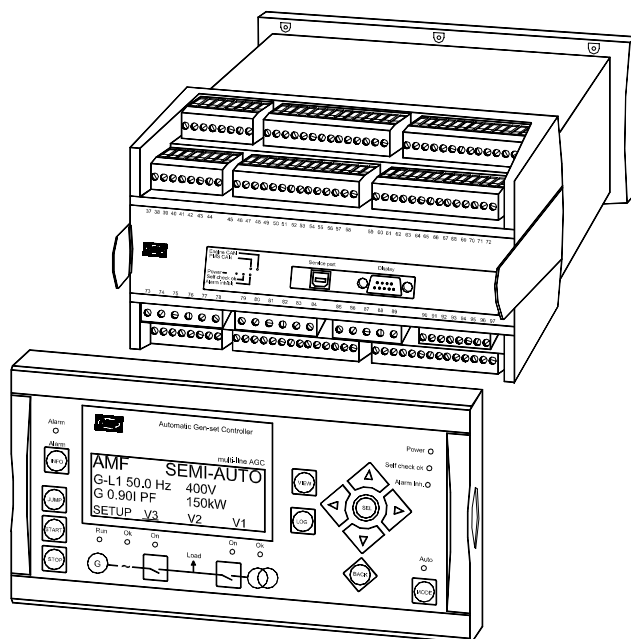


Description of options

Option M12, Configurable I/O extension cards 13 binary inputs/4 relay outputs Automatic Gen-set Controller

4189340448A

SW version 3.0X.X



- Description of option
- Functional description
- Parameter list

CE

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1. Warnings and legal information

Legal information and responsibility

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

The units are not to be opened by unauthorised personnel. If opened anyway, the warranty will be lost.

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.

Safety issues

Installing the unit implies 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.



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

Definitions

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

Notes



The notes provide general information which will be helpful for the reader to bear in mind.

Warning



The warnings indicate a potentially dangerous situation which could result in death, personal injury or damaged equipment, if certain guidelines are not followed.

2. Description of option

M12 option

Option M12 is a hardware option, and therefore an extra PCB is placed in slot #3 in addition to the standard-installed hardware.

ANSI numbers

Function	ANSI no.
13 x binary inputs for control and/or alarms	77
4 x digital outputs	74



If option G3 is already installed, option M12 is a software upgrade.

Terminal description

Term.	Function	Technical data	Description
37			Used for the option G3
38			
39			
40			
41			
42			
43	Digital input 43	Optocoupler	Configurable
44	Digital input 44	Optocoupler	Configurable
45	Digital input 45	Optocoupler	Configurable
46	Digital input 46	Optocoupler	Configurable
47	Digital input 47	Optocoupler	Configurable
48	Digital input 48	Optocoupler	Configurable
49	Digital input 49	Optocoupler	Configurable
50	Digital input 50	Optocoupler	Configurable
51	Digital input 51	Optocoupler	Configurable
52	Digital input 52	Optocoupler	Configurable
53	Digital input 53	Optocoupler	Configurable
54	Digital input 54	Optocoupler	Configurable
55	Digital input 55	Optocoupler	Configurable
56	Com.	Common	Common for terminals 43 to 55
57	NO	Relay 57 250V AC/5A	Configurable
58	Com.		
59	NO	Relay 59 250V AC/5A	Configurable
60	Com.		
61	NO	Relay 61 250V AC/5A	Configurable
62	Com.		
63	NO	Relay 63 250V AC/5A	Configurable
64	Com.		



The binary inputs use fixed signals.



Please refer to the Installation Instructions for detailed description of the wiring of digital inputs.

3. Functional description

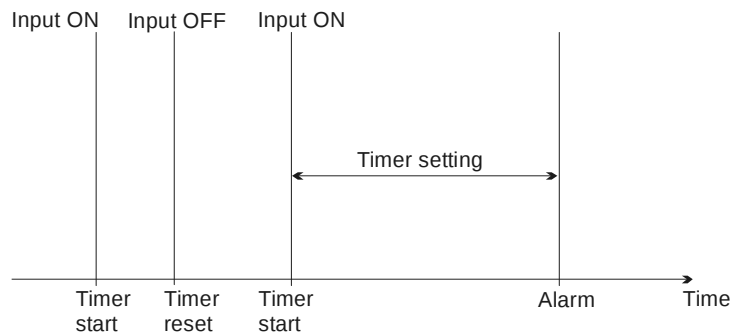
Digital inputs

The digital inputs available in this option can be used for two purposes:

1. Protection (alarm) inputs
2. Function inputs

Protection/alarm inputs

The delay settings are all of the definite time type, i.e. a set time is selected. The delay will be activated if the input goes ON (or OFF if selected to be N/C). If the input is reset before the delay runs out, the delay will be reset.



When the delay runs out, the output will be activated.

Function input

The function inputs can be set up via the PC utility software.

The PC utility software is a Windows® based software, which can be downloaded from our website www.deif.com. To adjust the inputs via the PC utility software, a computer must be connected to the controller unit. Furthermore, the unit parameters must be uploaded to the computer.



Please refer to the Designer's Reference Handbook for a complete list of the available input functions.

Relay setup

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

Function:

Alarm relay

When the relay is activated, an alarm is displayed. The relay will remain activated for as long as the alarm is present and unacknowledged.

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.

OFF delay:

The 'OFF delay' is the time between the disappearance of the event that caused the relay to activate and the actual deactivation of the relay.



It is possible to configure the relay outputs to be used for speed and/or voltage regulation. Please refer to the Designer's Reference Handbook.



The relays can also be used together with M-logic. Please refer to the Help function in the PC utility software.

4. Parameter list

Digital inputs



Please refer to the Designer's Reference Handbook for a description of the fail class selections.



These parameters are used when the binary inputs are used as protection inputs or to activate a limit relay.



Please refer to the Help function in the PC utility software for a description of the inhibit functions.

3130 Dig. input 43

No.	Setting		Min. setting	Max. setting	Factory setting
3131	Dig. input 43	Delay	0.0 s	100.0 s	10.0 s
3132	Dig. input 43	Relay output A	Not used	Option dependent	Not used
3133	Dig. input 43	Relay output B	Not used		Not used
3134	Dig. input 43	Enable	OFF	ON	OFF
3135	Dig. input 43	Fail class	Alarm	Trip MB	Warning
3136	Dig. input 43	N/O - N/C	N/O	N/C	N/O

3140 Dig. input 44

No.	Setting		Min. setting	Max. setting	Factory setting
3141	Dig. input 44	Delay	0.0 s	100.0 s	10.0 s
3142	Dig. input 44	Relay output A	Not used	Option dependent	Not used
3143	Dig. input 44	Relay output B	Not used		Not used
3144	Dig. input 44	Enable	OFF	ON	OFF
3145	Dig. input 44	Fail class	Alarm	Trip MB	Warning
3146	Dig. input 44	N/O - N/C	N/O	N/C	N/O

3150 Dig. input 45

No.	Setting		Min. setting	Max. setting	Factory setting
3151	Dig. input 45	Delay	0.0 s	100.0 s	10.0 s
3152	Dig. input 45	Relay output A	Not used	Option dependent	Not used
3153	Dig. input 45	Relay output B	Not used		Not used
3154	Dig. input 45	Enable	OFF	ON	OFF
3155	Dig. input 45	Fail class	Alarm	Trip MB	Warning
3156	Dig. input 45	N/O - N/C	N/O	N/C	N/O

3160 Dig. input 46

No.	Setting		Min. setting	Max. setting	Factory setting
3161	Dig. input 46	Delay	0.0 s	100.0 s	10.0 s
3162	Dig. input 46	Relay output A	Not used	Option dependent	Not used
3163	Dig. input 46	Relay output B	Not used		Not used
3164	Dig. input 46	Enable	OFF	ON	OFF
3165	Dig. input 46	Fail class	Alarm	Trip MB	Warning
3166	Dig. input 46	N/O - N/C	N/O	N/C	N/O

3170 Dig. input 47

No.	Setting		Min. setting	Max. setting	Factory setting
3171	Dig. input 47	Delay	0.0 s	100.0 s	10.0 s
3172	Dig. input 47	Relay output A	Not used	Option dependent	Not used
3173	Dig. input 47	Relay output B	Not used		Not used
3174	Dig. input 47	Enable	OFF	ON	OFF
3175	Dig. input 47	Fail class	Alarm	Trip MB	Warning
3176	Dig. input 47	N/O - N/C	N/O	N/C	N/O

3180 Dig. input 48

No.	Setting		Min. setting	Max. setting	Factory setting
3181	Dig. input no. 48	Delay	0.0 s	100.0 s	10.0 s
3182	Dig. input no. 48	Relay output A	Not used	Option dependent	Not used
3183	Dig. input no. 48	Relay output B	Not used		Not used
3184	Dig. input no. 48	Enable	OFF	ON	OFF
3185	Dig. input no. 48	Fail class	Alarm	Trip MB	Warning
3186	Dig. input no. 48	N/O - N/C	N/O	N/C	N/O

3190 Dig. input 49

No.	Setting		Min. setting	Max. setting	Factory setting
3191	Dig. input 49	Delay	0.0 s	100.0 s	10.0 s
3192	Dig. input 49	Relay output A	Not used	Option dependent	Not used
3193	Dig. input 49	Relay output B	Not used		Not used
3194	Dig. input 49	Enable	OFF	ON	OFF
3195	Dig. input 49	Fail class	Alarm	Trip MB	Warning
3196	Dig. input 49	N/O - N/C	N/O	N/C	N/O

3200 Dig. input 50

No.	Setting		Min. setting	Max. setting	Factory setting
3201	Dig. input 50	Delay	0.0 s	100.0 s	10.0 s
3202	Dig. input 50	Relay output A	Not used	Option dependent	Not used
3203	Dig. input 50	Relay output B	Not used		Not used
3204	Dig. input 50	Enable	OFF	ON	OFF
3205	Dig. input 50	Fail class	Alarm	Trip MB	Warning
3206	Dig. input 50	N/O - N/C	N/O	N/C	N/O

3210 Dig. input 51

No.	Setting		Min. setting	Max. setting	Factory setting
3211	Dig. input 51	Delay	0.0 s	100.0 s	10.0 s
3212	Dig. input 51	Relay output A	Not used	Option dependent	Not used
3213	Dig. input 51	Relay output B	Not used		Not used
3214	Dig. input 51	Enable	OFF	ON	OFF
3215	Dig. input 51	Fail class	Alarm	Trip MB	Warning
3216	Dig. input 51	N/O - N/C	N/O	N/C	N/O

3220 Dig. input 52

No.	Setting		Min. setting	Max. setting	Factory setting
3221	Dig. input 52	Delay	0.0 s	100.0 s	10.0 s
3222	Dig. input 52	Relay output A	Not used	Option dependent	Not used
3223	Dig. input 52	Relay output B	Not used		Not used
3224	Dig. input 52	Enable	OFF	ON	OFF
3225	Dig. input 52	Fail class	Alarm	Trip MB	Warning
3226	Dig. input 52	N/O - N/C	N/O	N/C	N/O

3230 Dig. input 53

No.	Setting		Min. setting	Max. setting	Factory setting
3231	Dig. input 53	Delay	0.0 s	100.0 s	10.0 s
3232	Dig. input 53	Relay output A	Not used	Option dependent	Not used
3233	Dig. input 53	Relay output B	Not used		Not used
3234	Dig. input 53	Enable	OFF	ON	OFF
3235	Dig. input 53	Fail class	Alarm	Trip MB	Warning
3236	Dig. input 53	N/O - N/C	N/O	N/C	N/O

3240 Dig. input 54

No.	Setting		Min. setting	Max. setting	Factory setting
3241	Dig. input 54	Delay	0.0 s	100.0 s	10.0 s
3242	Dig. input 54	Relay output A	Not used	Option dependent	Not used
3243	Dig. input 54	Relay output B	Not used		Not used
3244	Dig. input 54	Enable	OFF	ON	OFF
3245	Dig. input 54	Fail class	Alarm	Trip MB	Warning
3246	Dig. input 54	N/O - N/C	N/O	N/C	N/O

3250 Dig. input 55

No.	Setting		Min. setting	Max. setting	Factory setting
3251	Dig. input 55	Delay	0.0 s	100.0 s	10.0 s
3252	Dig. input 55	Relay output A	Not used	Option dependent	Not used
3253	Dig. input 55	Relay output B	Not used		Not used
3254	Dig. input 55	Enable	OFF	ON	OFF
3255	Dig. input 55	Fail class	Alarm	Trip MB	Warning
3256	Dig. input 55	N/O - N/C	N/O	N/C	N/O

Relay outputs**5110 Relay 57**

No.	Setting		First setting	Second setting	Third setting	Factory setting
5111	Relay 57	Function	Alarm	Limit	Horn	Alarm
5112	Relay 57	OFF delay	0.0 s	999.9 s	-	5.0 s

5120 Relay 59

No.	Setting		First setting	Second setting	Third setting	Factory setting
5121	Relay 59	Function	Alarm	Limit	Horn	Alarm
5122	Relay 59	OFF delay	0.0 s	999.9 s	-	5.0 s

5130 Relay 61

No.	Setting		First setting	Second setting	Third setting	Factory setting
5131	Relay 61	Function	Alarm	Limit	Horn	Alarm
5132	Relay 61	OFF delay	0.0 s	999.9 s	-	5.0 s

5140 Relay 63

No.	Setting		First setting	Second setting	Third setting	Factory setting
5141	Relay 63	Function	Alarm	Limit	Horn	Limit
5142	Relay 63	OFF delay	0.0 s	999.9 s	-	5.0 s

DEIF A/S reserves the right to change any of the above