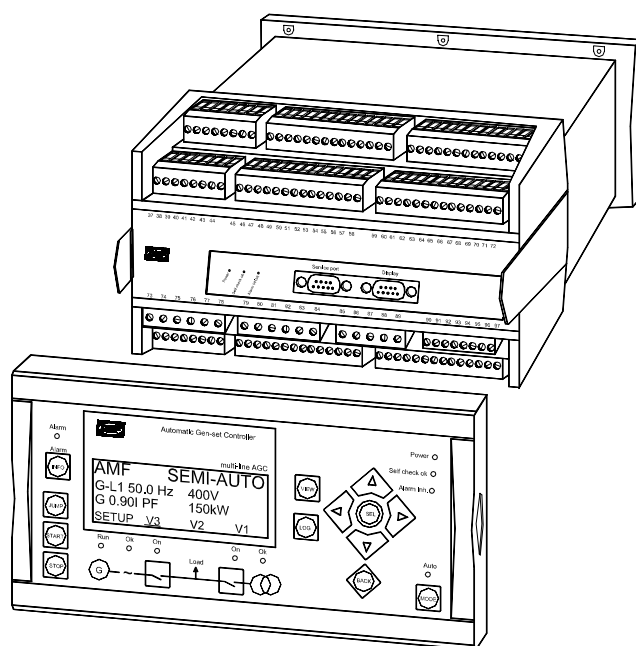


Description of option

Option M13, Configurable I/O extension cards 7 binary inputs Automatic Gen-set Controller

4189340391A

SW version 2.1X.X



- Description of option
- Functional description
- Parameter list



Table of contents

1. WARNINGS AND LEGAL INFORMATION 3

LEGAL INFORMATION AND RESPONSIBILITY 3

ELECTROSTATIC DISCHARGE AWARENESS 3

SAFETY ISSUES 3

DEFINITIONS 3

2. DESCRIPTION OF OPTION 4

M13 OPTION 4

TERMINAL DESCRIPTION 4

DC WIRING 4

3. FUNCTIONAL DESCRIPTION 5

ALARMS 5

BINARY INPUT 5

4. PARAMETER LIST 8

DIGITAL INPUTS 8

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

M13 option

Option M13 is a hardware option, and therefore a separate PCB is installed in slot #6 in addition to the standard installed hardware.

Option M13 covers the following ANSI code:

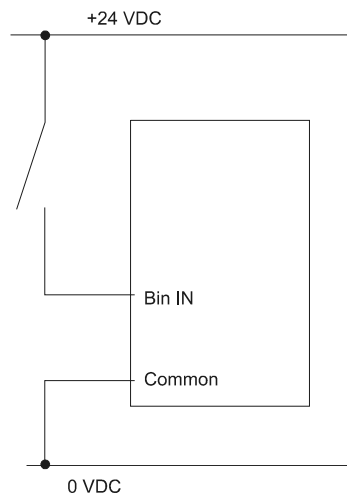
Function	ANSI no.
7 x binary inputs for control and/or alarms	77

Terminal description

Term.	Function	Technical data	Description
90	Com.	Common	Common for terminals 91-97
91	Digital input 91	Optocoupler	Configurable
92	Digital input 92	Optocoupler	Configurable
93	Digital input 93	Optocoupler	Configurable
94	Digital input 94	Optocoupler	Configurable
95	Digital input 95	Optocoupler	Configurable
96	Digital input 96	Optocoupler	Configurable
97	Digital input 97	Optocoupler	Configurable

DC wiring

The wiring is done by connecting 24 volts across the common and the input terminal. All binary inputs are 24V DC bi-directional optocoupler. Typical input is:

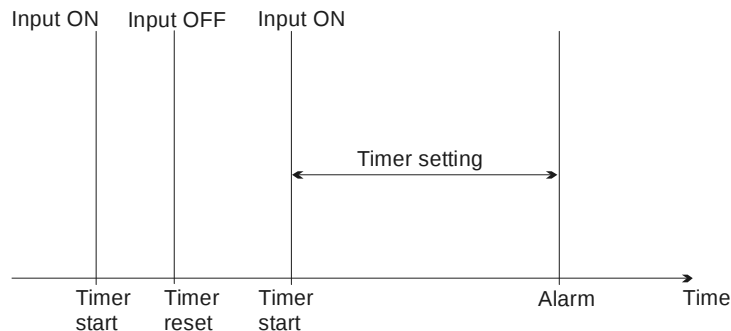


The binary inputs use fixed signals.

3. Functional description

Alarms

The delay settings are all of the definite time type, i.e. a set time is selected. The timer will be activated, if the input goes ON (or OFF if selected to be 'low alarm' in the PC utility software). If the input is reset before the timer runs out, then the timer will be reset.



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

Binary input

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

1. Protection (alarm) inputs
2. Function inputs

Protection inputs

The protection inputs can be set up through 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.

Set point

The text can be changed by clicking the button  which is placed on the left hand side of the existing text. The unit can be selected to relevant values, e.g. volt, amp, RPM etc.

Timer

The timer can be adjusted by moving the glider left or right or by clicking the present set point. (Below click '10 sec').

Fail class

Select the required fail class from the drop-down list.

Output A/output B

Select which relay to activate at an alarm, if this is necessary and available.

Password level

Select which password level that is needed to modify this parameter.

Enable

To activate the alarm function, select ON or RUN in the list. (If RUN is selected, then the alarm function will be activated when the gen-set is running).

High alarm

Mark this check box to get an alarm, when the input is activated. Unmark this check box to get an alarm, when the input is deactivated.

The screenshot shows a configuration window titled "Parameter 'Dig. Input No43' (Channel 3060)". The window contains several settings:

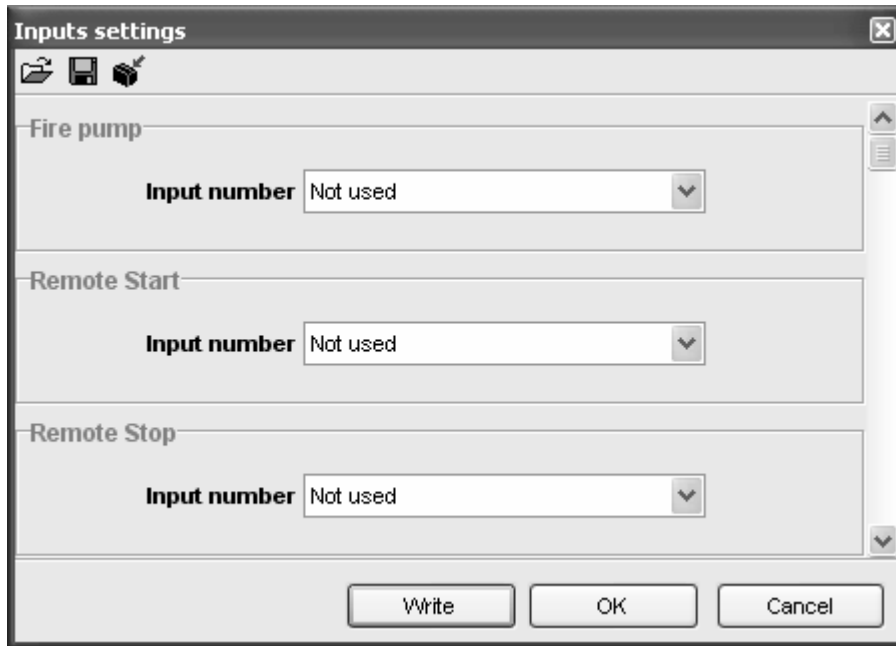
- Setpoint :** --- Dig. Input No43
- Timer :** A slider control ranging from 0,0 to 100,0, currently set at 10 sec.
- Fail class :** A dropdown menu showing "Warning".
- Output A :** A dropdown menu showing "Output 0".
- Output B :** A dropdown menu showing "Output 0".
- Password level :** A dropdown menu showing "Customer".
- Enabled :** A section with three options:
 - (dropdown)
 - ☒ High Alarm
 - ☐ Inverse proportional
- Commissioning :** A section showing:
 - Actual value : 0
 - Time elapsed : 0 sec (0 %)
 - A progress bar from 0 sec to 10 sec.

At the bottom of the window are three buttons: "Write", "OK", and "Cancel".

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.



The screenshot shows a window titled "Inputs settings" with a close button (X) in the top right corner. Below the title bar are three icons: a folder, a floppy disk, and a cube with an arrow. The window contains three sections, each with a label and a drop-down menu:

- Fire pump**: Input number Not used
- Remote Start**: Input number Not used
- Remote Stop**: Input number Not used

At the bottom of the window are three buttons: "Write", "OK", and "Cancel".

Select the input number in the drop-down list based on the function it needs to activate.

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.

3190 Digital input no. 91

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3191	Dig. input no. 91	Timer	0.0 s	100.0 s	-	10.0 s
3192	Dig. input no. 91	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3193	Dig. input no. 91	Relay output B	R0 (none)		-	R0 (none)
3194	Dig. input no. 91	Enable	OFF	ON	RUN	OFF
3195	Dig. input no. 91	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3196	Dig. input no. 91	N/O - N/C	N/O	N/C	-	N/O

3200 Digital input no. 92

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3201	Dig. input no. 92	Timer	0.0 s	100.0 s	-	10.0 s
3202	Dig. input no. 92	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3203	Dig. input no. 92	Relay output B	R0 (none)		-	R0 (none)
3204	Dig. input no. 92	Enable	OFF	ON	RUN	OFF
3205	Dig. input no. 92	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3206	Dig. input no. 92	N/O - N/C	N/O	N/C	-	N/O

3210 Digital input no. 93

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3211	Dig. input no. 93	Timer	0.0 s	100.0 s	-	10.0 s
3212	Dig. input no. 93	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3213	Dig. input no. 93	Relay output B	R0 (none)		-	R0 (none)
3214	Dig. input no. 93	Enable	OFF	ON	RUN	OFF
3215	Dig. input no. 93	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3216	Dig. input no. 93	N/O - N/C	N/O	N/C	-	N/O

3220 Digital input no. 94

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3221	Dig. input no. 94	Timer	0.0 s	100.0 s	-	10.0 s
3222	Dig. input no. 94	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3223	Dig. input no. 94	Relay output B	R0 (none)		-	R0 (none)
3224	Dig. input no. 94	Enable	OFF	ON	RUN	OFF
3225	Dig. input no. 94	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3226	Dig. input no. 94	N/O - N/C	N/O	N/C	-	N/O

3230 Digital input no. 95

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3231	Dig. input no. 95	Timer	0.0 s	100.0 s	-	10.0 s
3232	Dig. input no. 95	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3233	Dig. input no. 95	Relay output B	R0 (none)		-	R0 (none)
3234	Dig. input no. 95	Enable	OFF	ON	RUN	OFF
3235	Dig. input no. 95	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3236	Dig. input no. 95	N/O - N/C	N/O	N/C	-	N/O

3240 Digital input no. 96

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3241	Dig. input no. 96	Timer	0.0 s	100.0 s	-	10.0 s
3242	Dig. input no. 96	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3243	Dig. input no. 96	Relay output B	R0 (none)		-	R0 (none)
3244	Dig. input no. 96	Enable	OFF	ON	RUN	OFF
3245	Dig. input no. 96	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3246	Dig. input no. 96	N/O - N/C	N/O	N/C	-	N/O

3250 Digital input no. 97

No.	Setting		Min. setting	Max. setting	Third setting	Factory setting
3251	Dig. input no. 97	Timer	0.0 s	100.0 s	-	10.0 s
3252	Dig. input no. 97	Relay output A	R0 (none)	Option dependent	-	R0 (none)
3253	Dig. input no. 97	Relay output B	R0 (none)		-	R0 (none)
3254	Dig. input no. 97	Enable	OFF	ON	RUN	OFF
3255	Dig. input no. 97	Fail class	Alarm (1)	Trip MB (6)	-	Warning (2)
3256	Dig. input no. 97	N/O - N/C	N/O	N/C	-	N/O

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