

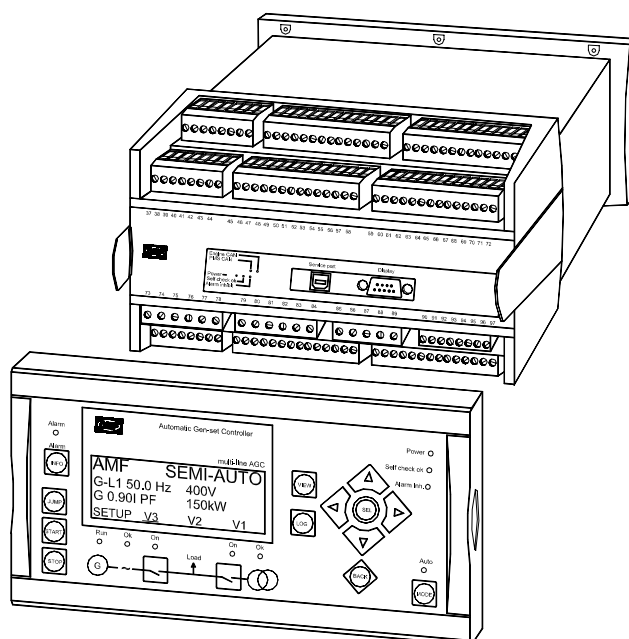
Description of options



Option M15, Configurable I/O extension cards Four 4-20mA inputs Multi-line 2

4189340451A

SW version 3.0X.X



- Description of option
- Functional description
- Parameter list



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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

M15 option

Option M15 is a hardware option and therefore a separate PCB is installed in addition to the standard-installed hardware.

ANSI numbers

Function	ANSI no.
4 x configurable 4-20mA inputs	-

Terminal description

Term.	Function	Technical data	Description
90	Analogue input 91	Common	4-20mA input, configurable
91	Analogue input 91	4-20mA in	
92	Analogue input 93	Common	4-20mA input, configurable
93	Analogue input 93	4-20mA in	
94	Analogue input 95	Common	4-20mA input, configurable
95	Analogue input 95	4-20mA in	
96	Analogue input 97	Common	4-20mA input, configurable
97	Analogue input 97	4-20mA in	



Please refer to the Installation Instructions for the wiring of active and passive transducers.

3. Functional description

Analogue input configuration

The analogue input can be used for protection and display of values. The configuration can be done with the ML-2 utility software or by using the display.

In the display, the readings of the 4-20mA input can be read. The readings are found in the second line of the setup menu or, if configured, in the view menu system.



Refer to the Designer's Reference Handbook regarding the menu system and configuration of user views.

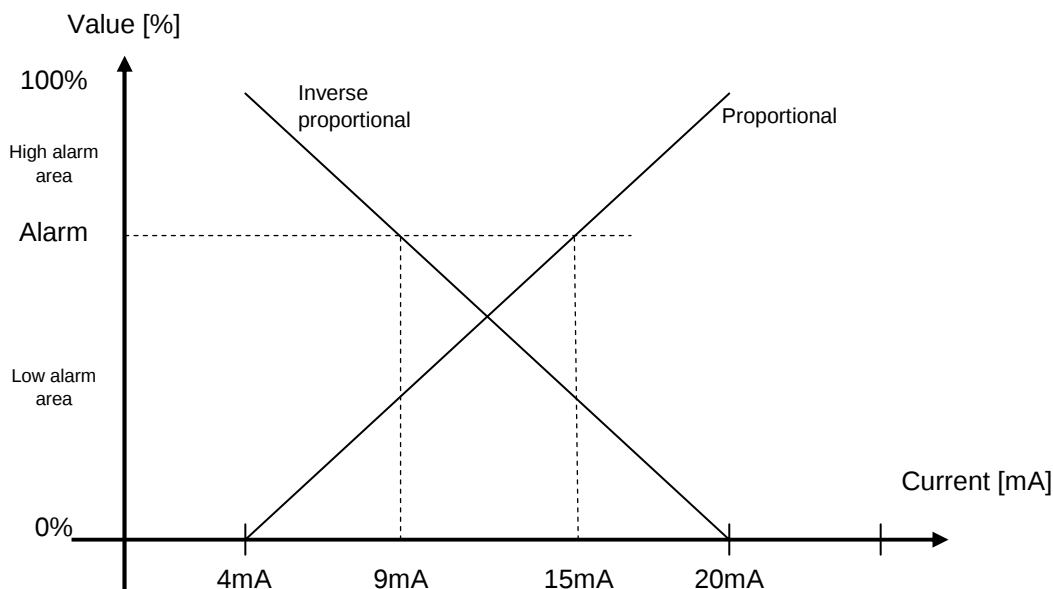
The ML-2 utility software enables you to change the text, scale and unit of the measurement:

If the text of the input is changed, you will see the changed text. This could e.g. be 'Oil press. ##bar' instead of '4-20mA 91.1 ##mA'

Inverse proportional

In situations where the signal of the input is reversed, the 'Inverse proportional' selection can be made. The selection ensures that the display reading is correct when an 'inversed' signal is made.

The diagram shows the characteristics of the 'normal' proportional sensor and of the inversed proportional sensor.



This function can only be activated by using the ML-2 utility software

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.

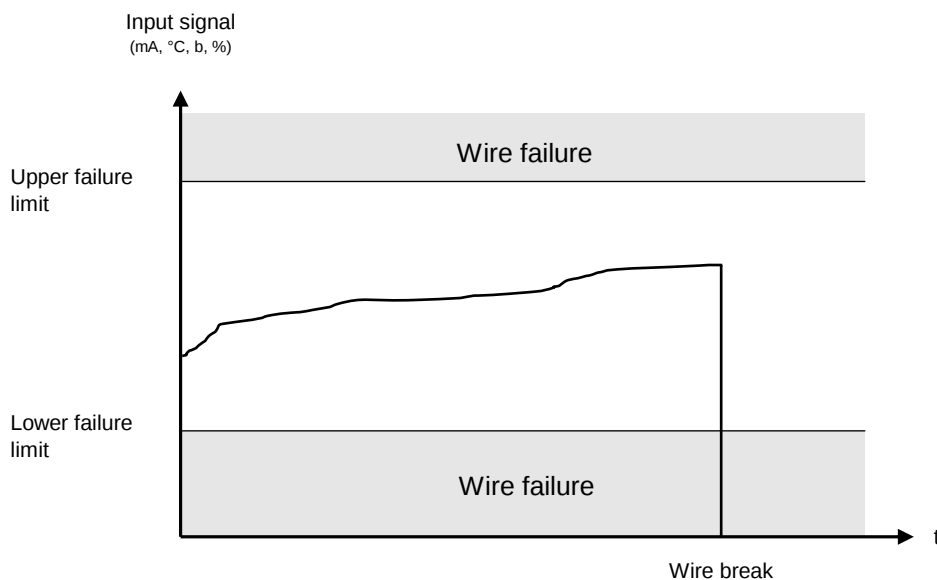
Wire failure detection

If it is necessary to supervise the sensors/wires connected to the analogue inputs, it is possible to activate the wire failure detection on each individual input.

If the measured value on the input is outside the normal dynamic area of the input, it will be detected as if the wire has made a short circuit or a break, and an alarm with a configurable fail class will be activated.

Principle

The illustration below shows that when the wire of the input breaks, the measured value will drop to zero. Then the alarm will occur.



4. Parameter list



For further information about the structure of the parameter descriptions, please see the Designer's Reference Handbook.



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



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

4000 4-20mA 91.1

No.	Setting		Min. setting	Max. setting	Factory setting
4001	4-20mA 91.1	Set point	4mA	20mA	10mA
4002	4-20mA 91.1	Delay	0.0 s	600.0 s	120.0 s
4003	4-20mA 91.1	Relay output A	Not used	Option dependent	Not used
4004	4-20mA 91.1	Relay output B	Not used		Not used
4005	4-20mA 91.1	Enable	OFF	ON	OFF
4006	4-20mA 91.1	Fail class	Alarm	Trip MB	Warning

4010 4-20mA 91.2

No.	Setting		Min. setting	Max. setting	Factory setting
4011	4-20mA 91.2	Set point	4mA	20mA	10mA
4012	4-20mA 91.2	Delay	0.0 s	600.0 s	120.0 s
4013	4-20mA 91.2	Relay output A	Not used	Option dependent	Not used
4014	4-20mA 91.2	Relay output B	Not used		Not used
4015	4-20mA 91.2	Enable	OFF	ON	OFF
4016	4-20mA 91.2	Fail class	Alarm	Trip MB	Warning

4020 W. fail ana 91

No.	Setting		Min. setting	Max. setting	Factory setting
4021	W. fail ana 91	Relay output A	Not used	Option dependent	Not used
4022	W. fail ana 91	Relay output B	Not used		Not used
4023	W. fail ana 91	Enable	OFF	ON	OFF
4024	W. fail ana 91	Fail class	Alarm	Trip MB	Warning

4030 4-20mA 93.1

No.	Setting		Min. setting	Max. setting	Factory setting
4031	4-20mA 93.1	Set point	4mA	20mA	10mA
4032	4-20mA 93.1	Delay	0.0 s	600.0 s	120.0 s
4033	4-20mA 93.1	Relay output A	Not used	Option dependent	Not used
4034	4-20mA 93.1	Relay output B	Not used		Not used
4035	4-20mA 93.1	Enable	OFF	ON	OFF
4036	4-20mA 93.1	Fail class	Alarm	Trip MB	Warning

4040 4-20mA 93.2

No.	Setting		Min. setting	Max. setting	Factory setting
4041	4-20mA 93.2	Set point	4mA	20mA	10mA
4042	4-20mA 93.2	Delay	0.0 s	600.0 s	120.0 s
4043	4-20mA 93.2	Relay output A	Not used	Option dependent	Not used
4044	4-20mA 93.2	Relay output B	Not used		Not used
4045	4-20mA 93.2	Enable	OFF	ON	OFF
4046	4-20mA 93.2	Fail class	Alarm	Trip MB	Warning

4050 W. fail ana 93

No.	Setting		Min. setting	Max. setting	Factory setting
4051	W. fail ana 93	Relay output A	Not used	Option dependent	Not used
4052	W. fail ana 93	Relay output B	Not used		Not used
4053	W. fail ana 93	Enable	OFF	ON	OFF
4054	W. fail ana 93	Fail class	Alarm	Trip MB	Warning

4060 4-20mA 95.1

No.	Setting		Min. setting	Max. setting	Factory setting
4061	4-20mA 95.1	Set point	4mA	20mA	10mA
4062	4-20mA 95.1	Delay	0.0 s	600.0 s	120.0 s
4063	4-20mA 95.1	Relay output A	Not used	Option dependent	Not used
4064	4-20mA 95.1	Relay output B	Not used		Not used
4065	4-20mA 95.1	Enable	OFF	ON	OFF
4066	4-20mA 95.1	Fail class	Alarm	Trip MB	Warning

4070 4-20mA input 95.2

No.	Setting		Min. setting	Max. setting	Factory setting
4071	4-20mA 95.2	Set point	4mA	20mA	10mA
4072	4-20mA 95.2	Delay	0.0 s	600.0 s	120.0 s
4073	4-20mA 95.2	Relay output A	Not used	Option dependent	Not used
4074	4-20mA 95.2	Relay output B	Not used		Not used
4075	4-20mA 95.2	Enable	OFF	ON	OFF
4076	4-20mA 95.2	Fail class	Alarm	Trip MB	Warning

4080 W. fail ana 95

No.	Setting		Min. setting	Max. setting	Factory setting
4081	W. fail ana 95	Relay output A	Not used	Option dependent	Not used
4082	W. fail ana 95	Relay output B	Not used		Not used
4083	W. fail ana 95	Enable	OFF	ON	OFF
4084	W. fail ana 95	Fail class	Alarm	Trip MB	Warning

4090 4-20mA input 97.1

No.	Setting		Min. setting	Max. setting	Factory setting
4091	4-20mA 97.1	Set point	4mA	20mA	10mA
4092	4-20mA 97.1	Delay	0.0 s	600.0 s	120.0 s
4093	4-20mA 97.1	Relay output A	Not used	Option dependent	Not used
4094	4-20mA 97.1	Relay output B	Not used		Not used
4095	4-20mA 97.1	Enable	OFF	ON	OFF
4096	4-20mA 97.1	Fail class	Alarm	Trip MB	Warning

4100 4-20mA input 97.2

No.	Setting		Min. setting	Max. setting	Factory setting
4101	4-20mA 97.2	Set point	4mA	20mA	10mA
4102	4-20mA 97.2	Delay	0.0 s	600.0 s	120.0 s
4103	4-20mA 97.2	Relay output A	Not used	Option dependent	Not used
4104	4-20mA 97.2	Relay output B	Not used		Not used
4105	4-20mA 97.2	Enable	OFF	ON	OFF
4106	4-20mA 97.2	Fail class	Alarm	Trip MB	Warning

4110 W. fail ana 97

No.	Setting		Min. setting	Max. setting	Factory setting
4111	W. fail ana 97	Relay output A	Not used	Option dependent	Not used
4112	W. fail ana 97	Relay output B	Not used		Not used
4113	W. fail ana 97	Enable	OFF	ON	OFF
4114	W. fail ana 97	Fail class	Alarm	Trip MB	Warning

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