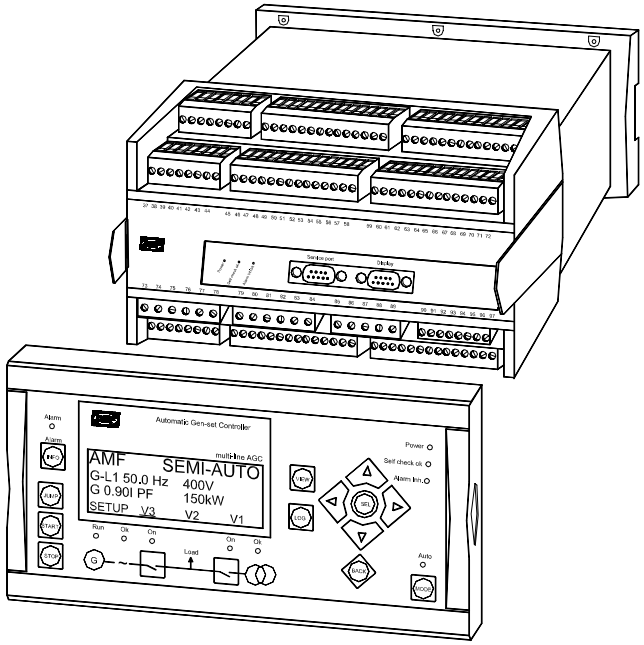
DEIF A/S

Description of options

Option EF2,
Analogue controller and transducer outputs
Automatic Gen-set Controller

4189340386A
SW version 2.1X.X



- *Description of option*
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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

There are two analogue outputs on the PCB, and they are active as follows:

	Terminal 66/67	Terminal 70/71
Governor output	X	
Transducer output		X

The table indicates that the speed governor is controlled from terminals 66/67, and the transducer output is coming from terminals 70/71.

EF2 option

Option EF2 is a hardware option, and therefore a separate PCB is installed in the slot #6 in addition to the standard installed hardware.

Option EF2 covers the following ANSI code:

Function	ANSI no.
1 x 0(4)...20mA outputs	77
1 x +/- 20mA controller output	

Terminal description

Term.	Function	Description
65	Not used	
66	+/-20mA out	Speed governor set point output
67	0	
68	Not used	
69	Not used	
70	0(4)…20mA	Transducer output
71	0	
72	Not used	

The speed governor output can be converted to all voltage ranges from 0-1V DC to 0-10V DC by installing an external resistor.

3. Functional description

Governor output

The +/- 20mA output can be converted to any voltage range from 0-1 to 0-10V DC by mounting resistors across the terminals.

Example: A 250 Ω resistor across the terminals will supply a range of +/- 5V DC.

The choice of resistor depends on the specific governor. Please refer to the DEIF documents 'Interfacing DEIF Equipment with Governors and AVRs' and 'General Guidelines for Commissioning' for detailed information.

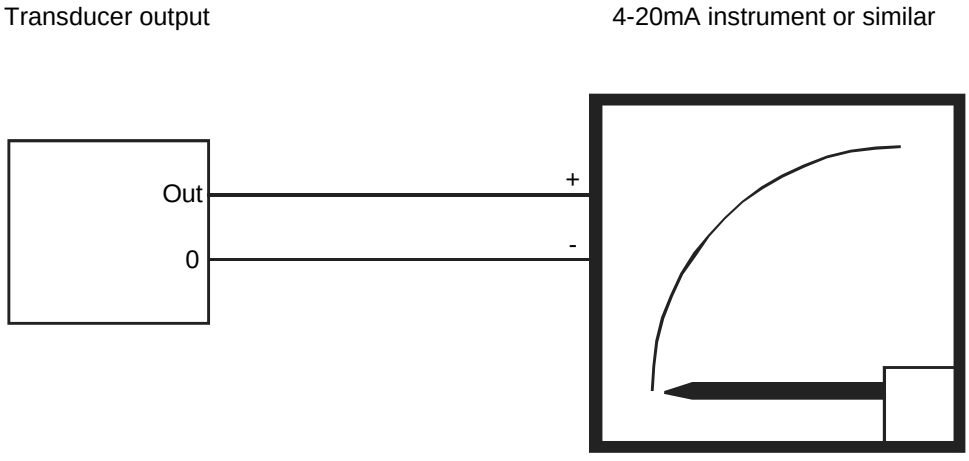
Place the resistor at the governor end to avoid the signal being disturbed by noise.

The outputs from the controller unit are active outputs, and no external supply can be connected.

Transducer output

The transducer outputs are active and galvanically separated.

Wiring example



The outputs from the controller unit are active outputs, and no external supply can be connected.

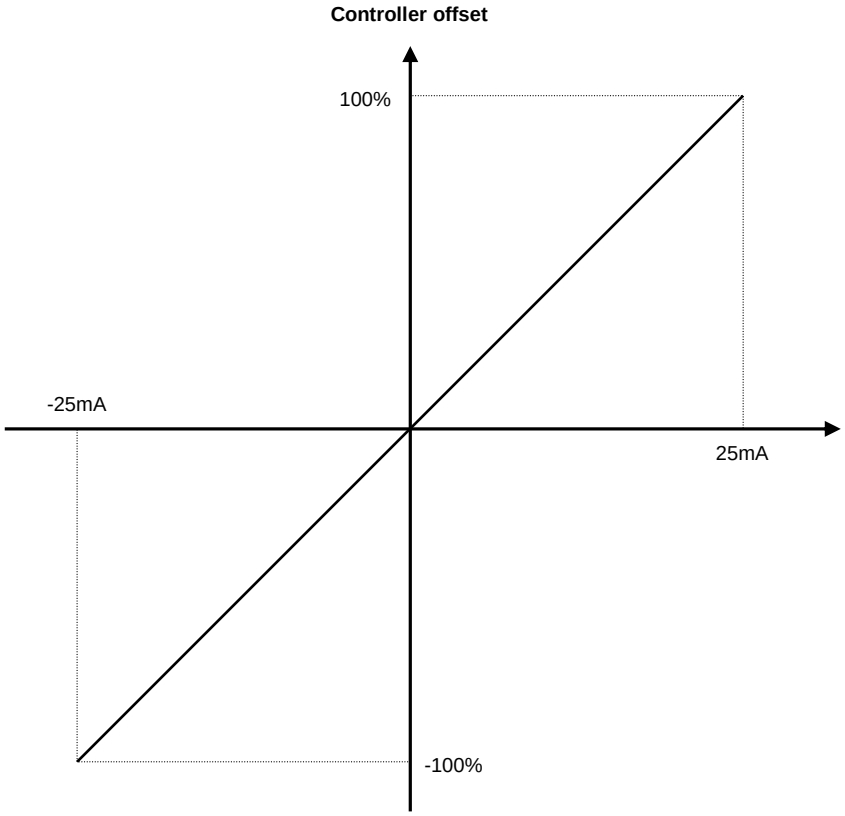
4. Parameter list

The setup of parameters is done via the display or the PC utility software (USW).

Analogue controller offset

In addition to the controller parameters described in the Designer's Reference Handbook this additional setting can be used. The purpose of this setting is to give the analogue output an offset value when powering up the unit. Furthermore, a binary input can be used to reset the output to offset value. The offset value must be adjusted, so the gen-set will start up at the correct speed and voltage.

Typically the speed adjustment is made on the speed governor itself.



2550 Analogue governor offset

No.	Setting		Min. setting	Max. setting	Factory setting
2551	Ana GOV offset	Offset	-100%	100%	0%

After the adjustment of the analogue offset values the multi-line 2 must be reset (power off) in order to use the new adjustment.

Output settings

The analogue output option consists of two independent 0(4)…20mA outputs. Each of the two outputs can be chosen to represent any of the following values:

5500 Power (P kW) output

No.	Setting		Min. setting	Max. setting	Factory setting
5501	Power output	Output A	0	Option dependent	0
5502	Power output	Output B	0		0
5503	Power output	Type	0-20mA	4-20mA	4-20mA
5504	Power output	Max. value	0 kW	20000 kW	500 kW
5505	Power output	Min. value	-9999 kW	20000 kW	0 kW

5510 Apparent power (S kVA) output

No.	Setting		Min. setting	Max. setting	Factory setting
5511	S output	Output A	0	Option dependent	0
5512	S output	Output B	0		0
5513	S output	Type	0-20mA	4-20mA	4-20mA
5514	S output	Max. value	0 kVA	20000 kVA	600 kVA
5515	S output	Min. value	-9999 kVA	20000 kVA	0 kVA

5520 Reactive power (Q kvar) output

No.	Setting		Min. setting	Max. setting	Factory setting
5521	React. power output	Output A	0	Option dependent	0
5522	React. power output	Output B	0		0
5523	React. power output	Type	0-20mA	4-20mA	4-20mA
5524	React. power output	Max. value	0 kvar	16000 kvar	400 kvar
5525	React. power output	Min. value	-8000 kvar	16000 kvar	0 kvar

5530 Power factor (PF) output

No.	Setting		Min. setting	Max. setting	Factory setting
5531	Power factor output	Output A	0	Option dependent	0
5532	Power factor output	Output B	0		0
5533	Power factor output	Type	0-20mA	4-20mA	4-20mA
5534	Power factor output	Max. value	0.50	0.99	0.80
5535	Power factor output	Min. value	-0.99	-0.50	-0.80

5540 Frequency output

No.	Setting		Min. setting	Max. setting	Factory setting
5541	Frequency output	Output A	0	Option dependent	0
5542	Frequency output	Output B	0		0
5543	Frequency output	Type	0-20mA	4-20mA	4-20mA
5544	Frequency output	Max. value	0.0Hz	70.0Hz	55.0Hz
5545	Frequency output	Min. value	0.0Hz	70.0Hz	45.0Hz

5550 Voltage output

No.	Setting		Min. setting	Max. setting	Factory setting
5550	Voltage output	Selection display	-	-	-
5551	Voltage output	Output A	0	Option dependent	0
5552	Voltage output	Output B	0		0
5553	Voltage output	Type	0-20mA	4-20mA	4-20mA
5554	Voltage output	Max. value	0 V	28000 V	500 V
5555	Voltage output	Min. value	0 V	28000 V	0 V

The voltage output represents the L1-L2 voltage.

5560 Current output

No.	Setting		Min. setting	Max. setting	Factory setting
5561	Current output	Output A	0	Option dependent	0
5562	Current output	Output B	0		0
5563	Current output	Type	0-20mA	4-20mA	4-20mA
5564	Current output	Max. value	0 A	9000 A	1000 A
5565	Current output	Min. value	0 A	9000 A	0 A

The current output represents the L1 current.

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