



-power in control



DATA SHEET



Advanced Genset Controller, AGC 100

- Generator control and protection
- Mains monitoring and protection
- Engine control and protection
- Display panel
- Non-sync power management



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1. Variants and options

1.1 Variant overview

1.1.1 Available variants

Type	Variant no.	Description	Item no.	Note
AGC 110	01	AGC 110 including H2 + H5 + H8	2912531020-01	
AGC 111	02	AGC 111 including H2 + H5 + H8	2912531020-02	
AGC 112	03	AGC 112 including H2 + H5 + H8	2912531020-03	
AGC 113	04	AGC 113 including H2 + H5 + H8	2912531020-04	
AGC 145	05	AGC 145 including H2 + H8.2	2912531020-05	
AGC 146	06	AGC 146 including H2 + H8.2	2912531020-06	

1.1.2 Variant features

Main features	AGC 110	AGC 111	AGC 112	AGC 113	AGC 145	AGC 146
Engine protection	X	X	X	X		
J1939 engine communication (H5)	X	X	X	X		
Generator/busbar protection		X	X	X	X	X
Modbus RS-485 (H2)	X	X	X	X	X	X
External I/O CAN bus communication (H8)	X	X	X	X	X	X
Prepared for AOP (Additional Operator Panel) (X4)	X	X	X	X	X	X
Generator breaker control			X	X		
Automatic Mains Failure, AMF Logic				X	X	X
Power management (non-sync)					X	X
Power management (non-sync) with tie breaker						X
Emulation (option 11)			X	X	X	X

1.1.3 Input/output table

Input/output table	
Type	Number
Digital input, configurable	6
Relay output, configurable	8
Multi-inputs, can be configured to either 4 to 20 mA, RMI*, binary input or Pt1000**	3
RPM input (MPU/W)	1
Modbus RS-485	1
CAN bus port	2

*RMI is short for resistance measurement input.

**Only multi-inputs 6 and 7 can be configured for Pt1000.



For further information about terminals, refer to the "Installation Instructions".

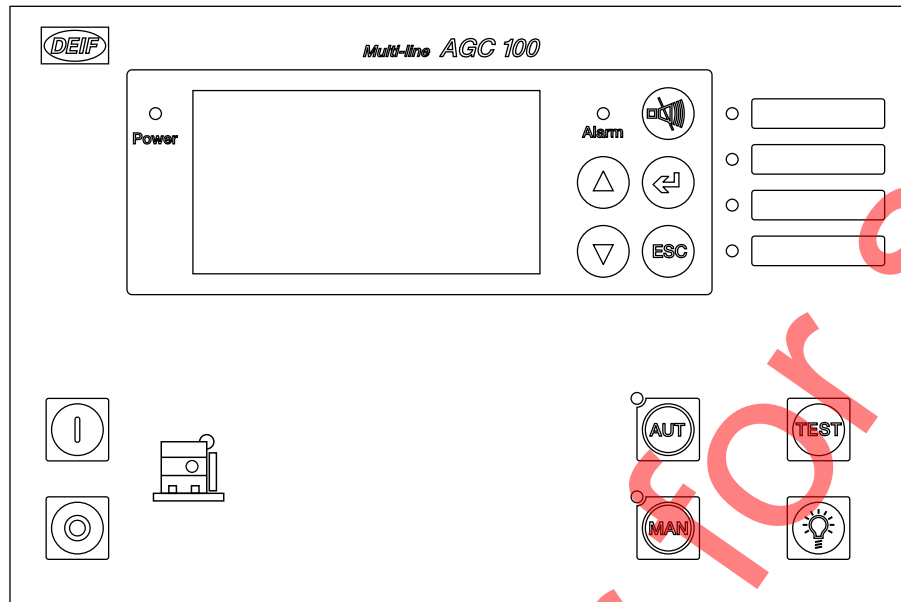
1.2 Options and accessories

1.2.1 Description

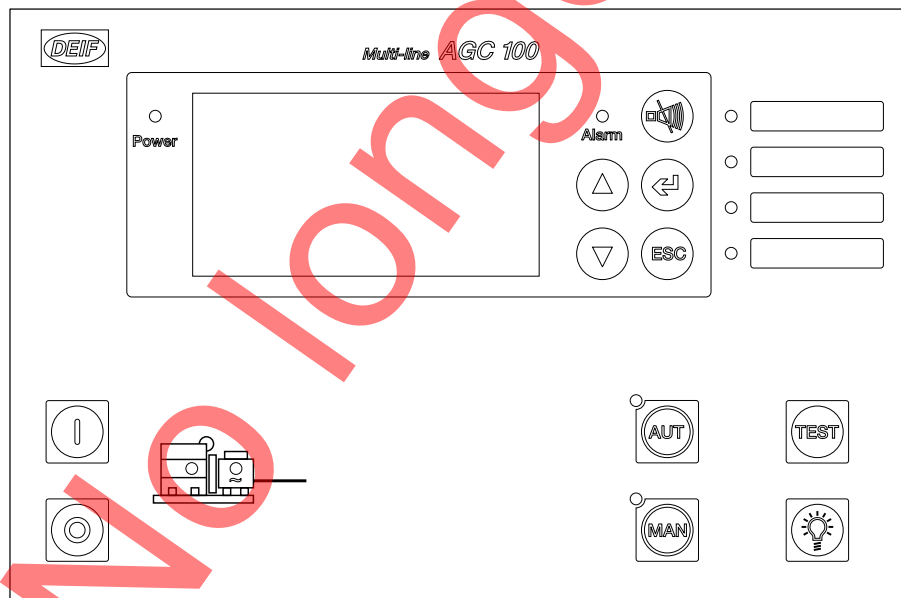
Accessories	Description	Item no.	Note
	Additional Operator Panel, AOP-2		
	16 configurable LEDs, eight configurable buttons and one status relay. CAN bus comm.	2912890050	For further information, see the "Option X4" document
	IOM 220		
	External analogue output module with two outputs Only used by AGC 110	2912890200 - 01	For further information, see the "AGC 100 Designer's Reference Handbook" document.
I	Application emulation		
I1	Emulation, PC-controlled emulation of your application		Additional order "Option I1"
J	Cables		
J5	PI-1 converter box kit (for PC connection)	2032410047	
J9	USB interface cable (for PC connection)	1034000011	
K	Documentation		
K1	Designer's Reference Handbook (hard copy)	4189340766	
K2	CD-ROM with complete documentation	2304230002	
L	Display		
L	Gasket for IP65	1129150061	
L2	Extended operating range: display will operate down to -40 °C	Hardware	Additional order "Option L2"
M	Mains circuit breaker		
M19	Mains circuit breaker relay as NO (standard NC)	Hardware	Additional order "Option M19"

1.3 Variant display layouts

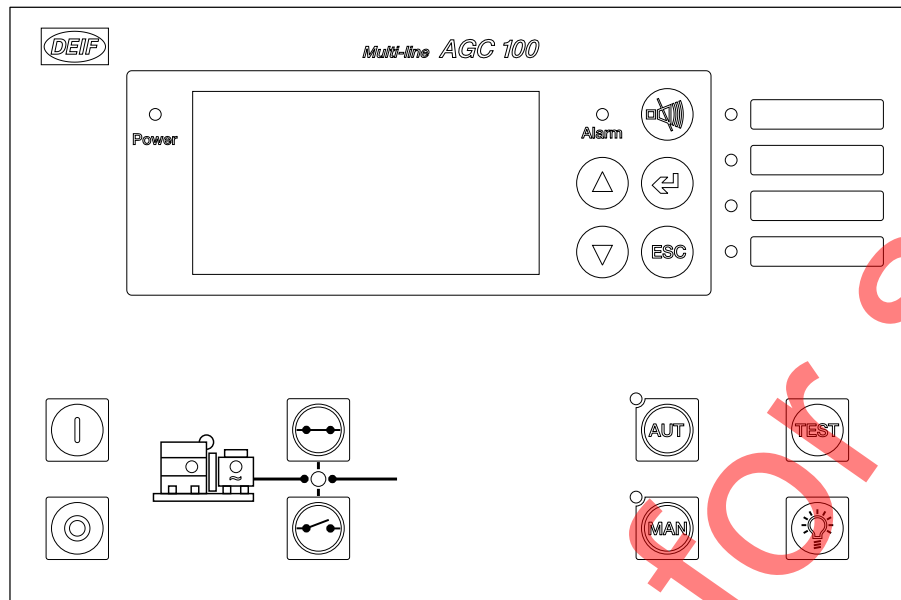
1.3.1 AGC 110 display layout



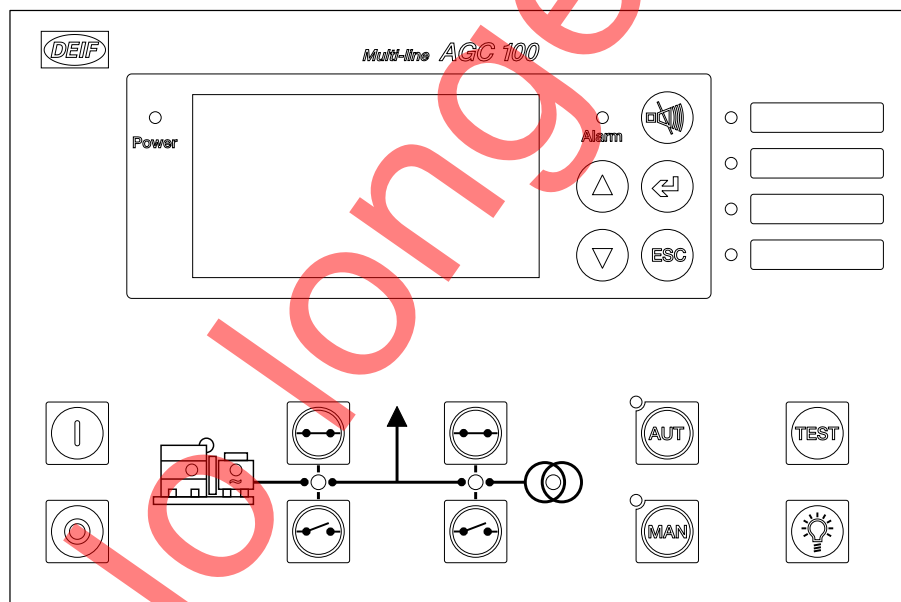
1.3.2 AGC 111 display layout



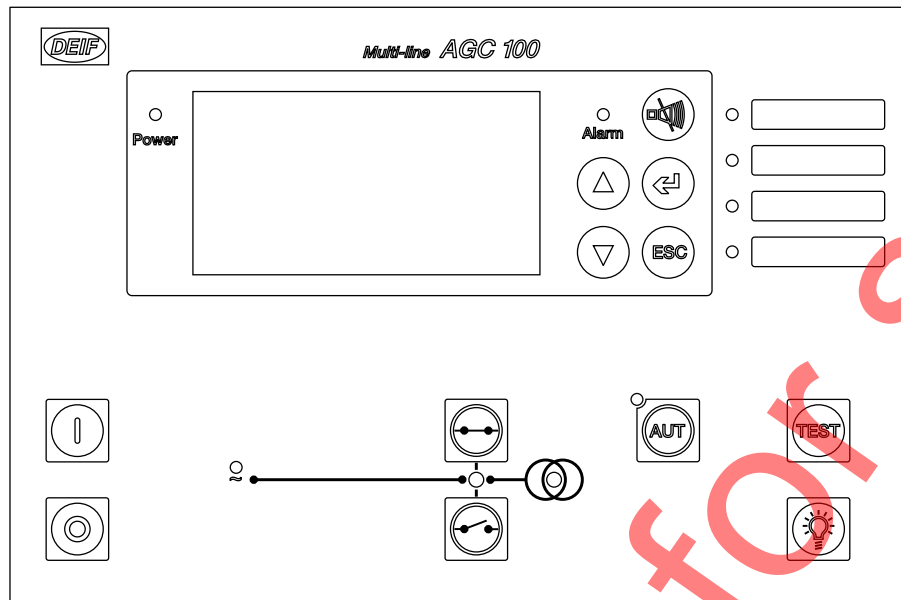
1.3.3 AGC 112 display layout



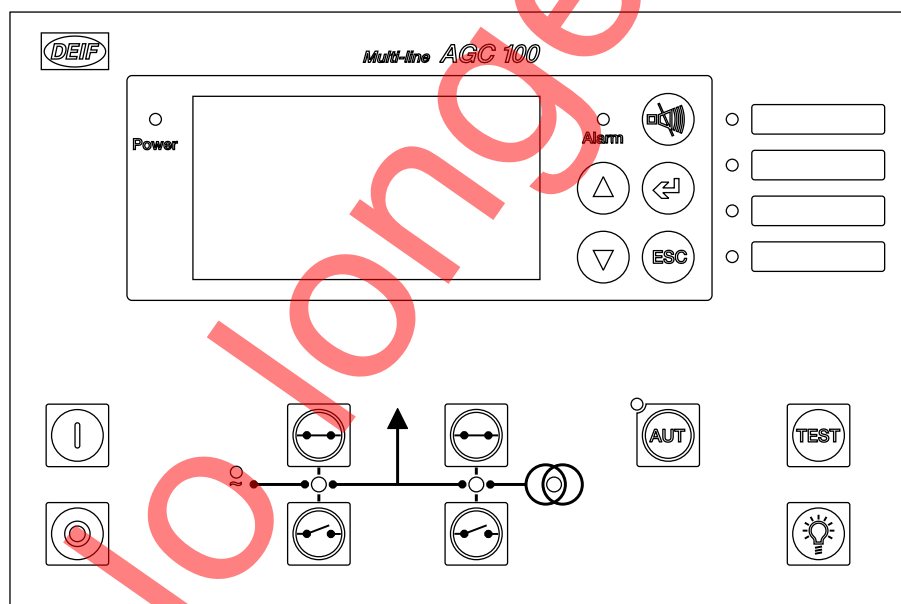
1.3.4 AGC 113 display layout



1.3.5 AGC 145 display layout



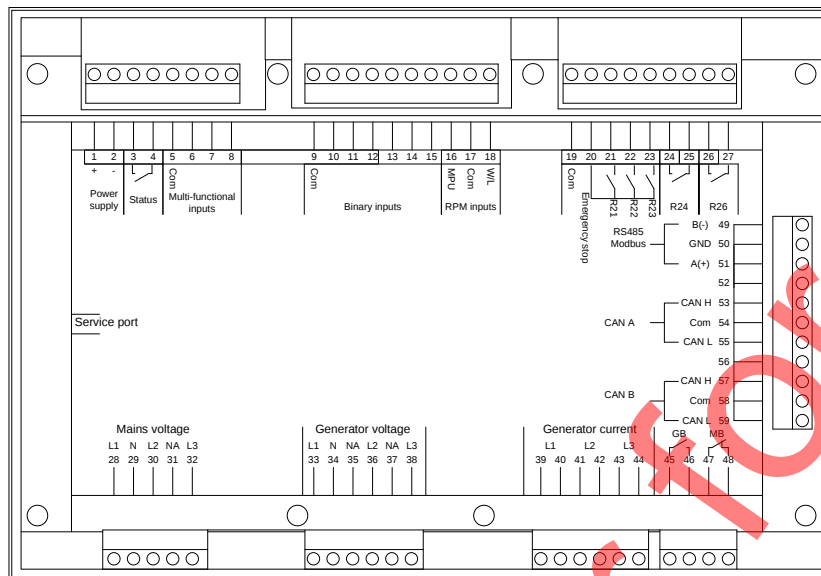
1.3.6 AGC 146 display layout



2. Technical information

2.1 Terminal overview

Unit rear view



The RJ11 connector for the PC connection interface box is placed on the side of the unit.

2.2 Specifications and dimensions

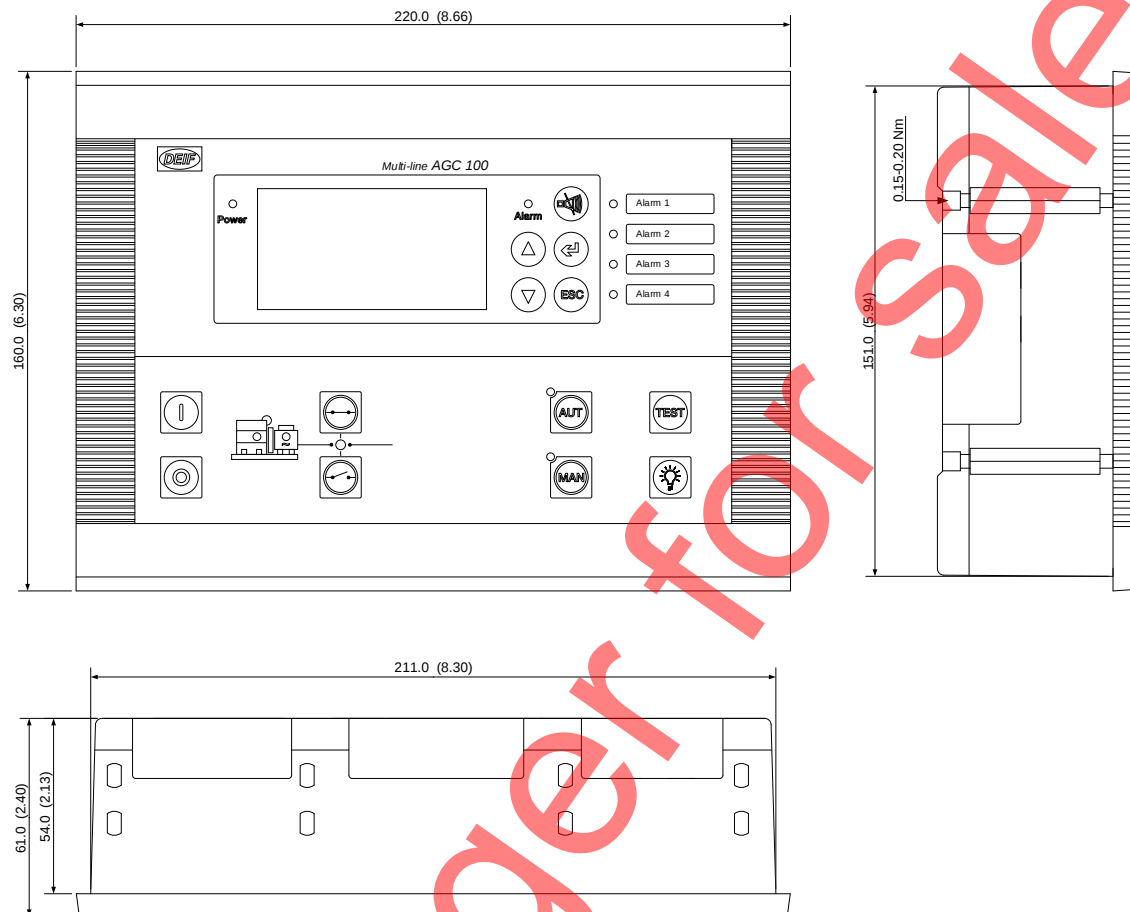
2.2.1 Technical specifications

Accuracy	Class 2.0 To EN 60688
Operating temperature	-20 to 70 °C (-4 to 158 °F) -40 to 70 °C (-40 to 158 °F) with option L2 (UL/cUL Listed: max. 50 °C ambient)
Storage temperature	-40 to 70 °C (-40 to 158 °F)
Measuring input voltage	50 to 480 V AC (+20 %) phase-phase (UL/cUL Listed: 50 to 300 V AC) Load: 1.5 MΩ/phase
Frequency	30 to 70 Hz
Measuring input current	1 A or 5 A AC from current transformer Current overload: 4 × I _n continuously (60 s) 20 × I _n , 10 s (max. 75 A) 80 × I _n , 1 s (max. 250 A) Consumption max.: 0.3 VA/phase (UL/cUL Listed: use listed or R/C (XODW2.8) current transformers)
RPM input	2 to 70 V peak Frequency: 10 to 10000 Hz
Power supply	6 to 36 V DC continuously Max. 8 W consumption Max. 16 W consumption with option L2 (UL/cUL Listed: 7.5 to 32.7 V DC) Able to survive 0 V for 50 ms at 12 V DC aux. supply before dropout
Passive digital input voltage	Bi-directional optocoupler 6 to 36 V DC Impedance: 4.7 kΩ OFF: <2 V DC
Dropout cranking	Able to survive 0 V for 50 ms at 12 V DC aux. supply before dropout
Multi-functional inputs	RMI - resistance measurement input. 0 to 2500 Ω with wire fail detection
	0(4) to 20 mA from active transducer, input impedance 50 Ω. With wire fail detection
	Binary - dry contacts with wire fail detection. Internal 3 V supply
	Pt1000 - temperature measurement from Pt1000 sensor. It is possible to compensate for cable resistance with an offset of 0 to 5 Ω in the AGC 100.

Relay outputs	Impedance: 240 Ω ~ 16 mA Relays 21-23: 30 V AC/DC 2 A (UL/cUL Listed: 30 V DC 1 A Resistive) Relays 45, 47: 250 V AC/30 V DC 2 A (UL/cUL Listed: 30 V DC 2 A Resistive) Relays 24, 26: 30 V AC/DC 8 A (UL/cUL Listed: 30 V DC 6 A Resistive) Status relay/config.: 24 V DC 1 A Resistive
Response times (delay set to min.)	Generator: Reverse power: <400 ms Power overload: <400 ms Over-current: <400 ms Over-/under-voltage: <400 ms Over-/under-frequency: <400 ms Fast over-current: <300 ms
Mounting	Panel-mounted (UL/cUL Listed: for use on a flat surface of a type 1 enclosure. Main disconnect must be provided by installer)
Size	160 × 220 mm (6.30" × 8.66")
Climate	97 % RH to IEC 60068-2-30, test Db -20 °C (-40 °) to IEC 60068-2-1 +70 °C to IEC 60068-2-2
Display	128 × 64 pixel backlight STN 3 line views can max. show a value of 9999
Safety	To EN 61010-1 Installation category (over-voltage category) III, 300 V, pollution degree 2
Protection	Front: IP52/NEMA type 1 (IP65/NEMA type 1 with gasket, option L) Terminals: IP20/NEMA type 1 To IEC/EN 60529
EMC/CE	To EN 61000-6-1/2/3/4 IEC 60255-26
Material	Plastic housing is self-extinguishing according to UL94 (V0)
Plug connections	AC voltage/current inputs: 3.5 mm ² (13 AWG) multi-stranded Other: 1.5 mm ² (16 AWG) multi-stranded (UL/cUL Listed: wire size: AWG 30-12 Use 60/75 °C copper conductors only)
Tightening torque	0.5 Nm (5-7 lb-in)
PC connection	RS-232 converter box (option J5) or USB interface cable (option J9)
Weight	0.9 kg (1.9 lbs)
Installation	To be installed in accordance with the NEC (US) or the CEC (Canada)
Approval	CE & UL/cUL Listed UL/cUL Recognized to UL2200
Additional operator panel AOP-2	
Operating temperature	-20 to 70 °C (-4 to 158 °F) (UL/cUL Listed: max. 60 °C ambient)

Storage temperature	-40 to 70 °C (-40 to 158 °F)
Aux. supply Tightening torque	18 to 36 V DC by external DC/DC converter 12DCR24/5 supplied from controlled Class 2 source DC/DC power supply 0.5 Nm (5-7 lb-in)
Wiring	Size AWG 30-12 Use 60/75 °C copper conductors only
Mounting	Panel-mounted (UL/cUL Listed: for use on a flat surface of type 1 (IP54) enclosure. Main disconnect must be provided by installer)
Installation	UL/cUL Listed: to be installed in accordance with the NEC (US) or the CEC (Canada)
Approval	CE UL/cUL Recognized to UL2200 UL/cUL listed to UL 508 and CSA 22.2 no. 14-05

2.2.2 Unit dimensions in mm (inches)



3. Ordering information

3.1 Order specifications and disclaimer

3.1.1 Order specifications

Variants

Mandatory information			Additional accessories to the standard variant				
Item no.	Type	Variant no.	Option	Option	Option	Option	Option

Example:

Mandatory information			Additional accessories to the standard variant				
Item no.	Type	Variant no.	Accessory	Accessory	Accessory	Accessory	Accessory
2912531020	AGC 112	03	L				

Accessories

Mandatory information		
Item no.	Type	Accessory

Example:

Mandatory information		
Item no.	Type	Accessory
1129150061	Accessory for AGC 100	Gasket IP65

3.1.2 Disclaimer

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