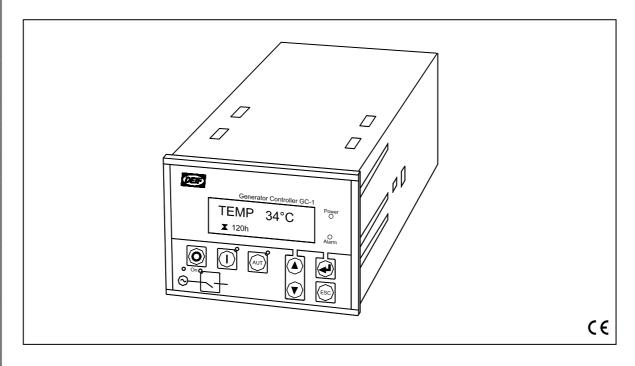
4921240293B



Standard functions

Engine control

- Start preparation (preheater or prelubrication)
- Start/stop sequences with selectable no. of start attempts
- Fuel solenoid selection (coil type)
- Idle speed control
- Local or remote start/stop
- Stop sequence with cooldown
- Running speed detection selectable
 - Charger alternator input (W terminal) or tacho generator
 - Binary input (D+)
 - Oil pressure based run detection

Generator monitoring

- 3 or 1-phase generator monitoring
 - Voltage/current/frequency/ power/reactive power

Generator protection (ANSI)

- Over-/undervoltage (27/59)
- Over-/underfrequency (81)
- Overcurrent (51)
- Reverse power (32)

Engine monitoring

- 3 configurable inputs
 - VDO or
 - 4-20mA from active transducer or
 - Binary with cable supervision
- 6 binary inputs, configurable
- RPM input, selectable
 - Magnetic pickup
 - o NPN or PNP pickup
 - Tacho generator
 - Charger alternator W terminal

Clear text display

- 122 x 32 pixel backlight STN
- Graphic symbol messaging
- Clear text alarm messages
- Clear text diagnostics for both hardwired inputs and CAN bus messages (J1939)
- Log book holding 30 log entries
- Real time clock for time and date

Data sheet

Generator Controller GC-1

Application

The Generator Controller GC-1 is a micro-processor based control unit containing all necessary functions for protection and control of a diesel engine. Furthermore, it contains a three-phase AC voltage measuring circuit. The unit is equipped with an LCD display presenting all values and alarms. GC-1 is a compact all-in-one unit designed for the following applications:

- 1. Automatic engine start/stop
- 2. Engine protection
- 3. Breaker control
- 4. Generator protection

Optional applications:

- 5. Automatic Mains Failure
- 6. CAN bus J1939 engine communication

GC-1 automatically carries out a cyclical self test. If any errors are found, then the status relay output will deactivate (normally closed). In order to save battery power, the display can be set to switch off automatically after a given period of time.

The display will turn on again, if events or alarms take place, or if one of the push-buttons is activated.

Setup

Setup is easily done via a PC Windows® based utility software (password protected) using the RJ11/RS232 PC connection. The PC interface box RJ11/RS232 needed for this operation is optional equipment for GC-1. The PC utility software offers additional features such as monitoring of all relevant information during commissioning, saving and downloading of settings and downloading of software updates. Furthermore, the most frequently used settings can be accessed via the display push-buttons (password protected).

Options

The options selected by the customer will be integrated in the standard GC-1 hereby securing the same user interface unaffected by whether the application needs a basic or a more complex generator controller.

Terminals

4 Common for terminals 5-7 5 VDO1, 420mA, dig. inp. Fuel level/configurable 6 VDO2, 420mA, dig. inp. Oil pressure/configurable 7 VDO3, 420mA, dig. inp. Water temp/configurable 8-9 Tacho input Magnetic pickup/PNP/NPN/tacho generator/charge alternator W terminal 10-11 Status out, 1 A 30V DC/V AC General status output for marine approvals 12 Common Common for term. 13-18 13 Digital input term. 13 Start enable/configurable 14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2, A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 37 Gen	Terminal	Technical data	Description	
6 VDO2, 4.20mA, dig. inp. Oil pressure/configurable 7 VDO3, 4.20mA, dig. inp. Water temp/configurable 8-9 Tacho input Magnetic pickup/PNP/NPN/Nacho generator/charge alternator W terminal 10-11 Status out, 1 A 30V DC/V AC General status output for marine approvals 12 Common Common for term. 13-18 13 Digital input term. 13 Statre nable/configurable 14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 1, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 30 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 35-36 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 36 Generator L3 voltage 37 Generator L3 voltage 38 Generator L3 voltage 49-50 Generator L9 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 51 L3 s1 55 LL3 s2 56 IL2 s1 57 IL1 s2 6enerator current L3	4	Common for terminals 5-7		
7 VDO3, 420mA, dig. inp. 8-9 Tacho input Water temp/configurable Magnetic pickup/PNP/NPN/Iacho generator/charge alternator W terminal 10-11 Status out, 1 A 30V DC/V AC General status output for marine approvals Common Common for term. 13-18 3 Digital input term. 13 Start enable/configurable 14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 1, 2 A 30V DC/V AC Alarm/configurable 26 Power supply - (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator reutral voltage 40 Generator L2 voltage 41 Generator L1 voltage 41 Generator L1 voltage 45 Generator breaker control relay, 2A 30V DC/V AC 55 IL2 s2 56 IL2 s1 57 IL1 s2 Generator current L3 56 IL2 s1 57 IL1 s2 Generator current L1	5	VDO1, 420mA, dig. inp.	Fuel level/configurable	
Tacho input	6	VDO2, 420mA, dig. inp.	Oil pressure/configurable	
W terminal	7	VDO3, 420mA, dig. inp.		
12 Common Common for term. 13-18 13 Digital input term. 13 Start enable/configurable 14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 30 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 36 Generator L3 voltage 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator breaker control relay, 2A 30V DC/V AC 31 L3 s2 40 Generator breaker control relay, 2A 30V DC/V AC 51 L13 s1 55 L12 s2 56 IL2 s1 57 IL1 s2 66 Generator current L1 65 Generator current L1	8-9	Tacho input	Magnetic pickup/PNP/NPN/tacho generator/charge alternator	
13 Digital input term. 13 Start enable/configurable 14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 30 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 43 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator current L1 Start prepare/configurable Generator current L2 Generator current L1	10-11	Status out, 1 A 30V DC/V AC	General status output for marine approvals	
14 Digital input term. 14 Remote start/configurable 15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 30 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 42 Generator breaker control relay, 2A 30V DC/V AC 35 I L3 s2 36 Generator rurrent L3 37 Generator L3 voltage 38 Generator breaker control relay, 2A 30V DC/V AC 39 Generator L1 voltage 40 Generator L1 voltage 41 Generator L1 voltage 42 Generator urrent L3 43 Enerator current L3 44 I L3 s1 45 I L2 s2 46 Generator current L3 47 Generator current L3 48 Generator current L3 49 Generator current L3 40 Generator current L3 41 L3 s1 41 Generator current L3 41 L3 s1 42 Generator current L3 43 Generator current L3 44 Generator current L3 45 I L2 s2 46 Generator current L3 47 Generator current L3 48 Generator current L3 49 Generator current L3 40 Generator current L3 41 Cenerator current L3 41 Cenerator current L3 41 Cenerator current L3 41 Cenerator current L3 42 Generator current L1	12	Common	Common for term. 13-18	
15 Digital input term. 15 Charge alternator D+ (running)/configurable 16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 40 Generator L1 voltage 41 Generator L1 voltage 42 Generator breaker control relay, 2A 30V DC/V AC 43 IL3 s1 45 IL2 s2 Generator current L3 56 IL2 s1 57 IL1 s2 56 Generator current L1 57 Generator current L1	13	Digital input term. 13	Start enable/configurable	
16 Digital input term. 16 Overspeed/configurable 17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 40 Generator L2 voltage 41 Generator L1 voltage 42 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator breaker control relay, 2A 30V DC/V AC 54 I L3 s1 55 I L2 s2 Generator current L3 56 I L2 s1 57 I L1 s2 56 Generator current L1	14	Digital input term. 14	Remote start/configurable	
17 Digital input term. 17 Coolant temperature/configurable 18 Digital input term. 18 Oil pressure/configurable 23 Common Common for term. 24, 25 and 32 and emergency stop* 24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator current L3 55 I L2 s2 56 I L2 s1 57 I L1 s2 56 Generator current L1	15	Digital input term. 15	Charge alternator D+ (running)/configurable	
Digital input term. 18 Digital input term. 18 Common Common for term. 24, 25 and 32 and emergency stop* No relay output 1, 2 A 30V DC/V AC Horn No relay output 2, 2 A 30V DC/V AC Alarm/configurable Power supply – (gnd) Power supply + 8-36V DC 8-31 Not used No relay output 3, 2 A 30V DC/V AC Start prepare/configurable No relay output 4, 8 A 30V DC/V AC Start prepare/configurable No relay output 4, 8 A 30V DC/V AC Start prepare/configurable Starter (crank/configurable Voltage range 50-480V AC Ph-Ph value Generator L1 voltage Generator L2 voltage Generator breaker control relay, 2A 30V DC/V AC I L3 s1 L2 s2 Generator current L3 Generator current L2 Generator current L2 Generator current L2 Generator current L1	16	Digital input term. 16	Overspeed/configurable	
Common Common for term. 24, 25 and 32 and emergency stop* NO relay output 1, 2 A 30V DC/V AC NO relay output 2, 2 A 30V DC/V AC Power supply – (gnd) No relay output 3, 2 A 30V DC/V AC 8-31 Not used NO relay output 3, 2 A 30V DC/V AC NO relay output 4, 8 A 30V DC/V AC Start prepare/configurable NO relay output 5, 8 A 30V DC/V AC Run coil/stop coil/configurable Run coil/stop foil/configurable Generator L3 voltage Generator L2 voltage Generator L2 voltage Generator L1 voltage Generator breaker control relay, 2A 30V DC/V AC I L3 s1 Senerator L2 s2 Generator current L3 Generator current L5 Generator current L1	17	Digital input term. 17	Coolant temperature/configurable	
24 NO relay output 1, 2 A 30V DC/V AC Horn 25 NO relay output 2, 2 A 30V DC/V AC Alarm/configurable 26 Power supply – (gnd) Power supply + 8-36V DC 27 Power supply + 8-36V DC For each of the power supply + 8-36V DC 28-31 Not used Start prepare/configurable 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage Voltage range 50-480V AC Ph-Ph value 39 Generator L2 voltage Voltage range 50-480V AC Ph-Ph value 49-50 Generator breaker control relay, 2A 30V DC/V AC Generator current L3 54 I L3 s2 Generator current L3 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	18	Digital input term. 18	Oil pressure/configurable	
25 NO relay output 2, 2 A 30V DC/V AC 26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC 33-34 NO relay output 4, 8 A 30V DC/V AC 35-36 NO relay output 5, 8 A 30V DC/V AC 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Alarm/configurable Alarm/configura	23	Common	Common for term. 24, 25 and 32 and emergency stop*	
26 Power supply – (gnd) 27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage Voltage range 50-480V AC Ph-Ph value 39 Generator L2 voltage Voltage range 50-480V AC Ph-Ph value 41 Generator L1 voltage Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator current L3 54 I L3 s1 Generator current L2 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	24	NO relay output 1, 2 A 30V DC/V AC	Horn	
27 Power supply + 8-36V DC 28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC Start prepare/configurable 33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage Voltage range 50-480V AC Ph-Ph value 39 Generator L2 voltage Voltage range 50-480V AC Ph-Ph value 41 Generator breaker control relay, 2A 30V DC/V AC Starter (crank)/configurable 53 I L3 s2 Generator turrent L3 54 I L3 s1 Generator current L3 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	25	NO relay output 2, 2 A 30V DC/V AC	Alarm/configurable	
28-31 Not used 32 NO relay output 3, 2 A 30V DC/V AC 33-34 NO relay output 4, 8 A 30V DC/V AC 35-36 NO relay output 5, 8 A 30V DC/V AC 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator Start prepare/configurable Start prepare/configurable Run coil/stop coil/configurable Voltage range/Starter (crank)/configurable Voltage range 50-480V AC Ph-Ph value Generator L2 voltage Generator current L3 Generator current L3 Generator current L3	26	Power supply – (gnd)		
32 NO relay output 3, 2 A 30V DC/V AC 33-34 NO relay output 4, 8 A 30V DC/V AC 35-36 NO relay output 5, 8 A 30V DC/V AC 35-36 NO relay output 5, 8 A 30V DC/V AC 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 IL3 s2 54 IL3 s1 55 IL2 s2 56 IL2 s1 57 IL1 s2 Start prepare/configurable Run coil/stop coil/configurable Run coil/stop coil/configurable Voltage range 50-480V AC Ph-Ph value Generator Current L3 Generator current L3 Generator current L3 Generator current L2	27	Power supply + 8-36V DC		
33-34 NO relay output 4, 8 A 30V DC/V AC Run coil/stop coil/configurable 35-36 NO relay output 5, 8 A 30V DC/V AC Starter (crank)/configurable 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator current L3 54 I L3 s1 55 I L2 s2 Generator current L2 56 I L2 s1 57 I L1 s2 Generator current L1	28-31	Not used		
35-36 NO relay output 5, 8 A 30V DC/V AC 37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator L3 voltage Starter (crank)/configurable Voltage range 50-480V AC Ph-Ph value Generator current L3 Voltage range 50-480V AC Ph-Ph value Generator current L3 Generator current L3 Generator current L3 Generator current L2	32	NO relay output 3, 2 A 30V DC/V AC	Start prepare/configurable	
37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator current L1 Generator current L1	33-34	NO relay output 4, 8 A 30V DC/V AC		
37 Generator L3 voltage 38 Generator neutral voltage 39 Generator L2 voltage 41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator current L1 Generator current L1	35-36	NO relay output 5, 8 A 30V DC/V AC	Starter (crank)/configurable	
Senerator L2 voltage Voltage range 50-480V AC Ph-Ph value	37		, , , , , , , , , , , , , , , , , , ,	
39 Generator L2 voltage Voltage Tange 50-480V AC Ph-Ph Value 41 Generator L1 voltage 49-50 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator current L3 54 I L3 s1 Generator current L2 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	38	Generator neutral voltage	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
41 Generator L1 voltage 49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator current L1	39		Voltage range 50-480V AC Ph-Ph value	
49-50 Generator breaker control relay, 2A 30V DC/V AC 53 I L3 s2 Generator current L3 54 I L3 s1 Generator current L2 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	41	•		
53 I L3 s2 Generator current L3 54 I L3 s1 Generator current L2 55 I L2 s2 Generator current L2 56 I L2 s1 Generator current L1	49-50	-		
54 I L3 s1 55 I L2 s2 56 I L2 s1 57 I L1 s2 Generator current L1		,	Generator current L3	
55 I L2 s2 Generator current L2 56 I L2 s1 57 I L1 s2 Generator current L1				
56 I L2 s1 57 I L1 s2 Generator current L1			Generator current L2	
57 I L1 s2 Generator current L1				
Generator durient Er			Generator current L1	
	58	IL1 s1		

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	Optional AMF control					
43	Mains L3 voltage					
45	Mains L2 voltage Voltage range 50-480V AC Ph-Ph value					
46	Mains neutral voltage	Voltage range 30-400 V AC FII-FII Value				
47	Mains L1 voltage					
51-52	Mains breaker control relay, 2A 30V DC/V AC	Configurable				
Optional CAN bus engine interface						
1	Can-L					
2	Can-GND	Can J1939 engine communication				
3	Can-H					

Available options

Option	Description	Туре	Note
В	Generator protection		
B3	Automatic Mains Failure - Generator and mains breaker control - Change-over (no synchronisation)	Software option	
Н	Communication		
H5	CAN bus J1939 - Detroit Diesel DDEC - John Deere JDEC - Deutz EMR - Volvo Penta D12 AUX - Scania DEC	Software option	
J	Cables		
J5	PI-1 converter box kit (for PC connection)	Hardware option	
K	Documentation		
K1	Installation Instructions and Reference Handbook (hard copy)	Other	
K2	CD-ROM with complete documentation	Other	
L	Gasket for IP54	Hardware option	

(ANSI# as per IEEE Std C37.2-1996 (R2001) in parenthesis).

Generator Controller GC-1 TEMP 34°C X 120h Autr On On On On Esse

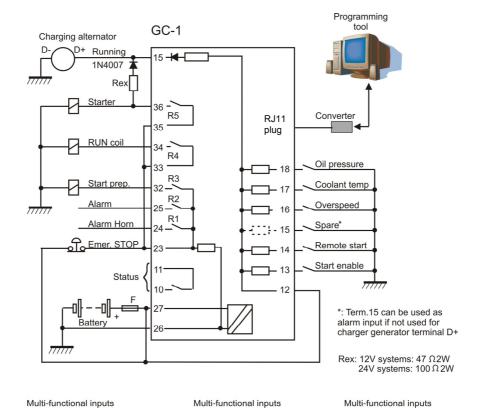
Option B3 display layout

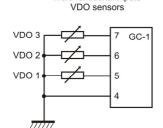
DEIF A/S Page 3 of 8

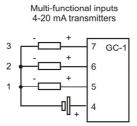
Wiring, engine interface

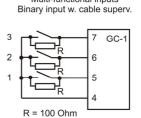


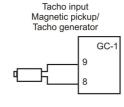
F: Fuse: 2A slow-blow.

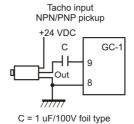


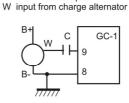






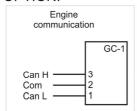






Tacho input

OPTION:

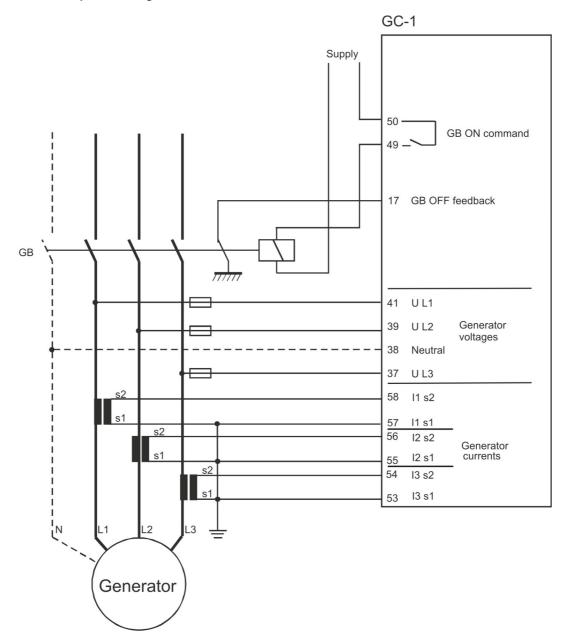


C = 1 uF/100V foil type

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Wiring, AC interface

Connection of the 3-phase voltage and current



The AC current grounding can be made as required to s1 or s2.

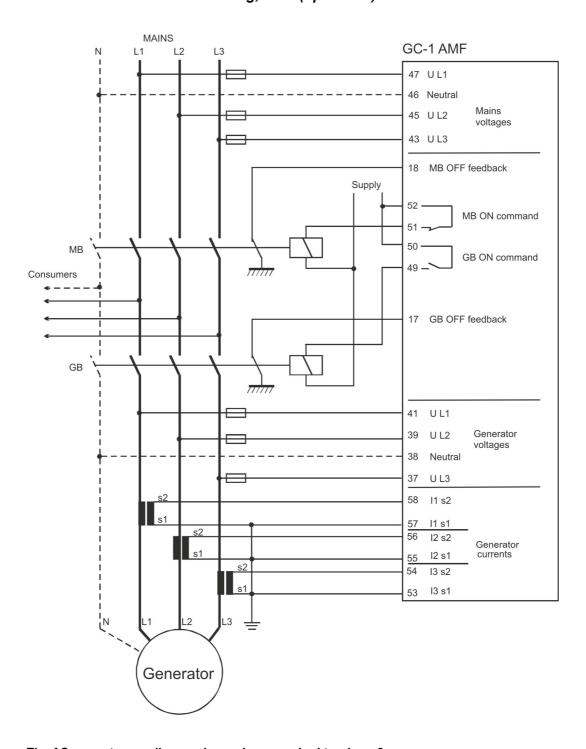


GB: Use a contactor. The ON output from the GC-1 is a constant signal. Remember to use free-wheel diodes across the contactor coils, if DC voltage is used as supply for these.

Fuse for AC voltage: Max. 2A slow-blow.

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Wiring, AMF (option B3)



The AC current grounding can be made as required to s1 or s2.



GB and MB: Use contactors. The ON outputs from the GC-1 AMF are constant signals. Remember to use free-wheel diodes across the contactor coils, if DC voltage is used as supply for these.

Fuse for AC voltage: Max. 2A slow-blow.

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Technical specifications

Accuracy: Class 2.0

to EN 60688/IEC 688

Operating temp.: -25...70°C (-13...158°F)

Storage temp.: -40...70°C (-40...158°F)

Measuring input voltage:

50...550V AC phase to phase

Load: $1.5M\Omega$

Frequency: 30...70Hz

Measuring input current:

1 or 5A AC from current

transformer

Consumption max.: 0.3 VA/phase

Current overload: 10A continuously, 20A, 5 sec.

Pickup input voltage:

0.5...70V peak

Frequency: 10-10000Hz

Aux. supply: 4-36V DC continuously

Max. 8W consumption

Passive binary in voltage:

Bi-directional optocoupler

8...36V DC

Impedance: $4.7k\Omega$

VDO inputs: Resistor inputs, internal 4V

supply

Analogue input: From active transducer

Current: 4...20mA

Impedance: 50Ω

Active binary in internal voltage:

Dry contact inputs (note 1)

4V DC supply, with cable

supervision

Impedance: $240\Omega \sim 16\text{mA}$

Relay outputs:

5 relays: 30V DC/AC 2A 2 relays: 30V DC/AC 8A 1 status relay: 24V DC 1A

Mounting: Panel mounted

Size: 78 x 106 mm (3.07" x 4.17")

Climate: Class HSE, to DIN 40040

Display: 122 x 32 pixel backlight STN

Safety: To EN 61010-1, installation

category (overvoltage category) III, 600V, pollution degree 2

Protection: Front: IP52 (IP54 with gasket,

option L) Terminals: IP20

To IEO 520 and EN 6

To IEC 529 and EN 60529

EMC/CE: To EN 61000-6-1/2

SS4631503 (PL4) and IEC 255-3

Material: All plastic materials are self-

extinguishing according to UL94

(V1)

Plug connections: AC voltage inputs:

3.5 mm² multi stranded AC current inputs: 4.5 mm² multi stranded

Other:

1.5 mm² multi stranded

PC connection: RS232 converter box

(option J5)

Approval: CE & C-UL (listing pending)

Weight: Approx. 0.9 kg (1.9 lbs)



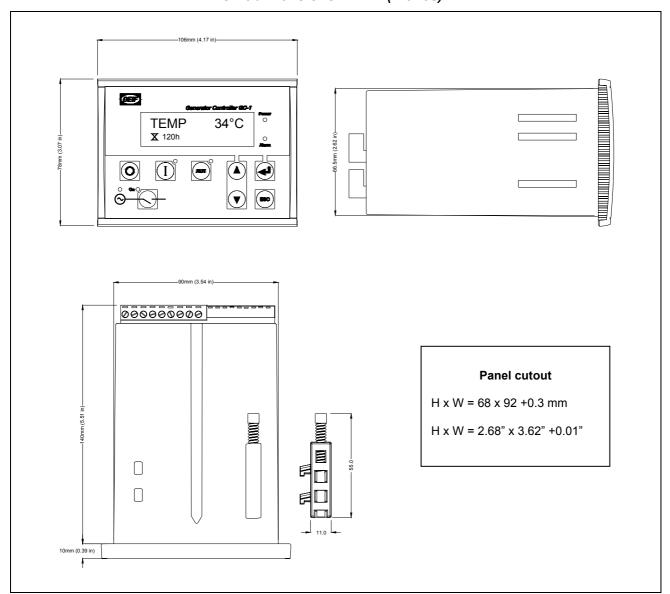
Only 3 inputs are available.



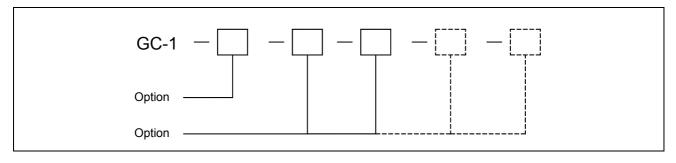
It is possible to combine VDO inputs with binary and 4...20mA inputs in a mix.

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Unit dimensions in mm (inches)



Order specifications





DEIF A/S, Frisenborgvej 33 DK-7800 Skive, Denmark



to supply equipment which may vary from the described.

Due to our continuous development we reserve the right

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