SICES®
Empowering your control

GC 350

ADVANCED AMF genset controller

- Advanced and integrated controller for generator sets operating in **single stand-by mode,** particularly aimed at giving high performance and benefits
- J1939 and MTU MDEC CAN interface and Interface with traditional sensors engines
- True RMS readings on generator and mains voltages and currents
- Active, Reactive and Apparent power measurement
- Frequency and power measurement on Mains Input
- Engine speed measurement by pick-up or W
- 18+3 fully programmable digital Input with possibility of additional 16 Input
- 16 digital Output + 2 Fixed with possibility of additional 16 Output
- Additional current measurement for neutral or differential protection (51N)
- RS232 interface port with MODBUS RTU
- Additional RS232 or RS485 serial port
- Graphic display
- Real Time Clock
- Events and data recording
- Remote control systems

General info

*Advanced Automatic Mains Failure microprocessor based genset controller for generator sets operating in **single stand-by mode,** particularly aimed at giving **high performance and benefits.***
If compared to GC310, GC350, it has additional I/O, which allow its use also in not standard and not customized applications.
*GC350 is designed both for electronic engines with **CAN interface J1939 protocol** and for traditional engines with sensors.*
*The adjustable parameters of the controller allow the use of this controller for standard and customized tasks. Parameters are programmed using the **free software tool (BoardPrg),** which can be downloaded through Sices website. It is also possible to set them directly by the GC350 keyboard.*
*The **graphic display** is a user-friendly human interface useful for an immediate visualization of measures and alarms coming from the genset.*
GC350 is able to measure the Mains frequency and compute the power and energy also when the load is connected to the Mains.
***Events and DTC logs** can be accessed from the front panel and read on the display.*
*GC350 is supported by **several communications devices/tools** for local or remote control, using SicesSupervisor or an own supervision system.*
*GC350 is also available with **RI.NA naval certification.***

Measures

Generator Voltages:
L1-L2, L2-L3, L3-L1
True RMS measure.
Lx-N max. voltage < 300Vac cat. IV
High voltage pulse = 6kV 1.2/50 us
Max. measurable voltage = 25.000V (by external TV).
Generator Currents:
L1, L2, L3, N (*)
True RMS measure.
Rated current: /5A and /1A
Overload measurable current : 4 x 5Aac (sinusoidal).
Internal current transformer.
Max. nominal current = 6000A (by external TA).
(*) Neutral generator current as alternative to differential protection or to be used for measure mains power.
Mains Voltage:
L1-L2, L2-L3, L3-L1
Average measure calibrated to RMS.
Lx-N max. voltage < 300Vac cat. IV
High voltage pulse = 6kV 1.2/50 us
Max. measurable voltage = 25.000V (by external TV).
Generator and Mains Frequency meter:
Resolution = 0.1 Hz.
Accuracy = ± 50ppm, ±35ppm/°C (typical)
Battery Voltmeter:
Resolution = 0.1V
Oil Pressure Gauge:
VDO 0-10 Bar, VDO 0-5 Bar, Veglia 0-8 Bar
(optional 0-10V input)
Water Thermometer:
VDO
(optional 0-10V input)
Fuel Level:
VDO, Veglia
Engine revolution counter:
By pick-up. Programmable teeth number.
Same Input can be used by W signal.

Power and power factor measures are available as total measure and also for each single phase.
Maximum power and current reached values are memorized with date and time.

Additional measures available based on CAN J1939 list.

Protections

A set of high efficiency LEDs are used for signalling the current status of the Generator Set and for the visualization of alarm occurred. Secondary alarms are represented by their corresponding display code.

Status
- Mains live
- Generator live
- Mains contactor closed
- Generator contactor closed
- Engine running
- Engine Cooling
- Engine start and stop

Engine protections
- Fuel reserve
- Max./Min fuel level
- Fuel finished
- Battery failure (min./max. Voltage)
- Max./Min. oil pressure
- Max./Min engine temperature
- Closing of mains contactor or genset contactor failed
- Engine over crank
- Over speed (electronic from generator frequency or from pick-up)
- Generator overload (from external contact of circuit breaker)
- Fuel end
- Belt breakage
- Operating conditions not reached
- Emergency Stop

Generator protections
- Underfrequency (81U)
- Overfrequency (81O)
- Undervoltage (27)
- Overvoltage (59)
- Power direction (32)
- Time dependent overcurrent (51)
- Instantaneous overcurrent (50)
- Phase sequence
- Current (46) and Voltage (47) unbalance
- Phase overcurrent with voltage restraint/control (51V)
- Differential protection (51N) as option

Mains protections

- Mains voltage Max./Min.
- Mains frequency Max./Min.
- Mains failure

Inputs, outputs and aux. functions

- N.18 Programmable digital Inputs
- N.3 Analogue Inputs, if not used in this way, they can be used as not isolated digital Inputs
- N.1 Relay (3A) fuel solenoid
- N.3 Relays (3A) programmable Outputs
- N.2 Relays (1A) programmable Outputs
- N.5 Relays (1A) outputs with common terminal for positive voltage
- N.3 Relays (1A) normally open free potential Outputs
- N.2 Relays (1A) Outputs with exchange contact.
- N.2 SPDT (10A) relays for power changeover management

As option:

- N.16 Additional and configurable digital I/O with DITEL module
- N.10 Additional and configurable analogical Input for sensors measure from Pt100 (DIGRIN), Thermocouples (DITHERM) or 0...10mA - 0...20mA (DIVIT)
- N.10 Additional and fixed analogical Input listed in CANBUS J1939 protocol
- N.4 Additional and configurable analogical Output (DANOUT)

Embedded functions

Engine diagnostic code
Periodical test.
Real Time Clock
Fuel pump management.
Pre-glow and coolant heater management
Remote start and stop
Maintenance working
Embedded alarm horn
Engine speed measurement by pick-up or W
Additional input and output using DITEL device

Communication:

- N.1 Serial port RS232 Modbus RTU
- N.1 Additional serial port RS232 or RS485
- GSM and PSTN modem management

As option:

- Converter isolated RS232/485 Modbus RTU
- Remote communication via SMS with additional GSM/GPRS/GPS modem
- Ethernet connection by means of additional electronic module “Gateway Modbus TCP/IP RTU”
- Supervision software for remote control available

GC350 is a **MULTILINGUAL DEVICE**. The display languages available are: English, Italian, French and Russian.

Other Technical data

Supply voltage: 7…32 Vdc
Power consumption: typical less than 2W (Auto mode, Stand-by, AMF active, LCD Lamp Saving active).
Operating frequency 50Hz o 60Hz
LCD: transflective with LED backlight.
Operating temperature: -25 °C to 70 °C
Protection degree: IP55
Weight: 1050g
Overall dimension: 244 (W) x 178 (H) x 85 (D)
Panel cut-out: 218 (W) x 159 (H)
Graphic display dimensions: 70 x 38mm - 128 x 64 pixel
Specific function for French market EJP / EJP-T
EMC: conform to EN61326-1.
Safety: built in conformity to EN61010-1

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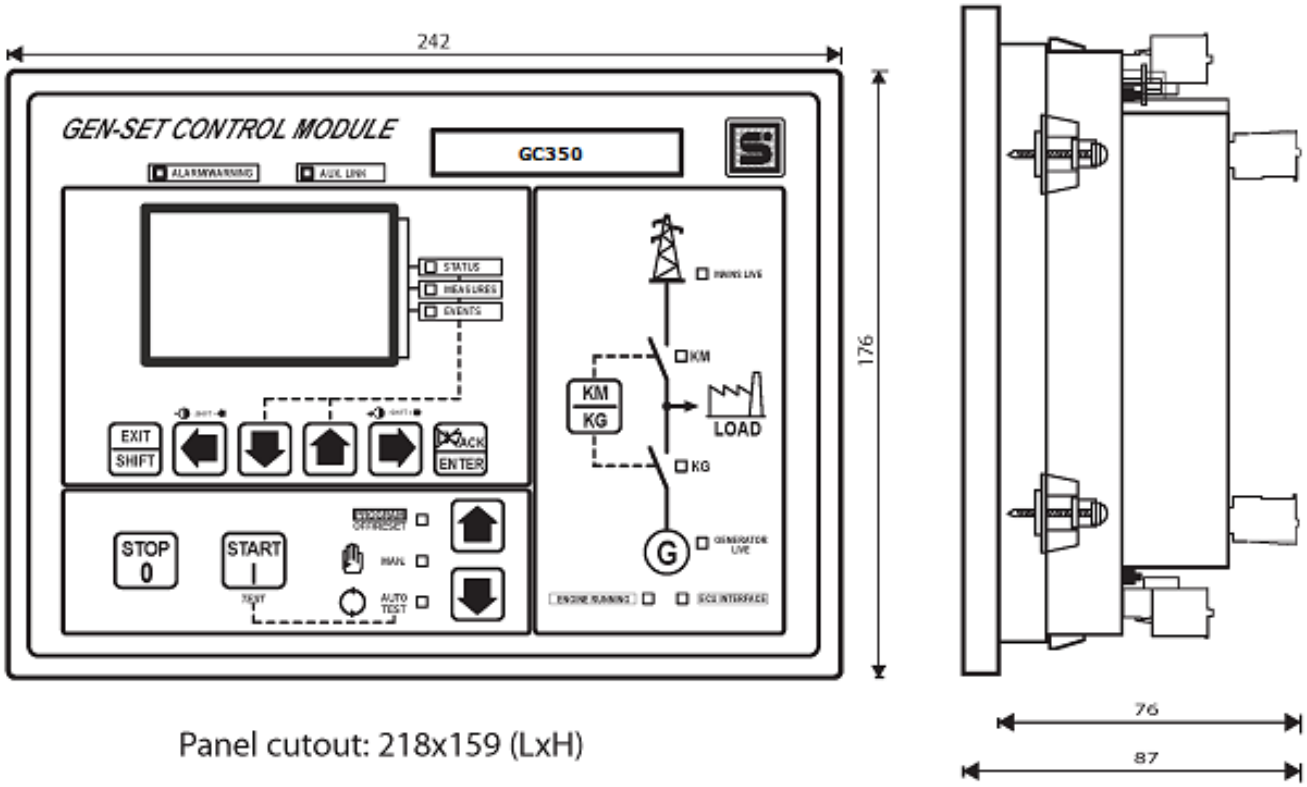

Panel cutout: 218x159 (LxH)

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