



STAR



ROYAL

Genmac provides one-source responsibility for the generating system and accessories.

- All units and components are prototype tested, factory build and production tested. A specific control procedure during the several stages of production ensures long life and reliability.
- Rugged 4 cycle heavy-duty Industrial diesel engine, of primary brands with direct fuel injection system and swirl intake ports combine for a low fuel consumption and excellent transient response.
- Powerful alternators with insulation system of H class and impregnation made with tropicalized epoxy resins, are used as standard.
- Generator set accepts one-step 100% of full load.
- The variation of the Voltage is maintained between +1% by sophisticated Electronic Voltage Regulators.
- Fully programmable AMF controller is supplied with auto start control system and digital instrumentation. Automatic device for setting the periodic exercise is integrated into the AMF.
- Heavy-duty built-in anti-vibration insulators assures lower noise and longer components life.
- Protection guards on rotating parts
- Fork-lifting facilities are supplied together with 4 lifting brackets on the base frame
- The Silent version consist of a weather-proof bolted modular pre-painted enclosure (2000/14/CE compliant) with hinged lockable doors, radiator coolant hatch, base mounted radiator coolant and engine oil drain lines. These items affords superior flexibility and ease of maintenance.
- A stub-up area is provided to make easier the electrical connection to the load.
- A wide range of accessories is provided on request in order to satisfy the needs of the user and to let the generator work in almost every condition.

RATINGS

Model	Voltage	Phase	Hz	Power Factor	Standby KW	Standby KVA	Standby Amps	Prime KW	Prime KVA	Prime Amps	Starting KVA
G300C	230/400*	3	50	0.8	264	330	477	240	300	434	N/A
G300C	115/230	3	50	0.8	264	330	829	240	300	754	N/A
GU350C	480/277	3	60	0.8	303	378	455	275	344	414	N/A
GU350C	440/254	3	60	0.8	299	374	491	272	340	447	N/A
GU350C	240/139	3	60	0.8	303	378	911	275	344	828	N/A
GU350C	220/127*	3	60	0.8	299	374	983	272	340	893	N/A
GU350C	208/120	3	60	0.8	284	355	987	258	323	898	N/A
GU350C	240/120	1	60	1.0	261	261	1089	238	238	990	N/A
RGU350C	240/120**	1	60	1.0	303	303	1260	275	275	1146	N/A

(*) Factory default connections

(**) with full power alternator

RATING DEFINITION

Standby Rating: Applicable for supplying emergency power for the duration of normal power interruption limited to maximum 500h per year within the following maximum operating time: 100% load 25h per year, 90% load 200h per year.

No overload capability is permitted for this rating. "Limited Time running Power (LTP)" rating conforms to ISO 8528-1.

Prime Rating: Applicable for supplying power at a variable load for an unlimited number of hours per year. A 10% overload capability is available for one hour in twelve hours periods. This rating conforms to ISO 8528-1 "Prime Running Power (PRP)".

STANDARD REFERENCE CONDITIONS:

The above mentioned power data are calculated with: air temeparture of 25°C (77°F); 99kPa of barometric pressure, 100m of altitude a.s.l and 30% of relative humidity. For different conditions please refer to the derating factor's table specific for this engine.

INSTALLATION AND APPLICATION DATA

	Units	50 Hz		60 Hz		
		PRP	LTP	PRP	LTP	
General	Emission certificates	NOT CERTIFICATED				
	Noise level (silent version)	dB(a) 7mt		68		
	Rated Speed	rpm		1500		
Engine basic data	Engine Brand - Model	Cummins - QSL9G5				
	Gross Engine Output	hp (KW)	268 (359)	310 (415)	307 (412)	355 (476)
	Number and arrangement of cylinders	6 in line				
	Type of air intake	Turbo intercooler				
	Type of cooling	Water				
	Total displacement	liters (cu. In.)	8,8 (543)			
	Bore x Stroke	mm (in.)	114(4,49) x 145(5,69)			
	Speed control	Electronic				
	Speed drop	+- 0,5%				
Fuel system	Type of fuel	Diesel				
	Maximum Fuel Transfer Pump Lift-	mm Hg (in Hg)	152 (6)			
	Fuel consumption @ 25% load	Liters/h (gal/h)	17 (4.4)	N/A	20 (5.3)	N/A
	Fuel consumption @ 50% load	Liters/h (gal/h)	31 (8.2)	N/A	36 (9.6)	N/A
	Fuel consumption @ 75% load	Liters/h (gal/h)	46 (12.1)	N/A	55 (14.4)	N/A
	Fuel consumption @ 100% load	Liters/h (gal/h)	63 (16.6)	75 (19.8)	75 (19.9)	89 (23.6)
	Standard fuel tank capacity (open)	Liters (gal)	350 (92.4)			
	Autonomy @75% load (open)	Hours	8		6	
	Standard fuel tank capacity (silent)	Liters (gal)	350 (92.4)			
Autonomy @75% load (silent)	Hours	8		6		
Oil	Type of oil (for usage at std reference conditions)	15W40 to API CG4				
	Total Quantity of oil (including filters)	Liters (qt.)	22.7 (24)			
	Maximum Oil consumption	N/A				
Coolant	Type of coolant	Glicole Mixture 50% Antifreeze – 50% demineralized water				
	Total quantity of coolant	Liters (qt)	26 (27,5)			
Air system	Air filter type	Dry Element				
	Max. perm. intake vacuum	mbar	25			
	Combustion air flow	m ³ /min (cf/min)	18.6 (660)	20.4 (715)	23.4 (820)	24.6 (870)
Exhaust system	Exhaust flow	m ³ /min (cf/min)	95 (1585)	112 (1870)	119 (1980)	138 (2300)
	Max. permissible exhaust backpressure	mbar	100			
	Outlet size diameter	Mm (in.)	140 (5,5)			
Electrical system	Voltage of electric system	V	24			
	Starter motor capacity	A	70			
	Type of battery	Lead acid type				
Alternator	Number of poles	4				
	Number of bearings	1				
	Excitation	Self excited				
	Type of regulation	Automatic Voltage Regulation				
	Regulator model	DSR				
	Voltage accuracy	±1 % with any power factor and speed variations between -5% +30%				

STANDARD EQUIPMENTS

ENGINE

- Air Cleaner (Dry-cartridge type)
- Fuel Pump
- Fuel Filter
- Fuel stop solenoid
- Thermostat and Housing
- Dry Exhaust Manifold
- Blower Fan & Fan Drive
- Radiator - Unit Mounted
- Electric Starting Motor
- Housing & Flywheel
- Charging Alternator
- Battery Rack & Cables
- First filling of oil and filters
- First filling of coolant

GENERATOR

- Self-ventilated and drip-proof construction
- Synchronous, Brush-less, Self Exciting , Self Regulating
- Direct Coupled With Flex Disk
- 12 Leads winding
- Class H Insulation
- Drip-Proof Construction
- Humidity Tropical Protection
- Radio Interference Suppressor EMC Filter

EXHAUST

- Built-in Industrial Muffler (for Open generators)
- Built-in Residential Muffler (for Silent generators)
- Rain Cap

HANDLING

- Fork lift facilities
- Lifting and holding down points

BASE FRAME

- Heavy duty fabricated welded base plate with high quality steel.
- Heavy duty rubber anti-vibration mountings
- Integrated fuel tank with drain plug and fuel sender
- Stub-up area

PHYSICAL DATA

	Units	Star G300COA	Star GU350C	Royal G300CSA	Royal GU350D
Length	mm (in.)	2900 (114)	2900 (114)	3603 (142)	3603 (142)
Width	mm (in.)	1190 (47)	1190 (47)	1226 (48)	1226 (48)
Height	mm (in.)	1850 (73)	1850 (73)	2000 (79)	2000 (79)
Weight	Kg (lbs)	2500 (5500)	2500 (5500)	4000 (8800)	4000 (8800)

ELECTRICAL SYSTEM

- **Battery (for 50Hz is supplied as standard, for 60Hz is to be ordered separately)**
- Battery rack and cables
- Engine driven battery charger
- Battery disconnect switch

CANOPY (for silent units)

- Nylon hinges
- Heavy duty lockable handles in each door
- Large doors for easy access for service and monitoring
- Coolant refilling specific hatch
- Sound foam UL94HF1 compliant
- Modular bolted assembly after painting.
- Grey RAL 7035 "orange peel" specific powder coat paint for outdoor usage
- Weatherproof sealed joints.
- Cut using high precision laser technology.
- Bent using high precision numeric control technology.
- Glazed acoustic sealed control panel door.
- Fuel filler outside enclosure.
- In base oil and coolant drains

CONTROL PANEL (see specific section below)

- AMF controller C-08
- Fuel level gauge
- Three phase sensing for voltage and currents
- Battery charger (to be supplied by mains into the 208-240V range)
- **Circuit breaker (for 50Hz-230/400V is supplied as standard, for other voltages is to be ordered separately)**
- On/Off button
- Emergency stop button
- External ATS connection board
- EC Conformity in compliance with EN 60439-1

PACKAGING

- Nylon filming protection package
- Alternator, Engine and Generating set operator's manual are supplied together with electrical drawings

CONTROL PANEL



CIRCUIT BREAKER

50Hz – 400V generators are supplied together with a circuit breaker that permits a thermal protection against overloads and magnetic protection against short-circuit.

For **60Hz or 50Hz-230V** versions the circuit breaker has to be ordered separately indicating the voltage at which the generator has to work. All the generator of this line are fully re-connectable according to the specification indicated in the "RATINGS BOOK"

AUXILIARY SOCKETS

A special box with sockets or quick connectors or connection boards can be supplied as an option in order to ease the fast connection between the generator and the electrical line or between the generator and the loads. Please refer to the apposite section on the "ACCESSORIES PRICE LIST".

COMMANDER C-08

C-08 is a high performance, latest generation controller that includes a sophisticated digital multi-meter, an engine protection card and a controller with "Autostart" logic, "Automatic Mains Failure logic" and "Dual logic".

Its big display (320x240 pixel; visible area 115x85mm) permits to see all the main measures at the same time. With C08 controller a piece of equipment is no longer considered as a single entity, but controlled and operated keeping in mind the entire application system it belongs to and its environment.

Its easy-to-use keyboard has the possibility of blocking all or some of the keys to avoid tampering in the system. Here follows a list of the features of the controller:

Programmable I/O

- 10-digital inputs
- 20-analog inputs
- 8-relays output 5A

Communication ports

- 2-RS232 on the rear side
- 1-USB on the front

Special Functions included

- Remote start and stop
- SCR
- EJP - EJP/T
- Start and stop in accordance to the mains KW (load sharing/shedding Logic)
- Dummy load function
- Programmable Rental hours (Stop on exceed)
- Block of automatic and test modes
- Generator starting for mains contactor fault
- Output for function mode

Display Information

- Battery voltage
- Mains voltage three-phase L/L and L/N
- Generator voltage three-phase L/L and L/N
- Three-phase currents
- Three-phase and global active, reactive and apparent powers.
- Active, reactive and apparent energy meters.
- Three-phase and global power factors
- Power meter
- Frequency
- Oil pressure instrument (option)
- Engine temperature instrument (option)
- Fuel level instrument
- Hours of autonomy in accordance to fuel consumption
- Engine RPM value
- Total starting attempts
- Percent of good starting attempts
- Working hours (re-settable)
- Partial working hours (re-settable)
- Warning and alarm about service/rental hours expiration
- Internal working hour counter (non re-settable, to check effective engine working hours).

Alarms

- High engine temperature alarm (digital sensor)
- Low oil pressure alarm (digital sensor)
- Temperature digital sensor fault
- Fuel level warning (analog sensor)
- Low fuel level alarm (analog sensor)
- Fuel level analog sensor fault
- Low fuel level alarm (digital sensor)
- High battery voltage - Low battery voltage
- Faulty battery - Battery charger alternator fault
- "W" signal fault
- Low engine speed - High engine speed
- Starting failure - Mechanical failure
- Emergency button
- Stop failure
- Low generator frequency - High generator frequency
- Low generator voltage - High generator voltage
- Asymmetric voltage generator
- Generator short circuit
- Generator overload
- External generator protection
- Generator wrong phases sequence
- Mains wrong phases sequence
- Wrong frequency setting
- Generator contactor fault
- Mains contactor fault
- Several steps maintenance
- Internal system error
- Expired rental hours
- n.8 programmable user alarms
- Ambient temperature too high - Ambient temperature too low

Certificates and tests

- IMQ certificate HALT test included (Highly Accelerated Life Test)



50Hz@1500rpm STAR G300COA - ROYAL G300CSA
60Hz@1800rpm STAR GU350C - ROYAL GU350C



OPTIONAL EQUIPMENTS

A wide range of optional equipments are available to satisfy all the needs of the installator. Please contact GenMac's sales department for full details of these and other options

ENGINE

- Starting aids (glow plugs-coolant heaters-oil heaters ..)
- Double-stage filters

GENERATOR

- Thermal protections
- Anti-condensation heaters
- Special treatment for usage in marine environmental conditions
- Full power alternator for single phase connection

EXHAUST

- Exhaust adapters
- Extension exhaust hose
- FAP filters

ELECTRICAL SYSTEM AND CONTROL PANEL

- Auxiliary sockets and plugs
- Oil pressure meter
- Water temperature meter
- Generator Monitoring/Remote control of complete system (with analog, GSM or Ethernet connection)
- Automatic Transfer Switches

HANDLING AND CANOPY

- Central lifting hook
- Slow drive trailers
- On-road Trailers
- Bigger Fuel tanks
- Double wall UL compliant fuel tanks
- Precision fuel sender

MAINTENANCE

- Consumable Filters and spares for each maintenance interval

WARNINGS

- Access to control panel and doors on both sides for inspection and maintenance is required.
- Adequate ventilation on both sides is required.

WARRANTY

Please refer to Genmac for warranty policy described into WG001 module.

All Specifications and Materials are subject to change without prior notice.



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