



GENERATING SET GE 20 YR-5

The images are for reference



FEATURES

- Fuel pre-filter and filter with indicator of the presence of water in the fuel
- Sealed base capable of containing any leaks of liquids present in the engine, avoiding environmental pollution
- 3-way valve for transferring fuel from an external tank with quick filling connections housed in a special niche (OPTIONAL)
- Fuel level sensors - coolant temperature - engine oil pressure - crankcase leak detection
- Battery disconnect switch
- Emergency button
- Power cable connection terminal block
- Electrical distribution panel with three-phase and single-phase output sockets
- General four-pole thermomagnetic switch
- Electronic differential relay adjustable in current and trip time
- Insulation monitor (as an alternative to the electronic differential relay)
- Brushless alternator with electronic voltage regulation "AVR" with three-phase sensing
- Alternator windings protected with marine impregnation



water cooled



diesel



three-phase power



electric



rental serie

POWER RATINGS	
* Stand-By three-phase power	20 kVA (16 kW) / 400V / 28,9A
* PRP three-phase power	18 kVA (14,4 kW) / 400V / 26A
* COP power	/
Frequency	50 Hz
Cos φ	0.8

* Output powers according to ISO 8528-1

DEFINITION

Valid declared powers up to the followings environmental conditions: temperature 25°C, altitude 100 meters above sea level

LTP power: stand-by power: Maximum available power for use with variable loads for a yearly number of hours limited at 500 h. No overload is admitted.

PRP power: continue power with variable loads. Maximum power for use with variable loads for a yearly illimited nubers of hours.

COP power: continuous power with constant load. Maximum power for use with constant loads for a yearly unlimited numbers of hours.

ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, TURBOCHARGED	
Model	YANMAR 4TNV88-BIGE
* Stand-By net power	18 kW (24,5 hp)
* PRP net power	16,4 kW (22,3 hp)
* COP net power	/
Cylinders / Displacement	4 / 2,19 lit. (2190 cm ³)
Bore / Stroke	88 / 90 (mm)
Compression ratio	20 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Electronic
FUEL CONSUMPTION	
110 % (Stand-by power)	5 lit./h
100 % to PRP	4,5 lit./h
75 % to PRP	3,4 lit./h
50 % to PRP	2,6 lit./h
COOLING SYSTEM	
Total system cap. - only engine	/ lit. - 2,7 lit.
Fan air flow	50 m ³ /min.
LUBRICATION SYSTEM	
Total oil system capacity	/
Oil capacity in sump	3,4 lit. (min) - 7,4 lit. (max)
Oil consumption at full load	/

EXHAUST SYSTEM	
Maximum exhaust gas flow	/
Max. exhaust gas temp.	520 °C
Maximum back pressure	9,8 kPa (0,1 bar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	1,4 kW
Battery charging alternator cap.	40 A
Cold start	Glow plugs
With cold start aid	/
AIR FILTER	
Combustion air flow	1,48 m ³ /min.
HEAT REJECTED AT FULL LOAD	
To exhaust system	/
To water and oil	/
Radiated to room	/
To charge cooler	/

* Output powers according to ISO 3046-1

ALTERNATOR

SYNCHRONOUS, THREE-PHASE, SELF-EXCITED, SELF-REGULATED, BRUSHLESS	
Continuous power	20 kVA
Stand-by power	23 kVA
Three phase voltage	380-415 Vac
Frequency	50 Hz
Cos φ	0.8
Model A.V.R.	HVR-30
Voltage regulation acc.	± 1.0 %
Sustained short circuit current	3 In
Transient dip (100% load)	10 %
Recovery time	≤ 3 sec.
Efficiency at 100% load	86,1 % (400V - Cos φ 0.8)
Insulation	Class H
Connection - Terminals	Star (With N) - N°12
Electromagnetic compatibility (R.F.I. suppr.)	EN 55011
Waveform distortion - THD	< 3 %
Telephone interference - THF	/

REACTANCES (20 kVA - 400V)	
Direct axis synchronous - X _d	242 %
Direct axis transient - X' _d	19 %
Subdirect axis transient - X'' _d	9 %
Quadrature axis synchronous - X _q	133 %
Quadr. axis subtransient - X'' _q	/
Negative sequence - X ₂	/
Zero sequence - X ₀	/
TIME CONSTANTS	
Transient - T' _d	0,007 sec
Subtransient - T'' _d	0,005 sec
Open circuit - T' _{do}	0,103 sec
Armature - T _a	/
Short-circuit ratio K _{cc}	0,57
IP protection degree	IP 23
Cooling air flow	0.1 m ³ /sec.
Coupling Bearing	Direct SAE 3 - 11 ½ - N°1

GENERAL SPECIFICATIONS

Fuel tank capacity	100 lit.
Running time (75% to PRP)	29,5 h
Starter battery	12 Vdc - 80Ah / 670A CCA(EN)

IP protection degree	IP 44
Acoustic pressure	61 dB(A) @ 7m
Performance class (ISO 8528)	G2

CONTROL PANEL

DIGITAL CONTROL PANEL

- InteliLite4 AMF9 controller
- Power switch
- Siren
- Emergency stop button
- 16A 230V 2P+T CEE plug - Optional (Engine heater and battery charger power supply)
- Switch magnetomic
- Electronic differential relay
- Power terminal block
- Output sockets:
 - 1x 400V 32A 3P+N+T CEE IP67
 - 1x 400V 16A 3P+N+T CEE IP67
 - 1x 230V 16A 2P+T CEE IP67
 - 1x 230V 16A 2P+E SCHUKO IP68
- Differential circuit breaker for 400V 16A socket
- Differential circuit breaker for 230V 16A socket
- Earth terminal (PE)



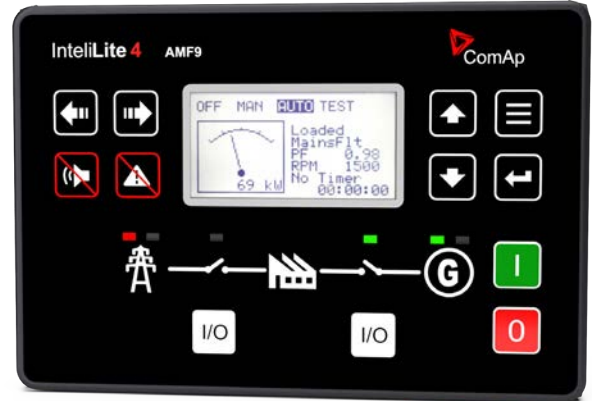
INTELLILITE4 AMF9 CONTROLLER CHARACTERISTICS	
Operating mode	<ul style="list-style-type: none"> • OFF - MAN. - AUTO - TEST
Display - Buttons-LEDs	<ul style="list-style-type: none"> • Backlit display, LCD 132x64 pixels • Buttons / Buttons: START - STOP - RESET ALARMS / FAULT RESET • LEDs: Generator / GCB ON status - Grid status
Generator Measures	<ul style="list-style-type: none"> • Voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Current : I1 - I2 - I3 • Frequency Hz • Powers : kVA - kW - kVAR (totali e per fase) • Energy : kVAh - kWh - kVARh • Cos φ (medium and per phase)
Engine Measures	<ul style="list-style-type: none"> • Water temperature • Oil pressure • Fuel level • Rpm meter • Battery voltage • Maintance • Hours meter • Starts number
Generator Protections	<ul style="list-style-type: none"> • Overload • Overcurrent • Short circuit • Over-Undervoltage • Over-Underfrequency • Voltage asymmetry • Unbalanced current • Phase sequence
Engine Protections	<ul style="list-style-type: none"> • Overspeed • High water temperature warning • Low oil pressure warning • Low fuel level warning • Over-Under battery voltage • Battery charge alternator failure • Start failure • Stop failure • Emergency stop • Low water level shutdown (option)

AMF functins (Automatic control panel only)	<ul style="list-style-type: none"> • Measure mains voltage : L1-L2 / L2-L3 / L3-L1 - N-L1/N-L2/N-L3 • Measure mains frequency • Three phase detection • Over-Under mains voltage • Over-Under mains frequency • Voltage asymmetry • Phase sequence • Dual mutual stand-by application
Features	<ul style="list-style-type: none"> • Event history, 150 stored events • 3 programmable test timers • Programming from panel or from PC • 3 selectable languages (other languages available) • Direct connection to engines with ECU (Stage V, Tier 4 Final) via Can Bus J1939 • External Start and Stop • Programmable inputs and outputs • Alternative configurations (50 / 60Hz) • IP 65 protection • Operating temperature: -20 ° C - + 70 ° C
Communication	<ul style="list-style-type: none"> • USB port • RS232- RS485 (optional) • Modbus RTU / TCP (optional) • Internet connection with Ethernet (optional) • Online control and monitoring on web pages (embedded web server) (optional) • GPS / 4G modem (optional) (geographical tracking via WebSupervisor) • Internal PLC support

CONTROL PANEL

DIGITAL CONTROL PANEL (VERS. DGUV- "B")

- InteliLite4 AMF9 controller
- Power switch
- Siren
- Emergency stop button
- 16A 230V 2P+T CEE plug - Optional (Engine heater and battery charger power supply)
- Switch magnetomic
- Isolation monitor
- Power terminal block
- Output sockets: 1x 400V 32A 3P+N+T CEE IP67
1x 400V 16A 3P+N+T CEE IP67
2 x 230V 16A 2P+E SCHUKO IP68
- Differential switch for 400V 32A socket
- Differential circuit breaker for 400V 16A socket
- Differential circuit breaker for 230V 16A socket
- Equipotential earth terminal (PE)



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WEIGHT - DIMENSIONS AND ACCESSORIES

GE 20 YR-5

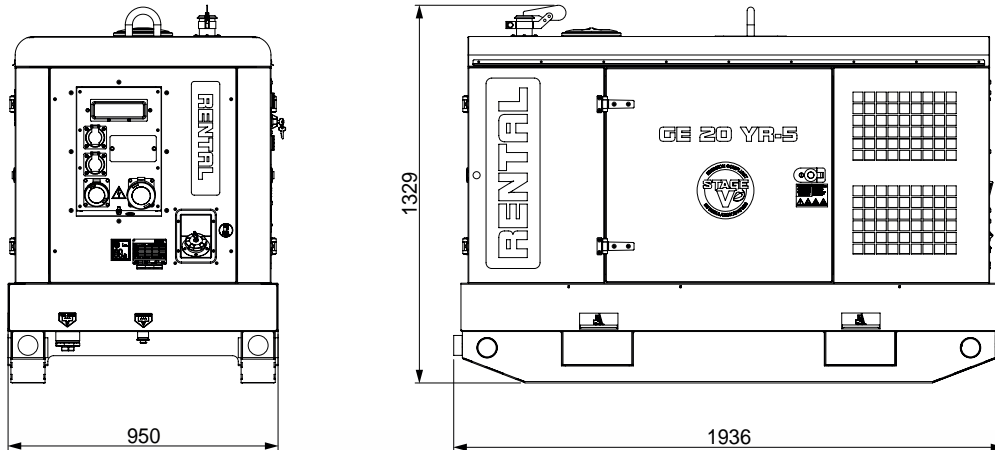


DRY WEIGHT MACHINE:
• 840 Kg

Generating set pictured may include optional accessories.



DIMENSIONS DRAW



VERSIONS IN ADDITION TO THE STANDARD FEATURES

	HEATER	3WAY	PLUS
3-way valve		✓	✓
Engine water heater	✓		✓

ACCESSORIES ON REQUEST

- Internet/Ethernet plug-in module with Web Server
- GPS/4G modem with antenna
- Report card for 15 alarms/statuses (configurable)
- Teleswitching panel (ATS) PAC-I 28 (40A)
- TCM35 remote control
- Fast towing trolley CTV1
- MT25 earthing

AVAILABLE VERSIONS

CE9P00G1	STANDARD
CE9P00G1A	HEATER
CE9P00G1H	3WAY
CE9P00G1AH	PLUS
CE9P00U1	STANDARD (DGUV-"B")
CE9P00U1A	HEATER (DGUV-"B")
CE9P00U1H	3WAY (DGUV-"B")
CE9P00U1AH	PLUS (DGUV-"B")

GENERAL INFORMATION

COMPLIANCE GENERATING SETS WITH EC DIRECTIVES AND STANDARDS

- 2006/42 / EC (Machines Directive)
- 2014/35 / EU (Low Voltage Directive)
- 2014/30 / EU (EMC Directive)
- 2000/14 / EC (Directive Acoustic Emission for machines for use outdoors)
- ISO 8528 (Reciprocating internal combustion engine driven alternating current generating sets)



ISO 9001:2008 - Cert. 0192

WARRANTY

All devices are covered by the manufacturer's warranty.

Non-contractual document. Specification subject to change without notice.

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