



# GENERATING SET GE 50 YR-5

The images are for reference



## FEATURES

- RENTAL line generator
- Engine with electronic engine speed control
- Exhaust gas post-treatment with DOC (catalyst) and DPF (particulate filter)
- Fuel pre-filter and fuel filter with water in fuel indicator
- Oversized steel base to protect the canopy
- Dragging slide integrated in the base
- Anti-tipping pockets for handling with forklifts
- Central lifting hook with anti-scratch protection plate
- Rounded edges to allow rainwater to drain
- Sealed base capable of containing any leaks of liquids present in the engine avoiding environmental pollution
- Large capacity steel tank
- External access for cleaning and emptying the tank
- External filling of the fuel tank with safety key
- Large access doors to allow easy maintenance (replacement of air, oil, fuel filters)
- Access door for cleaning and checking the radiator
- External access for filling the radiator
- Door with viewing window for the control panel
- External plugs for oil and water drainage
- 3-way valve for fuel transfer from external tank with quick filling connections housed in special niche (OPTIONAL)
- Tilting rain cover at the exhaust gas outlet
- Low level of noise emissions
- Fuel level sensor
- Leak detection sensor in the base
- Battery isolating switch
- Emergency button
- Power cable connection terminal board
- Electrical distribution panel with three-phase and single-phase output sockets
- Four-pole circuit breaker
- Electronic residual current device adjustable in current and intervention time
- Isometer (alternative to electronic residual current device)
- Primary brand brushless alternator with three-phase sensing electronic "AVR" voltage regulation
- Alternator windings protected with impregnation for marine use

## 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 unlimited numbers of hours.

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

## POWER RATINGS

* Stand-By three-phase power	48 kVA (38.4 kW) / 400V / 69.3A
* PRP three-phase power	44 kVA (35.2 kW) / 400V / 63.5A
* COP power	/
Frequency	50 Hz
Cos φ	0.8

\* Output powers according to ISO 8528-1



## ENGINE 1500 RPM

4 STROKE, DIRECT INJECTION, NATURAL ASPIRATED	
Model	YANMAR 4TNV98CT
* Stand-By net power	43.2 kW (58.6 hp)
* PRP net power	39.1 kW (53.5 hp)
* COP net power	/
Cylinders / Displacement	4 / 3.319 lit. (3319 cm <sup>3</sup> )
Bore / Stroke	98 / 110 (mm)
Compression ratio	17.9 : 1
BMEP (Brake Mean Effective Pressure : LTP - PRP)	/
Speed governor type	Electronic
FUEL CONSUMPTION	
110 % (Stand-by power)	11 lit./h
100 % to PRP	9.9 lit./h
75 % to PRP	7.2 lit./h
50 % to PRP	4.6 lit./h
COOLING SYSTEM	
Total system cap. - only engine	8.5 lit. - lit4.5
Fan air flow	65 m <sup>3</sup> /min.
LUBRICATION SYSTEM	
Total oil system capacity	10.5 lit
Oil capacity in sump	4.5 lit.
Oil consumption at full load	/

EXHAUST SYSTEM	
Maximum exhaust gas flow	10.5 m <sup>3</sup> /min.
Max. exhaust gas temp.	510 °C
Maximum back pressure	5.1- 11.5 kPa (51- 115 mbar)
External diameter exhaust pipe	/
ELECTRICAL SYSTEM	
Starter motor power	2.3 kW
Battery charging alternator cap.	40 A
Cold start	- 15 °C
With cold start aid	/
AIR FILTER	
Combustion air flow	3.24 m <sup>3</sup> /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, BRUSHLESS	
Continuous power	50 kVA
Stand-by power	55 kVA
Three phase voltage	380-415 Vac
Frequency	50 Hz
Cos φ	0.8
Model A.V.R.	HVR-30 (3ph. sensing)
Voltage regulation acc.	± 1.0 %
Sustained short circuit current	3 I <sub>n</sub>
Transient dip (100% load)	10 %
Recovery time	≤ 3 sec.
Efficiency at 100% load	89.4 % (230V - 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	< 2 %

REACTANCES (50 kVA - 400V)	
Direct axis synchronous - X <sub>d</sub>	255 %
Direct axis transient - X' <sub>d</sub>	20 %
Subdirect axis transient - X'' <sub>d</sub>	7 %
Quadrature axis synchronous - X <sub>q</sub>	146 %
Quadr. axis subtransient - X'' <sub>q</sub>	/
Negative sequence - X <sub>2</sub>	/
Zero sequence - X <sub>0</sub>	/
TIME CONSTANTS	
Transient - T' <sub>d</sub>	0.014 sec
Subtransient - T'' <sub>d</sub>	0.009 sec
Open circuit - T' <sub>do</sub>	0.188 sec
Armature - T <sub>a</sub>	/
Short-circuit ratio K <sub>cc</sub>	0.62
IP protection degree	IP 23
Cooling air flow	0.17 m <sup>3</sup> /sec.
Coupling   Bearing	Direct SAE 3 - 11 ½ - N°1

## GENERAL SPECIFICATIONS

Fuel tank capacity	245 lit.
Running time (75% to PRP)	34 h
Starter battery	12 Vdc - 100Ah / 800A CCA(EN)
IP protection degree	IP 44

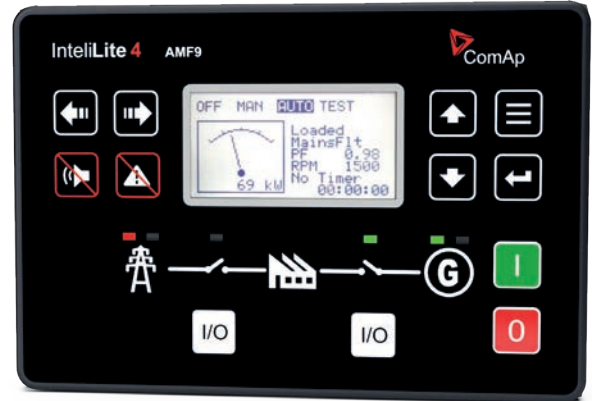
* Measured acoustic power L <sub>WA</sub> (pressure L <sub>pA</sub> )	88 dB(A) (63 dB(A) @ 7m)
* Guaranteed acoustic power L <sub>WA</sub> (pressure L <sub>pA</sub> )	90 dB(A) (65 dB(A) @ 7m)
Performance class (ISO 8528)	G3

\* Acoustic power according to European Directive 2000/14/CE

# CONTROL PANEL

## DIGITAL CONTROL PANEL

- InteliLite4 AMF9 controller
- Power switch
- Siren
- Emergency stop button
- Forced regeneration button
- Forced regeneration request light
- Engine failure warning light (PCD)
- After Treatment Failure Indicator (NCD)
- Switch magnetemic
- Electronic differential relay
- Power terminal block
- Output sockets: 1x 400V 63A 3P+N+T CEE IP67  
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+T SCHUKO
- Differential-magnetothermic switch for 400V 32A socket
- Differential-magnetothermic switch for 400V 16A socket
- 2 Differential-magnetothermic switches for 230V 16A sockets
- Earth terminal (PE)



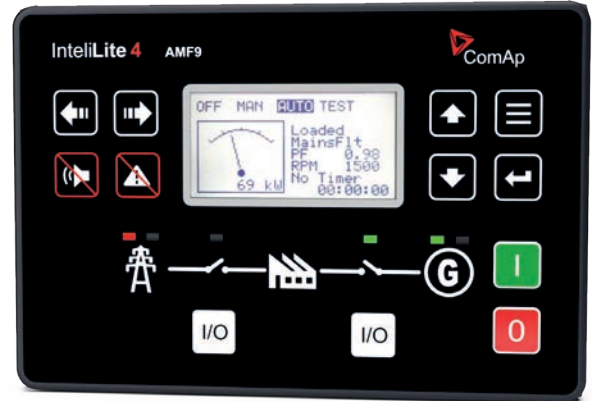
INTELLILITE4 AMF9 CONTROLLER CHARACTERISTICS	
Operating mode	<ul style="list-style-type: none"> <li>• OFF - MAN.- AUTO - TEST</li> </ul>
Display - Pulsanti-LEDs	<ul style="list-style-type: none"> <li>• Backlit display, LCD 132x64 pixels</li> <li>• Buttons / Buttons: START - STOP - RESET</li> <li>• ALARMS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

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

# CONTROL PANEL

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

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- Power switch
- Siren
- Emergency stop button
- Forced regeneration button
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- Engine failure warning light (PCD)
- After Treatment Failure Indicator (NCD)
- Switch magnetermic
- Isolation monitor
- Power terminal block
- Equipotential earth terminal
- Output sockets: 1x 400V 63A 3P+N+T CEE IP67  
1x 400V 32A 3P+N+T CEE IP67  
1x 400V 16A 3P+N+T CEE IP67  
2x 230V 16A 2P+T SCHUKO
- Differential switch for 400V 63A Type B socket
- Differential-magnetohermic switch for 400V 32A Type B socket
- Differential-magnetohermic switch for 400V 16A Type B socket
- 2 Differential-magnetohermic switches for 230V 16A Type B sockets



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# WEIGHT - DIMENSIONS AND ACCESSORIES

GE 50 YR-5



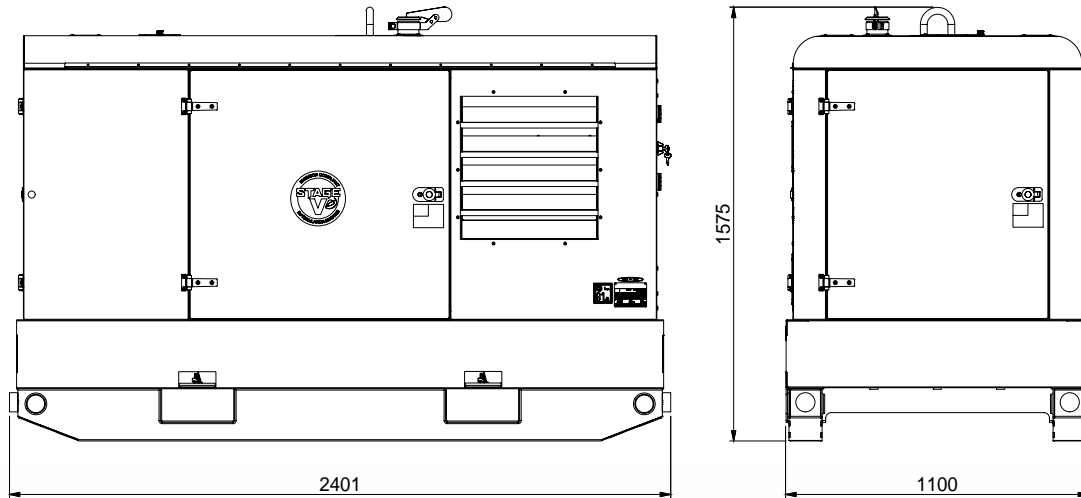
## DRY WEIGHT MACHINE:

- 1210 Kg

Generating set pictured may include optional accessories.



## DIMENSIONS DRAW



## ACCESSORIES ON REQUEST

- Internet / Ethernet plug-in module with Web Server
- GPS / 4G modem with antenna
- Plug-in module with double RS232 and RS485 ports
- Remote control panel (ATS) PAC-I 42 (60A)
- Report card 15 alarms / states (configurable)
- MT25 grounding

## AVAILABLE VERSIONS

CN2T90G1	400T230M DIGITAL CONTROL PANEL
CN2T90G1H	400T230M DIGITAL CONTROL PANEL • 3-way valve fuel system with quick connection for external fuel tank supply
CN2T90U1	400T230M DIGITAL CONTROL PANEL DGUV-"B"
CN2T90U1H	400T230M DIGITAL CONTROL PANEL DGUV-"B" • 3-way valve fuel system with quick connection for external fuel tank supply

## 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.

The company reserves the right to change this specification without notice. For further information please contact the sales department.

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