

# **FOCUSED ON GENERATORS ONLY**

# **Power Generator FD 135 I3-ST**

#### **MAIN FEATURES**

Highest quality and reliability.	Wide range of standard and optional equipment.
ComAp InteliLite AMF 25 controller.	Engine heater – ready to load just after start.
Ready to control MAINS – GENERATOR transfer switch.	Drip tray,
Configured for both manual and automatic mode (MRS + AMF).	Anticorrosion coating: frame - Zr, canopy - Zr, Al-Zn.
Wide range of remote communications options.	Brushless alternator.





#### Pictures for reference only

#### **GENERAL DATA**

Standby power ESP [kVA] / [kW	<b>V</b> ]	144,0 / 115,0
Prime power PRP [kVA] / [kW] 131,0 / 105,0		131,0 / 105,0
Prime current PRP [A]		189,0
Frequency [Hz]		50
Voltage [V]		400
Exhaust emission		stage IIIa
Fuel type	D	iesel (EN 590)
Fuel consumption - 50% load [1/h	n]	16,6
- 75% load [1/1	n]	23,6
- 100% load [l/h]		30,5
- 110% load [l/h]		33,3
Engine control voltage [V]		12
Standard fuel tank capacity [l]	tandard fuel tank capacity [1] 400	
Autonomy with 100% load [h] 12,4		12,4
Design	S3350T400	
<b>Generator version</b>	open	canopy
Model	FD 135 I3-ST1	FD 135 I3-ST
Weight without fuel [kg]	1150	1750
Dimensions L x W x H [mm]	2940 x 1110 x 1640	3350 x 1160 x 1930
Guaranteed noise power Lwa [dBA]	$113,0\pm1$	97
Acoustic pressure @7m Lpa [dBA]	$82,5 \pm 2$	$70,8 \pm 1$

#### **Prime Power PRP**:

Prime power available in variable load application in accordance with ISO 8528, A 10% overload capacity is available for a period of 1 hour within a 12h period of operation. Average power consumption should not exceed 80% PRP for each 24h of operation.

### Standby power ESP:

Emergency standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload allowed, limited to 200h of operation per year, max average power consumption 70% of ESP.

#### Remarks:

All parameters are given for reference conditions: ambient air temperature up to 40 C and site altitude above sea level 1000m.

#### Norms and directives:

- Machinery directive 2006/42/EC
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU
- Noise directive 2000/14/ECEmission directive 97/68/EC
- ISO 8528-1/2018, ISO 8528-5/2018
- ISO 8528-13:2016
- IEC 60204-1



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#### STANDARD CONTROLLER

Controller type: ComAp InteliLite AMF 25

Easy to operate, intuitive graphical interface

Real time clock with battery supply

Stan-by and Prime power applications, AMF function available

Flexible event based history with up to 350 events

3 Phase generator current measurement

Generator and Mains phase voltage measurement

Active/reactive power measurement

Active and reactive energy counter

Running hours counter, multipurpose flexible timers

Battery charging alternator circuit connection

Comprehensive gen-set protections

Wide range of communication capabilities including:

- CAN and USB on board
- Internet access using Ethernet, GPRS or 4G module
- Support for Modbus and SNMP protocols

Cloud-based monitoring and control via WebSupervisor

Active SMS or e-mails (module required)

Geofencing and tracking via WebSupervisor

Operating temperature  $-20 + 70^{\circ}$ C

IP65 operator interface protection



# **ENGINE**

## **ALTERNATOR**

Engine power [kW]113,5Nominal Power [kVA]135,0Emission standard*stage IIIaIP protectionIP 23Rotation per minute [rpm] $1500$ No of bearingsingle bearingEngine governormechanicalCouplingdirectGovernor class**G2TechnologybrushlessDisplacement [I] $6,7$ Short circuit maintaining capacity $270\%$ $10s$ No of cylinder $6$ Efficiency [%] $92,1$ Fuel systemdirect injectionInsulation classHElectrical system [V] $12$ Total harmonic content THD [%] $<2$ Cooling system capacity [I] $25,5$ Reactance Xd'' [%] $10,1$ Oil pan capacity [I] $17,2$ Voltage regulator typeDVR, digitalFuel typeDiesel (EN 590)Voltage measurement $3$ phaseVoltage accuracy [%] $+/ 0,25$ AVR supply systemauxiliary windingAVR supply optionalPMG				
Made inItalyAmbient temperature, altitude40 °C, 1000m AMSEngine power [kW]113,5Nominal Power [kVA]135,0Emission standard*stage IIIaIP protectionIP 23Rotation per minute [rpm]1500No of bearingsingle bearingEngine governormechanicalCouplingdirectGovernor class**G2TechnologybrushlessDisplacement [I]6,7Short circuit maintaining capacity270% 10sNo of cylinder6Efficiency [%]92,1Fuel systemdirect injectionInsulation classHElectrical system [V]12Total harmonic content THD [%]<2Cooling system capacity [I]25,5Reactance Xd" [%]10,1Oil pan capacity [I]17,2Voltage regulator typeDVR, digitalFuel typeDiesel (EN 590)Voltage measurement3 phaseVoltage accuracy [%]+/- 0,25AVR supply systemauxiliary windingAVR supply optionalPMG	Brand	FPT (Iveco)	Nominal Voltage [V]	400
Engine power [kW] $113,5$ Nominal Power [kVA] $135,0$ Emission standard*stage IIIaIP protectionIP 23Rotation per minute [rpm] $1500$ No of bearingsingle bearingEngine governormechanicalCouplingdirectGovernor class**G2TechnologybrushlessDisplacement [I] $6,7$ Short circuit maintaining capacity $270\%$ $10s$ No of cylinder $6$ Efficiency [%] $92,1$ Fuel systemdirect injectionInsulation classHElectrical system [V] $12$ Total harmonic content THD [%] $<2$ Cooling system capacity [I] $25,5$ Reactance Xd'' [%] $10,1$ Oil pan capacity [I] $17,2$ Voltage regulator typeDVR, digitalFuel typeDiesel (EN 590)Voltage measurement $3$ phaseVoltage accuracy [%] $+/ 0,25$ AVR supply systemauxiliary windingAVR supply optionalPMG	Type	NEF67TM1F	Nominal power factor (cos phi)	0,8
Emission standard*stage IIIaIP protectionIP 23Rotation per minute [rpm] $1500$ No of bearingsingle bearingEngine governormechanicalCouplingdirectGovernor class**G2TechnologybrushlessDisplacement [l] $6,7$ Short circuit maintaining capacity $270\%$ 10sNo of cylinder $6$ Efficiency [%] $92,1$ Fuel systemdirect injectionInsulation classHElectrical system [V] $12$ Total harmonic content THD [%] $<2$ Cooling system capacity [l] $25,5$ Reactance Xd'' [%] $10,1$ Oil pan capacity [l] $17,2$ Voltage regulator typeDVR, digitalFuel typeDiesel (EN 590)Voltage measurement $3$ phaseVoltage accuracy [%] $+/-$ 0,25AVR supply systemauxiliary windingAVR supply optionalPMG	Made in	Italy	Ambient temperature, altitude	40 °C, 1000m AMSL
Rotation per minute [rpm] 1500 No of bearing single bearing Engine governor mechanical Coupling direct Governor class** G2 Technology brushless Displacement [I] 6,7 Short circuit maintaining capacity 270% 10s No of cylinder 6 Efficiency [%] 92,1 Fuel system direct injection Insulation class H Electrical system [V] 12 Total harmonic content THD [%] <2 Cooling system capacity [I] 25,5 Reactance Xd" [%] 10,1 Oil pan capacity [I] 17,2 Voltage regulator type DVR, digital Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] +/- 0,25 AVR supply system auxiliary winding AVR supply optional PMG	Engine power [kW]	113,5	Nominal Power [kVA]	135,0
Engine governor mechanical Coupling direct Governor class** G2 Technology brushless Displacement [I] 6,7 Short circuit maintaining capacity 270% 10s No of cylinder 6 Efficiency [%] 92,1 Fuel system direct injection Insulation class H Electrical system [V] 12 Total harmonic content THD [%] $<$ 2 Cooling system capacity [I] 25,5 Reactance Xd'' [%] 10,1 Oil pan capacity [I] 17,2 Voltage regulator type DVR, digital Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] $+$ -0,25 AVR supply system auxiliary winding AVR supply optional PMG	Emission standard*	stage IIIa	IP protection	IP 23
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	Rotation per minute [rpm]	1500	No of bearing	single bearing
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Engine governor	mechanical	Coupling	direct
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Governor class**	G2	Technology	brushless
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Displacement [1]	6,7	Short circuit maintaining capacity	270% 10s
Electrical system [V] 12 Total harmonic content THD [%] $<2$ Cooling system capacity [1] 25,5 Reactance Xd" [%] 10,1 Oil pan capacity [1] 17,2 Voltage regulator type DVR, digital Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] $+/-$ 0,25 AVR supply system auxiliary winding AVR supply optional PMG	No of cylinder	6	Efficiency [%]	92,1
Cooling system capacity [1] 25,5 Reactance Xd'' [%] 10,1 Oil pan capacity [1] 17,2 Voltage regulator type DVR, digital Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] +/- 0,25 AVR supply system auxiliary winding AVR supply optional PMG	Fuel system	direct injection	Insulation class	Н
Oil pan capacity [1] 17,2 Voltage regulator type DVR, digital Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] +/- 0,25 AVR supply system auxiliary winding AVR supply optional PMG	Electrical system [V]	12	Total harmonic content THD [%]	<2
Fuel type Diesel (EN 590) Voltage measurement 3 phase Voltage accuracy [%] +/- 0,25 AVR supply system auxiliary winding AVR supply optional PMG	Cooling system capacity [1]	25,5	Reactance Xd'' [%]	10,1
Voltage accuracy [%] +/- 0,25  AVR supply system auxiliary winding  AVR supply optional PMG	Oil pan capacity [1]	17,2	Voltage regulator type	DVR, digital
AVR supply system auxiliary winding AVR supply optional PMG	Fuel type	Diesel (EN 590)	Voltage measurement	3 phase
AVR supply optional PMG			Voltage accuracy [%]	+/- 0,25
** * *			AVR supply system	auxiliary winding
Made in			AVR supply optional	PMG
Made III EO			Made in	EU

- \* According directive 97/68/WE non road mobile machinery engine emission.
- \*\* According PN-ISO 8528-5/2018



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#### STANDARD EQUIPMENT

### **OPTIONAL EQUIPMENT**

FPT (Iveco) NEF67TM1F engine	✓	Electronic engine speed governor	
Oil low pressure switch	✓	Oil pressure sensor	
Engine high temperature switch	✓	Engine temperature sensor	
Engine preheating with thermostat	✓	Oil draining hand pump	
Engine oil Titan Cargo 15W40	✓	Battery disconnection switch	
Fuel filter with water separator	✓	GCB 4P Schneider NSX Micrologic 2.2	
Coolant Fuchs Maintain Fricofin LL-50	✓	Power Lock type power output *	
Coolant inlet outside of the canopy *	✓	Power sockets box SOM 104 *	
Starting batteries 2x 100 Ah	✓	Transfer switch controlled by generator controller	
Battery charger	✓	Transfer switch with ATS controller	
GCB Schneider NSX 250 3P + Mic.2.2	✓	GPRS communication card	
GCB shunt release coil	✓	Ethernet card	
Controller ComAp IL-AMF25	✓	RS 485, RS 232 card	
Acoustic alarm	$\checkmark$	Remote display	
Emergency stop button	✓	Fuel inlet outside of the canopy with lock *	
Silenced canopy made with AlZn. *	✓	Drip space level sensor	
Standard color 7024	✓	Fuel and retention pump	
Fuel tank integrated with a frame with drip tray	✓	Alternative fuel tank size 9501	
Welded frame with fuel tank	✓	External fuel tank 1 000 – 10 000 1	
Fuel inlet inside, protected by canopy locked doors *	✓	Fuel tank filling pump and shut-off valve	
Fuel level measurement	✓	Trailer with straight drawbar	
Engine and alternator vibro isolators	✓		
Exhaust compensator and silencer	✓		
Transportation brackets	✓		

<sup>\*</sup> Applies only for canopied version

# **INSTALLATION GUIDELINES**

Power terminal	GCB terminal
Recommended cable for up to 30m power cable way	Flexible 5x70 mm <sup>2</sup>
Recommended cable for do 30m generator heater supply	Flexible 3x2,5 mm <sup>2</sup>
*For additional cable connection with FOGO ATS see ATS wiring diagram	
Exhaust pipe min diameter (max. 7 m, 4 bends)	101,6 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	114,3 mm

## **MAINTENANCE GUIDELINES**

Fuel filters replacement	500 h / 1 year
Oil replacement	After first 100h, then every 500 h / 1 year
Oil filters replacement	After first 100h, then every 500 h / 1 year
Coolant replacement	1000 h / 2 years
Battery replacement	2 years
Electrical installation supervising	According to local requirements, at least once per year

## **WARRANTY**

Continuous operation generators 12 months up to 1000 working hours

Version: Dec-21

Datasheet could be changed without notification

