



Power Generator

FD 820 S-T

Article: 36300

Code: F.0820.SA-T9000T1998-02

Main Features

- Digital voltage regulation +/-0,25 %
- Three phase voltage control
- Low disturbance level THD <1,5%
- Alternator short circuit capacity 270 % I_n (optional 300 %)
- Class H insulation
- Protection index IP23
- Common power output busbar
- Performance class G3 (acc. ISO 8528-5)
- Ready to load just after start
- Synchronization with other units
- Synchronization with mains available as additional option
- Autonomy 14,9 h with 75 % load
- Even wear-off due to automatic operation priority swap

General Data

Maximum power ESP	900,0 kVA / 720,0 kW
Nominal power PRP	820,0 kVA / 656,0 kW
Nominal Current PRP	1184,0 A
Frequency	50 Hz
Voltage	400 V
Emission standard	fuel optimized
Fuel	Diesel (EN 590)
Fuel tank capacity	2x990 l
Fuel consumption @ 50% / 75% 100% /110% PRP	82,2 / 119,8 / 157,6 / 175,6 l/h
Autonomy @ 75% / 100% load	14,9 / 11,3 h
Weight without fuel	9350 kg
Dimensions L x W x H	9000 x 1900 x 2600 mm
Guaranteed noise power L_{wa}	103 dBA
Acoustic pressure @7mL_{pa}	72,6 ± 1 dBA

Main Components & Equipment

- Scania DC13 072A 02-12 engine
- Leroy Sommer TAL 0473 A alternator
- Brushless alternator
- Digital AVR
- ComAp IG 500 Controller
- 2 x Schneider NS800 3P + Micrologic 2.0 type generator circuit breaker
- GCB undervoltage release coil
- Linear automatic battery charger
- Engine heater
- Electronic speed governor
- Fuel system unit injectors, PDE
- Welded frame with 2x990 l fuel tank, spill containment and noise insulation
- Two fuel inlets
- Four lifting eyes
- Extended supports for easy attachment to the ground

For details see page 3

Definitions

Nominal Power PRP:

Prime power available in variable load application in accordance with ISO 8528, 10% overload capacity is available for a period of 1 hour within a 12-hour period of operation. Average power consumption should not exceed 70% PRP for each 24-hour period of operation.

Maximum 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 mean load factor of 70% of rated power over 24-hour period of operation.

Norms and Directives

- Machinery directive 2006/42/EC
- Low voltage directive 2014/35/EU
- EMC directive 2014/30/EU
- Noise directive 2000/14/EC
- ISO 8528-1/2018, ISO 8528-5/2022
- ISO 8528-13:2016
- IEC 60204-1

Contact data

FOGO Sp. z o.o.

Święciechowska 36, 64-115 Wilkowice
agregaty@fogo.pl, www.fogo.pl



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Engine

Manufacturer	Scania
Type	DC13 072A 02-12
Made in	Sweden
Engine power	355,0 kW
Emission standard	fuel optimized
Rotation per minute	1500 rpm
Engine governor	electronic
Governor class	G3 (ISO 8528-5)
Displacement	12,7 l
No of cylinder	6
Fuel system	unit injectors, PDE
Electrical system	24 V
Cooling system capacity	38,0 l
Oil pan capacity	36,0 l
Fuel type	Diesel (EN 590)

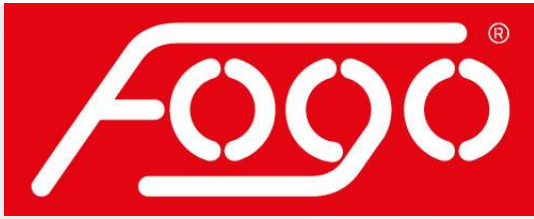
Alternator

Manufacturer	Leroy Sommer
Type	TAL 0473 A
Made in	Czech Republic
Nominal Voltage	400 V
Nominal power factor (cos φ)	0,8
Ambient temperature, altitude	40 °C, 1000 m a.s.l.
Nominal Power	410,0 kVA
Protection index	IP 23
No of bearing	Single bearing
Coupling	Direct
Technology	Brushless
Short circuit maintaining capacity	270% 10s
Efficiency	93,2 %
Insulation class	H
Total harmonic content THD	<1,5 %
Reactance Xd"	17,2 %
Voltage regulator type	AVR, digital
Voltage measurement	3 phase
Voltage accuracy	+/- 0,25 %
AVR supply system	AREP+
AVR supply optional	PMG

Controller

- Controller type: ComAp IntelliGen 500
- Intuitive operator interface, adjustable Main Screen
- Parallel operation for up to 32 gen-sets
- Parallel to Mains function (with IntelGen 210)
- Running Hours equalization
- Active and reactive load shearing
- Total remote monitoring and control
- Real time clock
- Comprehensive history log with up to 500 events
- Load demand start / stop
- Active/Reactive Power and Power Factor per phase measurement
- Run Hours counter with source selector
- Multipurpose flexible timers (also for rental) with full calendar
- Battery voltage measurement
- Complete engine and alternator protection
- Communication with ECU, supporting CAN J1939 standard
- USB port on-board
- Up to 5 languages in the controller
- 2 slots for plug-in modules
- Support of MODBUS RTU/TCP or SNMP v1/v2c
- Cloud-based monitoring and control via WebSupervisor (optional module required)
- Geofencing and tracking via WebSupervisor (optional module required)
- Localization, "Geo-fencing" (CM-4G-GPS module required)
- Active SMS and emails in different languages (CM-GPRS or CM-4G-GPS module required)
- 3 levels of password protection
- In-built PLC, complemented with a monitoring/debugging tool, for additional functionality, if required
- Spare inputs and outputs available by default: binary input – 2, binary output – 1, analogue input – 3,





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Standard equipment

- Scania DC13 072A 02-12 engine
- Electronic engine speed governor
- Oil low pressure switch
- Oil pressure sensor
- Engine high temperature switch
- Engine high temperature sensor
- Engine preheating with thermostat
- Engine oil Titan Cargo 15W40
- Fuel filter with water separator
- Coolant Fuchs Maintain Fricofin LL-50
- Coolant inlet outside, on the top of the canopy
- Starting batteries 4x180Ah
- Linear automatic battery charger
- Leroy Sommer TAL 0473 A alternator
- Digital AVR
- GCB 2 x Schneider NS800 3P + Micrologic 2.0
- GCB undervoltage release coil
- Busbar power output
- ComAp IG 500 controller
- Acoustic alarm
- Emergency stop button
- Silenced canopy, RAL 7024
- Fuel tank integrated with a frame and spill containment
- Two fuel inlets inside the canopy
- Fuel level indicator
- Engine and alternator anti vibration mounts
- Exhaust silencer with compensator
- Lifting eyes

Optional equipment

- Oil draining hand pump
- Battery disconnecter
- 4P Schneider NS Micrologic 2.0 GCB
- Transfer switch with ATS controller
- ATS accessories for outdoor application
- GPRS communication card
- Ethernet card
- RS 485, RS 232 card
- Remote display
- Fuel inlet outside of the canopy with lock
- Generator spill containment level detector
- External, double wall fuel tank 1 000 – 10 000 l
- Fuel tank filling pump and shut-off valve

Maintenance guidelines

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

Installation guidelines

Power terminal	Common busbar
Recommended cable for up to 30m power cable way	Flexible 3x5x240 mm ²
Recommended cable for do 30m generator heater supply	Flexible 5x2,5 mm ²
Exhaust pipe min diameter (max. 7 m, 4 bends)	133 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	

*For additional cable connection with FOGO ATS see ATS wiring diagram

Warranty

Continuous operation generators	12 months up to 1000 working hours
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