

### MAIN FEATURES

Highest quality and reliability. ComAp IntelliLite AMF 25 controller. Ready to control MAINS – GENERATOR transfer switch. Configured for both manual and automatic mode (MRS + AMF). Wide range of remote communications options.	Wide range of standard and optional equipment. Engine heater – ready to load just after start. Drip tray, Anticorrosion coating: frame - Zr, canopy – Zr, Al-Zn. Brushless alternator.
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F.0020.MA.S1902T140-02

Sample photos, details of devices may slightly differ from the illustrations.

### GENERAL DATA

Standby power E.S.P. [kVA] / [kW]	22,0 / 17,6	
Prime power P.R.P. [kVA] / [kW]	20,0 / 16,0	
Prime current P.R.P [A]	28,9	
Frequency [Hz]	50	
Voltage [V]	400	
Exhaust emission	non-emission	
Fuel type	Diesel (EN 590)	
Fuel consumption - 50% load [l/h]	3,5	
- 75% load [l/h]	4,7	
- 100% load [l/h]	6,3	
- 110% load [l/h]	7,1	
Engine control voltage [V]	12	
Standard fuel tank capacity [l]	140	
Autonomy with 100% load [h]	21,1	
Generator version	open	canopy
Model	FD 20M-ST1	FD 20M-ST
Weight without fuel [kg]	~490	700
Dimensions L x W x H [mm]	1900 x 850 x 1230	1900 x 850 x 1400
Guaranteed noise power L <sub>wa</sub> [dBA]	108,1 ± 2	89
Acoustic pressure L <sub>pa</sub> 7m [dBA]	79,9 ± 2	60,9 ± 1

#### Nominal power P.R.P:

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 24h of operation.

#### Stand-by power E.S.P.:

Emergency standby power rating is applicable for supplying emergency power for the duration of a utility power interruption. No overload allowed, limited to 200 hours of operation per year, average power consumption should not exceed 70% ESP for each 24

#### Remark:

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/EC
- Emission directive 97/68/EC
- ISO 8528-1/2018, ISO 8528-5/2018
- ISO 8528-13:2016
- IEC 60204-1

**STANDARD CONTROLLER**

Controller type: ComAp IntelliLite 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°C

IP65 operator interface protection


**ENGINE**

Brand	Mitsubishi
Type	S4Q2-61SDB
Made in	India
Engine power [kW]	19,6
Emission standard*	non-emission
Rotation per minute [rpm]	1500
Engine governor	mechanical
Governor class**	G1
Displacement [l]	2,5
No of cylinder	4
Fuel system	
Electrical system [V]	12
Cooling system capacity [l]	4,0
Oil pan capacity [l]	6,5
Fuel type	Diesel (EN 590)

**ALTERNATOR**

Nominal Voltage [V]	400
Nominal power factor (cos phi)	0,8
Ambient temperature, altitude	40 °C, 1000m a.m.s.l
Nominal Power [kVA]	20,0
IP protection	IP 23
No of bearing	single bearing
Coupling	direct
Technology	brushless
Short circuit maintaining capacity	270% 10s
Efficiency [%]	87,1
Insulation class	H
Total harmonic content THD [%]	<3,5
Reactance Xd'' [%]	7,7
Voltage regulator type	DVR, digital
Voltage measurement	3 phases
Voltage accuracy [%]	+/- 0,5
AVR supply system	auxiliary winding
Made in	EU

\* According directive 97/68/WE non road mobile machinery engine emission.

\*\* According PN-ISO 8528-5/2018

**STANDARD EQUIPMENT****OPTIONAL EQUIPMENT**

Mitsubishi S4Q2-61SDB engine	✓	Oil pressure sensor	□
Glow plugs	✓	Engine temperature sensor	□
Oil low pressure switch	✓	Oil draining hand pump	□
Engine high temperature switch	✓	Battery disconnection switch	□
Engine preheating with thermostat	✓	Power sockets box SOM 106 *	□
Engine oil Titan Cargo 15W40	✓	Transfer switch controlled by generator controller	□
Coolant Fuchs Maintain Fricofin LL-50	✓	Transfer switch with ATS controller	□
Coolant inlet outside of the canopy *	✓*	GPRS communication card	□
Coolant draining valve	✓	Ethernet card	□
Starting batteries 75 Ah	✓	RS 485, RS 232 card	□
Battery charger	✓	Remote display	□
GCB Schneider Z32/4	✓	Fuel inlet outside of the canopy with lock *	□
GCB shunt release coil	✓	Drip space level sensor	□
Controller ComAp IL-AMF25	✓	External fuel tank 1 000 – 10 000 l	□
Acoustic alarm	✓	Fuel tank filling pump and shut-off valve	□
Emergency stop button	✓		
Silenced canopy made with Al.-Zn. *	✓*		
Standard color 7024	✓		
Fuel tank integrated with a frame with drip tray	✓		
Welded frame with fuel tank	✓		
Fuel inlet inside, protected by canopy locked doors *	✓		
Fuel level measurement	✓		
Engine and alternator vibro isolators	✓		
Exhaust compensator and silencer	✓		
Transportation brackets	✓		

\* Applies only for canopied version

**INSTALLATION GUIDELINES**

Power terminal	GCB terminal
Recommended cable for up to 30m power cable way	Flexible 5x6 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)	48,3 mm
Exhaust pipe min diameter (max. 15 m, 4 bends)	60,3 mm

**MAINTENANCE GUIDELINES**

Fuel filters replacement	250 h / 1 year
Oil replacement	After first 50h, then every 250 h / 1 year
Oil filters replacement	After first 50h, then every 250 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
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