RDWA20SP/S2

Data Sheet

Certified company:

20 KVA
1500 RPM
400/230V.
50 HZ.

ROBUST & RELIABLE

360º SERVICE

PREMIUM EQUIPMENT

TAILORED MANUFACTURING

FRIENDLY USE

INDUSTRIAL RANGE POWER, RELIABILITY AND WARRANTY

PURE INNOVATION ENERGY

Data Sheet

Rental Range
Mod. RDWA20SP/S2

SP Soundproofed Series

Engine
Deutz F3M2011

Alternators Available
Mecc Alte - ECP28-M/4
Linz - SLT18 MD
Stamford - PI144D
Leroy Somer - TAL040 FJ

50 Hz | T THREE-PHASIC

Power

	PRP	LTP
Power in KVA	20	22
Power in KW	16	17,6

General Specifications

Revolutions [RPM]	1500
Voltage(s) [V]	400/230
Frequency [Hz]	50
Cos (Ø) [0-1]	0,8

Legend

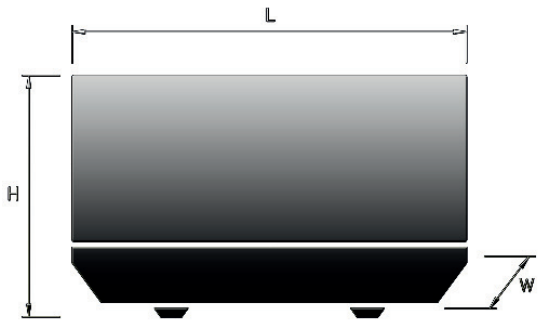
- **PRP (Prime Power):** Maximum power supplied by the generating set for continuous periods of time and with variable loads.
- **LTP (Limited Time running Power):** Maximum power supplied by the generator for short and punctual emergency use periods. Generally about 10% more power of the PRP.
- **KVA (Kilovolt-ampere):** The most common unit for measuring the power of a generator. 1 KVA is equivalent to approximately 0.8 kilowatts power.

Consumption

	litres/hour
25%	2
50%	3,2
75%	4,7
100%	6,7

Measurements and weight

Length (L) [mm]	2190
Width (W) [mm]	1000
Height (H) [mm]	1745
Volume [m³]	3,8
Weight [KG.]	1250
Fuel tank [L]	320
Autonomy 75% [h]	68,1



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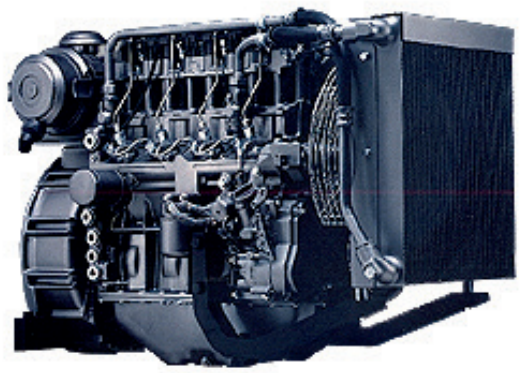
Data Sheet

Engine features

Brand - Model
Deutz - F3M2011
Refrigeration
Water



The engine provides the necessary mechanical energy source to turn the alternator and generate electricity. The diesel engines are the most use in the AEM generators due to its reliability and its mechanical, ecological and economic benefits.

Engine data

	PRP	LTP
Power in KW	18	21,4
Engine type	4-stroke	
Number of cylinders	3	
Displacement [L]	-	
Oil capacity [L]	5,5	
Oil consumption (100%) [% Comb.]	0,3	
Fuel consumption (100%)	255	
Bore / Stroke [mm]	94/112	
Compression	19	
Aspiration	Natural	
Start-up System	-	
Type of regulation	Mechanic	
Starter [KW]	3	
Battery [Ah]	55	

Flow - Installation

Refrigeration airflow [m^3/h]	1800
Combustion air volume [m^3/h]	86
Exhaust gas flow [m^3/h]	236
Exhaust gas temperature [ºC]	611

Remarks: The powers of diesel engines for stationary applications make reference to the following environmental conditions according to ISO 3046/1:

- Ambient temperature: 25ºC
- Atmospheric pressure: 1000 mbar (750 mm/Hg)
- Relative humidity: 30%

Additional information will be included in the Engine Manual supplied with the AEM generating set. For further information please do not hesitate to contact us without any obligation.

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Alternator features

Alternators avaliable
Mecc Alte
Linz
Stamford
Leroy Somer

The alternator is responsible for transforming the mechanical energy provided from the engine to electrical energy, generating an alternating current using electromagnetic induction.

It operates switching the polarity continually creating movement and producing energy. The most common frequencies are 50Hz and 60Hz, which means that the polarity of the current changes 50 or 60 times per second respectively.

Additional information will be included in the Alternator Manual supplied with the AEM generating set. For further information please do not hesitate to contact us without any obligation.

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Alternator data

Poles	4
Standard type of connection	Star
Type of coupling	S.A.E.
Insulation	Class H
Excitation	Self-excited brushless
Regulation	Electronic (A.V.R.)
Type of support	Single-bearing
Coupling system	Flexible Disc
Cos (Ø) [0-1]	0,8

Remarks: The environmental conditions reference for alternators, for stationary applications according to IEC 34-I, ISO 8528-3 and CEI 2-3 are:

- Ambient temperature: 40ºC (30º NEMA)
- Altitude: 1000m. above sea level (674 mm/Hg)

Model-Specific data

		Power				Performance			
	Mod.	PRP	LTP	Short circuit capacity	Protec.	25%	50%	75%	100%
Mecc Alte	ECP28-M/4	20	22	300% (20s)	IP21	-	85,6	87,8	87,4
Linz	SLT18 MD	20	22	250% (10s)	IP23	82	84,5	86,3	86,1
Stamford	PI144D	20	22	-	IP23	81	85,9	85,2	85,1
Leroy Somer	TAL040 FJ	20	22	-	IP23	82,7	88	89,1	85,1

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Control panels

The electrical panels are responsible for monitoring and controlling the machine operation. Each generator is supplied with comprehensive documentation including several manuals and relevant recommendations.

InteliNANO

DSE3110

Manual & Start-up/Stop signal Control Panels (InteliNANO or DSE3110)

- Manual Mode: The user is in charge of start and stop the machine depending on his needs. It is usually installed where there is no electric grid.
- Start-up / Stop Signal Mode: An external signal is the responsible for sending the order to start or stop the genset. It is often used with level sensors pumps, irrigation control, timers, etc. that automating the start-up/ stop process.
- The control panel is usually built in the machine.
- The kit with InteliNANO switchboard includes at least the installation of ammeters.
- The kit with switchboard DSE3110 series includes ammeters, voltmeter and fuel gauge.
- Relevant instrumentation will be installed in case oil pressure and temperature measurements are necessary.
- Main engine integrated protections: Low battery level, fuel reserve, low oil pressure and high engine temperature.
- Main alternator integrated protections: the switchboard InteliNANO adds over and low voltage protection.
- Other protections: Differential protection and circuit breaker protection.

InteliLite AMF25

Automatic Panels (InteliLite AMF25 or DSE6020)

- It is installed on generators that operate in emergency mode of the grid. Designed to control an external change-over-switch. The switchboards work in manual, start-up/stop signal and automatic mode and can take control of the generating set and the power grip.
- In automatic mode the switchboard is monitoring constantly the state of the grid. In case of failure of the grid the generator will start-up as the main source of power.
- The control panel is usually built in the machine.
- The control panel equips the controller InteliLite AMF25 or DSE6020 able to read voltages, frequencies, intensities, active-reactive-apparent power, power factor, fuel level, oil pressure, engine temperature, battery voltage and hour-counter. Includes battery charger.
- Main engine integrated protections: Low battery level, over and low speed, fuel reserve, low oil pressure, high engine temperature, start-up and stop failure.
- Main alternator integrated protections: Over and low voltage, over and low frequency, direction of rotation, power imbalance between phases.
- Other protections: Differential protection and circuit breaker protection.

DSE6020

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Synchronized/Parallel Panels (InteligentNt/InteliMains o DSE8610)

- These control panels are able to synchronize one or several machines among themselves or with an existing grid to work together and to provide energy in unison.
- It is installed in allocations where the business continuity is essential like: Hospitals, refrigeration facilities, power plants, support to the mains, …
- The control can be built in the machine or in an independent cabinet or can be designed in a tailored solution for the project.
- Switchboards included are able to monitor: Voltages, frequencies, intensities, active-reactive-apparent powers, power factor, fuel level, oil pressure, engine temperature, battery voltage, hour-counter... The generator includes motorized circuit breakers.
- Main engine integrated protections: Low battery level, over and low speed, fuel reserve, low oil pressure, high engine temperature, start-up and stop failure.
- Main alternator integrated protections: Over and low voltage, over and low frequency, direction of rotation, power imbalance between phases.
- Other protections: Differential protection.
- Tailored solutions to meet the requirements of each project (Wide possibilities).

InteligentNT/ InteliMains

DSE8610

TAILORED SOLUTIONS

Choose your preferred switchboard/controller

AEM always works with high quality components of the best brands, which enable us to controllers as standard. Nevertheless, as a result of the customization possibilities offered by the Rental Range, you can select any other switchboard type that meets your needs or preferences.

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Premium standard equipment

The AEM Rental Range has the most comprehensive equipment of the market. In addition, the whole range is compatible with the AEM SuperSilence option.

Scope of standard supply

- Engine gas collector CCV
- Automatic switchboard Comap AMF25 or Deep Sea DSE6020
- 4 Phase circuit breaker
- Electronic differential
- Alternator AVR relocated in the control panel.
- Busbar/Terminal block.
- Connections for cable without terminal.
- Door safety micro-switch for disconnecting general circuit breaker when opening.
- Electrical cabinet with IP67 protection sockets.
- Electrical box protection for IP67 sockets.
- Battery disconnector.
- Heat/Thermal-insulated exhaust pipes.
- Sealed frame with draining liquids screwed caps.
- Removable high capacity fuel tank.
- Compartmentalized/Subdivided fuel tank to avoid fuel movements in transport.
- Opening box for easy cleaning of the fuel tank.
- 6-way valve with external quick plugs of fuel.
- Water separator fuel filter.
- Forklift holes.
- Anti shock protection for manipulation with forklift.
- Perforated sheet covering the whole inner surface of the machine.

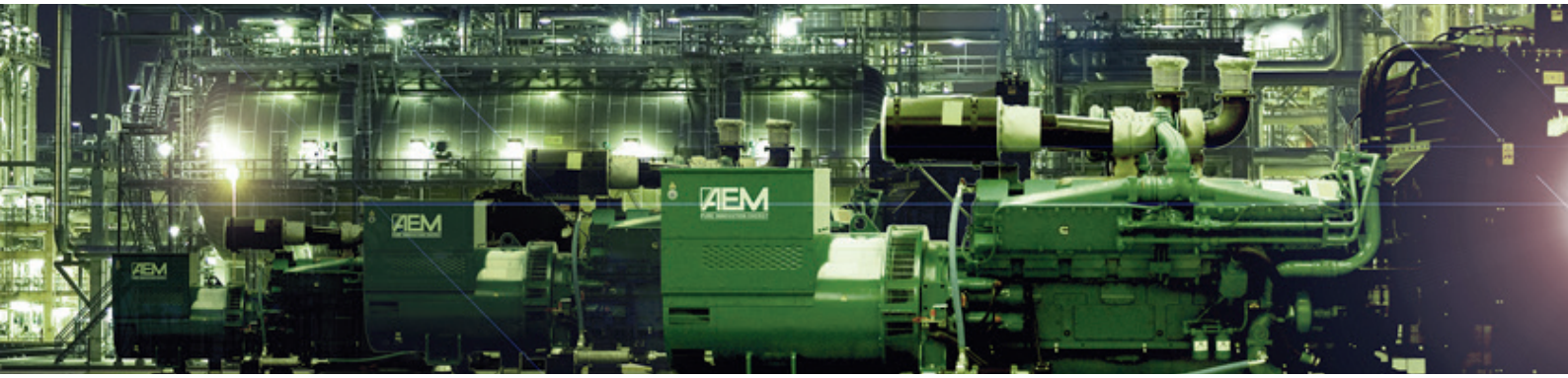
Extra equipment (Optional)

In addition to the standard scope, our skill to manufacture special solutions allows us to offer a wide range of customization options:

- Switchboard of your choice
- Tropicalized alternator (protection for hast environments)
- Permanent Magnet Alternator (PMG)
- Viscofan: Variable speed fan (Exclusive for Volvo and John Deere engines)
- Analog water temperature gauge.
- Powerlocks connectors.
- Analog oil pressure gauge
- RS232-485 communication interface
- Additional input module
- GPRS monitoring and remote control module
- Satellite tracking system (Exclusive for John Deere engines)
- Automatic fuel transfer pump + stop electrovalve
- Perforated sheet only in the inner side of the doors
- Cyclone air filters
- Automatic oil filling system
- Oversized exhaust pipe
- Customized colour and special paint treatments
- SUPERSILENCE premium soundproofing

For any other tailored options and requirements please contact us.

HIGH QUALITY COMPONENTS



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In addition to...

AEM Rental Supersilence®

With all the rental equipment + premium soundproofing

The new soundproof generator AEM Super Silence® is one of our flagship products. Intended for renters, it is indicated for applications that require maximum performance and silence: Urban environments, hotels, events...

With a special coating based on 120 mm thick rock wool panels which ensures up to 45% less acoustic contamination, depending on the model. All of this of course, while retaining all the features and top standard equipment that characterizes our Rental Range.

Features

- **Premium soundproofing.** Bodywork lined with a 120 mm thick rock wool layer and covered with perforated metal sheet, which greatly reduces noise and increases its structural strength.
- **Improved bench.** Contrary to the usual, both the bench and the aspirations are soundproofed, thus completing the comprehensive coating that ensures maximum soundproofing.
- **Larger fuel tank.** A key feature of the Rental Range that is augmented in its Supersilence evolution. It lengthens the usage time without refueling; a vital necessity for renters.
- **Oversized exhaust.** Thanks to this oversizing, the superior insulation and the innovative design of the exhaust system, the noise generated is greatly reduced.
- **Variable fan speed.** Volvo Penta and John Deere motors with Viscofan (depending on the model) that regulates its speed in function of temperature and with it the generated noise emission.

AEM Rental also available in container

For powers of 630, 800, 1000 y 1250 KVA

With the containerized Generators, it is intended to produce a dynamic system, with a very sturdy structure. They are built on request in measurements of standard 20-foot marine containers (with CSC renewed certificate) which greatly facilitates transit by road and sea.

- **Sturdy and ultra durable** The containers are prepared to endure the harshest working conditions for years. Simply put, they are built to last.
- **Expandable and versatile.** Do not allow your machine to limit you in the long run. The AEM groups are scalable through synchronized ad hoc projected systems.
- **Easy transport and disassembly.** Single lifting point that makes it easy to transport and a modular system by rails that allows making disassemblies with maximum speed. An ideal machine for renters.
- **Ultra silent.** Its maximum soundproofing system allows the installation of the container in areas and environments that are sensitive to noise pollution.
- **Versatile connection.** A generator adapted to your needs. Thanks to its full range of electrical connections and fuel your machine will always be prepared.
- **Cutting-edge technologies.** With the most innovative controllers. Software at the forefront with the latest industry applications of the generator.

Data Sheet

AEM Satisfaction

The AEM generators are designed kepping in mind the robustness, versatility and reliability. Made of high quality components and cutting edge technologies that allow us to offer a premium product close to zero failures. Each generator is monitored throughout all manufacturing processes, tested and submitted to intense trials to ensure that the customers receive their machine in perfect conditions and ready to work immediately after the installation.

Tailored solutions

AEM is specialized in customized solutions. Our engineers, in permanent contact with the sales department, study and design the most advanced systems solutions based on power generators.

We are the most efficient in these tasks.

We meet whatever requirements providing feasible solutions for your projects.

Assembly

The assembly between engine and alternator is executed by means of disks. For powers up to 150 kVA we mount a 4 mm cold laminated steel frame, and from 150 kVA we mount a skid-shape frame made up of UPN-260 or UPN-300 sections. The monoblock is attached to the frame by means of non guillotining elastic anti-vibration fasteners. It includes a fuel tank and an exhaust muffler.

Soundproofing

The SP Soundproofed Series is available as a variation of all Open Series models. It is made up of a bodywork of 2 mm thick plate. Punched, folded, electrowelded and bolted in essential sections for a better maintenance and access to the machine's interior, and suitably scoured to proceed to its subsequent painting in the polymerization oven.

Guarantee

GLOBAL GUARANTEE

AEM generators include a standard guarantee against any manufacturing defects which is valid for 1 year or 2000 operating hours and it expires once any of the two previous conditions is meet. For further information please contact us.

Tailored Guarantee

In addition to the AEM global standard guarantee we can offer a customized guarantee extension to meet your requirements, a guarantee focused in your specific generators. We study the needs of your project and offer you the best conditions and solutions.

Quality Control Systems and Regulations

AEM SPAIN manufactures its standard ranges of products implementing the following rules.

- UNE ISO 9001
- CE Marking
- 2006/42/CE – Machinery Safety Directive
- 2006/95/CE – Low Voltage Directive, relating to electrical equipment designed for use within certain voltage limits.
- 2004/108/CE – Directive relating to Electromagnetic Compatibility (Repealing Directive 89/336/CEE).
- 2002/88/CE y 2004/26/CE – Relating to measures against the emission of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile (Amending directive 97/68/CE).
- 2005/88/CE – Relating to the noise emission in the environment by equipment for use outdoors (Amending directive 2000/14/CE).
- EN 12100, EN13857, EN60204.

The power of the generators have been defined according to ISO 8528 and ISO 3046. Reference environmental conditions: Barometric pressure 100 KPa, 25ºC and relative humidity of 30%.

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Comprehensive Control System

The pillars of AEM's success are based on the continuous improvement and innovation efforts. Our facilities are steadily upgraded, including cutting-edge technology machinery. In addition, we enact our own end-to-end control system that allow us to offer vertical solutions, real-time monitoring and an optimal surveillance of manufacturing processes, as a result we get a high adaptability and versatility to cover the needs and requirements of the customers and it also enables us to shorten the delivery times. We are the most efficient in these tasks.

Direct Communication

The key feature that stands out AEM from of the remaining manufacturers is that you will find a close partner that will grant you a non barrier, clear, direct, natural and easy communication. Your Key Account Manager and the AEM workforce will be pleased to assist you through the whole processes (manufacturing, design and others), that involve your generator whether you are end customer or AEM partner.

Logistics

AEM headquarters are strategically located nearby conecctions to airports, seaports and intermodal logistic terminals. Providing maximum safety and reliability conditions in transport.

Full-connected Inside

Your generator always online. As an extra option the AEM telecommunication equipments are able to grant a remote and monitoring control access for surveillance the machine wherever it is located, via Internet, Ethernet, Wifi, RS458, RS232, Modem...

FULL-CONNECTED INSIDE

360º Service

AEM not only manufactures energy solutions, it also provides a wide range of services adapted to the needs of customers, distributors and partners. One of the most important features is our ability to provide a quick and effective response to any eventuality that may arise. Some of our services are:

- Commercial and Consulting Services.
- Before and After Sales Services.
- Technical Support Services (Telephone or In Situ).
- Maintenance Services.
- Engineering Services.
- Spare parts Services.
- Training Services (Both for customers and dealers).
- Customized Manufacturing of Electric Panels and Generating Sets.
- Custom Trials Services.
- R&D and Prototyping Services.
- Marketing Services (Exclusive for official partners and big accounts, for further information please contact us).

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Control panels.
Premium standard equipment.
AEM satisfaction.

About this document

This data sheet was updated on 11/03/2016

Contact us

For further information do not hesitate to contact our commercial or technical department, we will be pleased to help you without compromise.

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If you prefer you can request an electronic quotation throught ourr website at the following link:

http://www.aemspain.com/offer-request

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