

# AEM™ CU900/OPEN

Data Sheet

Certified company:



900 KVA  
1800 RPM  
480/277-440/254-380/220V.  
60 HZ.



ROBUST &  
RELIABLE



360°  
SERVICE



PREMIUM  
EQUIPMENT



TAILORED  
MANUFACTURING



FRIENDLY  
USE

## HEAVY RANGE THE POWERFUL SOLUTION

PURE INNOVATION ENERGY

# Heavy Range Mod. CU900/OPEN

Open Series



**Engine**  
Cummins QSK23G3

**Alternators Available**  
Mecc Alte  
Stamford  
Leroy Somer



## Power

	PRP	LTP
Power in KVA	900	1000
Power in KW	720	800

## General Specifications

Revolutions [RPM]	1800
Voltage(s) [V]	480/277-440/254-380/220
Frequency [Hz]	60
Cos (Ø) [0-1]	0,8

## Legend

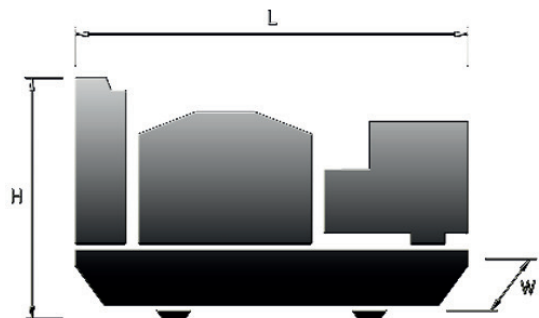
- **PRP (Prime Power):** Maximum power supplied by the generating set for continuous periods of time and with variable loads.
- **LTP (Limited Time running Power):** Maximum power supplied by the generator for short and punctual emergency use periods. Generally about 10% more power of the PRP.
- **KVA (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%	-
50%	97
75%	139
100%	189

## Measurements and weight

Length (L) [mm]	4900	-
Width (W) [mm]	1660	-
Height (H) [mm]	2260	-
Volume [m <sup>3</sup> ]	18,4	-
Weight [KG.]	6590	-
Fuel tank [L]	1000	-
Autonomy 75% [h]	7,2	-



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## Engine features

**Brand - Model**  
Cummins - QSK23G3  
**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	809	895
Engine type	4-stroke	
Number of cylinders	6	
Displacement [L]	23,15	
Oil capacity [L]	103	
Oil consumption (100%) [% Comb.]	-	
Fuel consumption (100%)	199	
Bore / Stroke [mm]	170/170	
Compression	16	
Aspiration	Turbo	
Start-up System	Electric	
Type of regulation	Electronic	
Starter [KW]	-	
Battery [Ah]	2 x 225	

### Flow - Installation

Refrigeration airflow [m <sup>3</sup> /h]	84960
Combustion air volume [m <sup>3</sup> /h]	3939
Exhaust gas flow [m <sup>3</sup> /h]	9983
Exhaust gas temperature [°C]	467



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

- Ambient temperature: 25°C
- 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.

**AEM SPAIN.** +34 902 300 500  
[aem@aemspain.com](mailto:aem@aemspain.com) · [www.aemspain.com](http://www.aemspain.com)

## Alternator features

### Alternators available

Mecc Alte  
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.

### Alternator data

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



**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: 40°C (30° NEMA)
- Altitude: 1000m. above sea level (674 mm/Hg)

### Specific data according to model and voltage

480/277 V.		Power [KVA]		Short circuit capacity	Protec.	Performance			
	Mod.	PRP	LTP			25%	50%	75%	100%
Mecc Alte	ECO40-VL/4	900	1000	300% (20s)	IP21	-	95,8	96,8	96
Stamford	HCI634G	1000	1111	-	IP23	92,6	94,8	95,2	94,6
Leroy Somer	LSA491M75	960	1067	(300%) 10s	IP23	92,3	94,6	94,8	94,6

440/254 V.		Power [KVA]		Short circuit capacity	Protec.	Performance			
	Mod.	PRP	LTP			25%	50%	75%	100%
Mecc Alte	ECO40-VL/4	900	1000	300% (20s)	IP21	-	95,8	96,8	96
Stamford	HCI634G	925	1028	-	IP23	92,4	94,8	95	94,4
Leroy Somer	LSA491M75	960	1067	(300%) 10s	IP23	-	-	-	-

380/220 V.		Power [KVA]		Short circuit capacity	Protec.	Performance			
	Mod.	PRP	LTP			25%	50%	75%	100%
Mecc Alte	ECO43-2SN/4	950	1056	300% (20s)	IP21	-	94,7	95,8	95,8
Stamford	HCI634H	1000	1111	-	IP23	-	-	-	-
Leroy Somer	LSA491L9	910	1011	(300%) 10s	IP23	-	-	-	-

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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## Data Sheet

# 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



InteliLite AMF25



DSE6020

### 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.

### Automatic Panels (InteliLite AMF25 or DSE6020)

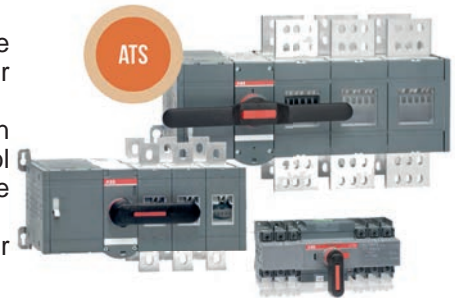
- It is installed on generators that operate in emergency mode of the grid. Designed to control an external change-over-switch. The switchboards work in manual, start-up/stop signal and automatic mode and can take control of the generating set and the power grip.
- In automatic mode the switchboard is 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.

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## Data Sheet

### Automatic Transfer Switch Panels – ATS (Switchboard IntelliATS optional)

- The change-over-switch is the responsible for alternating automatically the supplying source of energy between the grid and an emergency generator or between two electrical networks.
- This control panel is not embedded into the machine, it is installed in an independent control cabinet. If the generating set is not able to control the change-over-switch then the switchboard IntelliATS can optionally be installed to take over the genset and the grid.
- Main protections: Over and low voltage, over and low frequency, over intensity, short-circuit and power imbalance between phases.



Commutator

### Synchronized/Parallel Panels (IntelliNT/IntelliMains 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).



IntelliNT/ IntelliMains



DSE8610



IntelliLite AMF25



DSE6020

### FTR Control Panels (IntelliLite AMF25 or DSE6020)

- It is installed in generators that operate as emergency of the Grid, supports manual mode, start-up/stop signal mode and automatic mode. The panel is able to carry out the control of the generator and the network.
- The principal mode is the automatic mode in which the switchboard is constantly monitoring the Grid, when a failure is detected the genset start-up and it is established as a main source power.
- It is not embedded in the machine. This panel includes both the switchboard and the change-over-switch required to automate the process. Also supports manual and start-up/stop mode. This panel is suitable when the installation is near.
- The type of the assembled switchboards are able to read: Voltages, frequencies, intensities, active-reactive-apparent powers, power factor, fuel level, oil pressure, engine temperature, battery voltage, hour-counter, among other measures. Equipped with 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.
- Integrated protections for the Grid: Over and low voltage, over and low frequency.
- Other protections: Differential protection. Circuit breaker protection depending on the machine power.

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## Premium standard equipment

The AEM Heavy Range has the most comprehensive equipment of the market.

### Scope of standard supply

- Diesel engine.
- Electronic Alternator Regulator - AVR.
- Silent Blocks for engine and alternator (nonguillotining elastic anti-vibration fasteners).
- Engine/Alternator wiring.
- Control panel.
- Differential and circuit breaker protections.
- Emergency stop.
- Steel base plate.
- Fuel tank.
- Externally accessible fuel filler neck & lockable cap.
- Sealed frame with draining liquids screwed caps.
- Fuel level sensor.
- Battery.
- Exhaust pipe.
- Soundproofed canopy/framework.\*
- Lifting hooks.\*
- Security key locks.\*
- Powder paint.
- Residential exhausts installed inside the framework.
- Oil drainage Kit.\*
- Busbar/Terminal block.
- Hazard signalization stickers.
- Electrical grounding.
- Identification plate.
- Generating Set documentation.

### 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:

- Tropicalized alternator.
- Oil drainage Kit.
- Engine water heater.
- Engine oil heater.
- Alternator heater.
- Battery disconnecter.
- Water temperature gauge.
- Oil temperature gauge.
- Fuel filter separator.
- Cyclonic air filters (heavy duty environments).
- Oil microfiltration.
- Centrifuge oil filters.
- Automatic fuel transfer system.
- Fuel quick plugs.
- Door safety micro-switch for disconnecting general circuit breaker when opening.
- Special painting treatments.
- Heat/Thermal-insulated exhaust pipes.
- Electrical cabinet with IP67 protection sockets + Electrical box with switch protection.
- SUPERSILENCE premium soundproofing.
- Full-Connected Inside (Monitoring and remote control).

(\* ) Only for soundproofed 'SP' models.

**For any other tailored options and requirements please contact us.**



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## AEM Satisfaction

The AEM generators are designed keeping 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



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 met. 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, 25°C and relative humidity of 30%.



## 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 conections 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...



## 360° 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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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.

AEM Spain  
Alternativas Energéticas Murcia, S.L.  
Tel. +34 902 300 500  
Fax: + 34 902 300 552  
aem@aemspain.com

Headquarters:  
Polígono Industrial Oeste  
C/ Venezuela, Parcela 10-11  
30820 Alcantarilla - Murcia (Spain)

If you prefer you can request an electronic quotation through our website at the following link:

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



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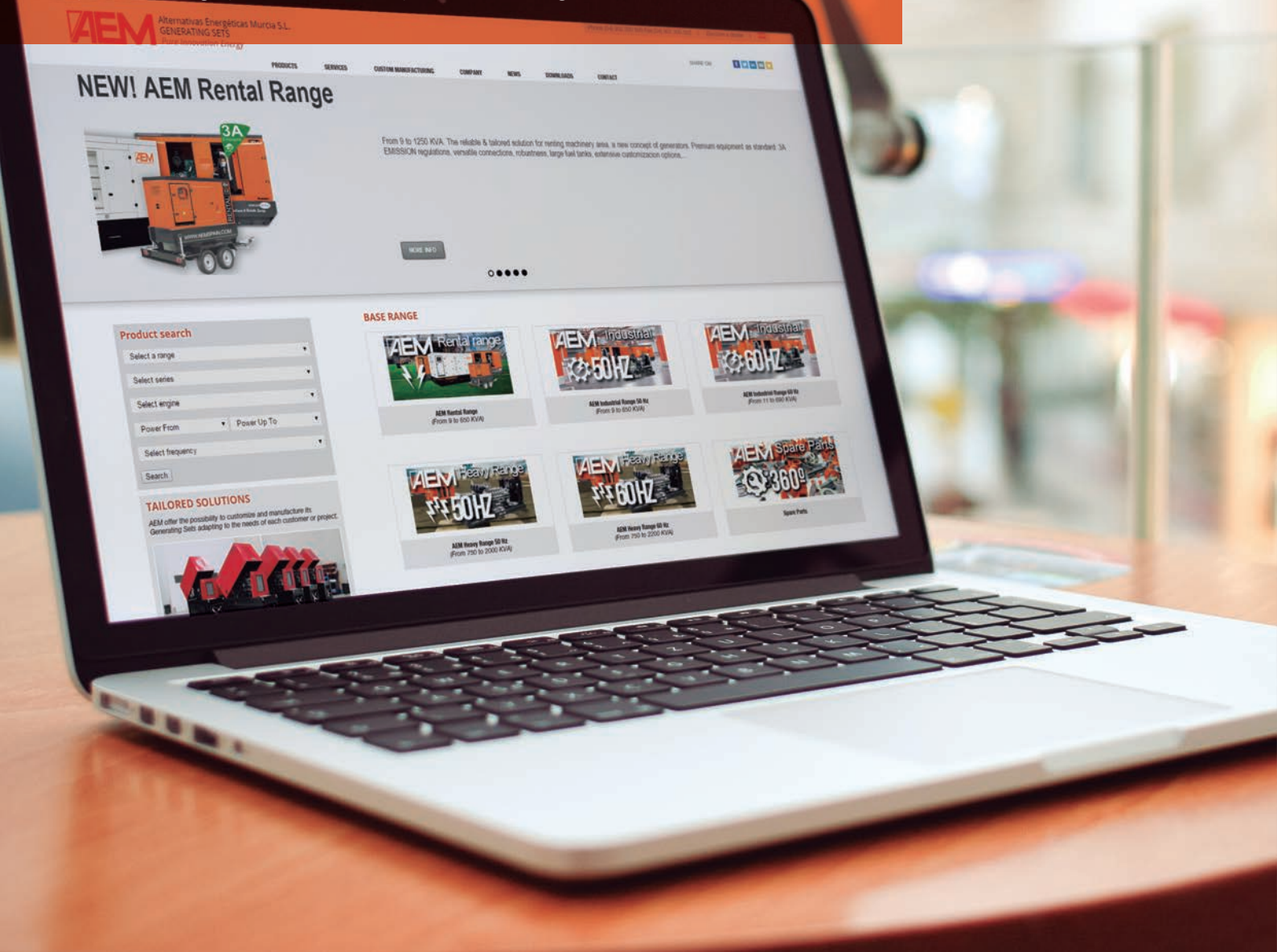
Heavy Range · Mod. CU900/OPEN · 900 KVA · 60 Hz.

### Notes:

A large, empty rectangular box with a thin red border, intended for handwritten or printed notes.

# CALL US ON +34 902 300 500

Call us on +34 902 300 500 or contact us at 'aem@aemspain.com'. We will call you and assign you a personal Key Account Manager.



Headquarters:  
AEM SPAIN  
Alternativas Energéticas Murcia, S.L.  
Polígono Industrial Oeste C/Venezuela, P10-11  
30820 Alcantarilla - Murcia (Spain)  
Phone: +34 902 300 500 · Fax: +34 902 300 552  
E-mail: aem@aemspain.com

[WWW.AEMSPAIN.COM](http://WWW.AEMSPAIN.COM)