

Low Voltage Sub Main Distribution Boards

# Dunes S Series

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Low Voltage Final Distribution Boards

# Dunes F Series



[www.alhamad.ae](http://www.alhamad.ae)

*Plugged into your needs*

# **Al Hamad is the leading manufacturing enterprise specialized in Low voltage to Medium voltage electrical products.**

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Headquartered in Abu Dhabi, UAE, the company covers entire MENA region and provide expert solutions in view of the local environment, requirements and necessities.

With an extensive experience of more than 2 decades and a thorough knowledge on Low and Medium voltage products, the team at Al Hamad understand the increased demands of the products in upcoming years and worked collaboratively

to manufacture and provide high quality solutions in utilities and many industrial applications.

*The team is dedicated to providing Electrical Solutions to multiple sectors including utilities, Oil & Gas, Defense & infrastructure segment.*



## Safe and intelligent power distribution

Whether in industrial plants, in infrastructure or in buildings, all technical plant depends on the reliable supply of electricity, even a short outage can have grave consequences.

**Al Hamad Switchgear** (a division of Al Hamad Industries International) offers the best technology for the responsible use of electrical energy and at the same time help to protect people and property and to conserve natural resources.

Low-voltage switchboards forms one of the most important links at the end of energy supply chain following the supply equipment (generators), transmission (cables, overhead lines) and transformation (transformers) of electrical energy, providing electrical power at the desired low voltage. In addition to providing a secure source of electrical energy the distribution switchboards main function is to safe guard the loads, such as motors, solenoid valves, actuators and devices for heating, lighting, IT systems and air conditioning plus various other types of critical loads.

As the majority of applications are supplied with low voltage, the low-voltage switchboard is of special significance in both public supply systems, industrial plants and both commercial and residential infrastructure which are totally dependent on reliable, secure and continuous availability of power supply.

Power distribution in a low-voltage system usually takes place via a main switchboard (power center or main distribution board) and a number of sub-distribution boards or motor distribution boards, also known as motor control centers (MCC), feeder panels and smaller distribution boards.

The **DUNES series of Distribution Boards** was designed by Al Hamad Switchgear and type tested to the latest IEC 61439 international standards at DEKRA in Europe specifically for the intense climatic and environmental conditions found in the Middle East. The DUNES series offers optimal solutions for low voltage power distribution applications up to 5000 Amps.

The **DUNES M series** of Main Distribution Boards (MDB) system was type tested with Air Circuit Breakers (ACB's), Molded Case Circuit Breakers (MCCB's) and Miniature Circuit Breakers (MCB's) from ABB which can be supplemented by communication-capable modules connecting the power distribution system to distribution control systems, industrial automation solutions or building automation system. Smart switching devices, typically ACB'S and/or MCCB'S contribute to optimizing the consumption of electricity, increased load management, safety and hence to lowering the costs of operation.

As a competent and reliable partner, we also offer customers innovative solutions from the original equipment designer and manufacturer, flexibility and comprehensive support – from the initial information, estimation preparation, through planning, configuring and ordering, project management, factory tests to commissioning and technical support, to after sales support.

Through years of experience in the region and equipment supply the Al Hamad Switchgear engineers have come to know the needs of our regional climatic challenges and equipment working environment. Based on our DUNES designs, we provide flexible low voltage distribution solutions designed, manufactured and verified in accordance with our accredited type tests.

In addition due to our strong engineering team, years of experience, extensive fabrication and powder coating paint facility we are able to offer safe customized solutions, enclosures or panels and colors to meet custom specific requirements.

Maximum safety and attractive design are combined in an efficient solution in the new generation of **DUNES M series** switchboards for consistent and easy power distribution in infrastructure projects and industrial projects as well as in the process industry up to 5000 A. The DUNES main or power distribution board series consists of standardized and proven components which can be flexibly combined as a cost-effective overall solution.

## Safe And Reliable Sub And Final Power Distribution

In all developments and applications most loads need 3-phase power or electricity which is supplied by a low-voltage system of main switchboard (power center or main distribution board) which in turn distributes the power to a number of sub-distribution boards which distributes the power to many final distribution boards closest to the load.

The **DUNES series of Distribution Boards** was designed by Al Hamad Switchgear and type tested to the latest IEC 61439 international standards at DEKRA in Europe specifically for the intense climatic and environmental conditions found in the Middle East.

### DUNES S series...

**DUNES S series of Sub Main Distribution Boards (SMDB's)** are a type tested assembly (TTA), ideally suited for secondary distribution due to the robust and standardized design, ensuring a safe and reliable sub-power distribution. The SMDB's are fully designed, developed and manufactured by Al Hamad Switchgear engineers in the UAE plus type tested at DEKRA (KEMA) Europe to the latest international standards and in addition tested for 50°C ambient temperatures in line with stringent regional utility specifications.

The **DUNES S series** of Sub Main Distribution Boards (SMDB) system was type tested in 3 complementing sizes and current ratings up to 800A based on Molded Case Circuit Breakers (MCCB's) and Miniature Circuit Breakers (MCB's) from ABB .

**The Al Hamad Dunes S series SMDB's** are usually wall mounted and can also be floor mounted, the SMDB's have been supplied for applications in Commercial and Residential developments including High-Rise Buildings and Hotels plus a number of industrial projects such as Rail, Bus and Filling Stations.



DUNES S Series - TECHNICAL DATA			
Description		Up to 800A Sub Main Distribution Board (Form II)	
Standards		TYPE TESTED ASSEMBLY (TTA) - DEKRA (Former KEMA quality, The Netherlands)	
		IEC 61439-2 (2011)	
Electrical data	Rated Voltage	Rated Insulation Voltage (Ui) Rated Voltage (Un) Rated Operational Voltage (Ue) Rated Impulse Withstand Voltage (Uimp) Rated Frequency Rated Operational Frequency (fn) MCCB Rated Impulse Withstand Voltage (Uimp)	1000V 690V 415V 6kV up to 60Hz 50Hz 8kV
	Rated Current*	Main Busbar (InA) Rated current (InC): IP43 @ Ambient Temperature Busbar Rated Short-Time Withstand Current (Icw) Busbar Rated Peak Withstand Current (Ipk)	up to 800A up to 800A 50kA (1s) / 36kA (1s) 105kA
Mechanical characteristics	Dimensions	Enclosure Height Panel Width Depth	DIN sizes Upto 1600mm 600, 800, 1000, 1200 mm 250, 300, 400 mm
	Degrees of Protection	According to IEC 60529 and IEC 61439-2 Clause 10.3	External up to IP 54
	Steel Components	Enclosure body Mounting Plate Door	1.5 / 2mm 1.5 / 2mm 1.5 / 2mm
	Surface protection/ Paint	Enclosure body Mounting Plate Door Powder coated	Zinc-Electro plate coated Zinc-Electro plate coated Zinc-Electro plate coated RAL 7032 or 7035 (Light Grey)
	Busbar system	Flat Tin Plated Busbars	Insulated
	Insulation materials	Resistance of insulating materials to abnormal heat, in conformity with IEC 61439-2, clause 10.2.3.2	Yes
	Temperature-rise	Passed in conformity with IEC 61439-2, clause 10.10.2.3.5, at normal ambient temperature and additionally at 50°C ambient.	Upto 50°C Ambient
Distribution Board	Operational Conditions	Usage/Installation Location Environmental Conditions (Micro-Environment) Relative Humidity @ 40°C Ambient Temperature (24h mean value) Altitude above sea level	Indoors Pollution Degree 3 100% 35°C up to 2000 m

\* Rated current is dependent on load configuration.

## DUNES F series...

**DUNES F series of Final Distribution Boards (FDB's)** are a type tested assembly (TTA), ideally suited for final distribution at the load, ensuring a safe and secure power supply to the load. The FDB's are fully designed, developed and manufactured by Al Hamad Switchgear engineers in the UAE plus type tested at DEKRA (KEMA) Europe to the latest international standards and in addition tested for 50°C ambient temperatures to ensure a secure power supply to loads in the harsh regional climatic conditions.

The **DUNES F series** of Final Distribution Boards (FDB) system was type tested in 2 complementing sizes and current ratings up to 250A based on Molded Case Circuit Breakers (MCCB's) and Miniature Circuit Breakers (MCB's) from ABB, the layout being either as a Pan-Type or Row-Type assembly and the number of circuit subject to Way selection.

The Al Hamad Dunes F series FDB's are wall mounted either recessed or surface mounted in line with the customer requirement.



DUNES F series - TECHNICAL DATA			
Description		Up to 250A Final Distribution Board	
Standards		TYPE TESTED ASSEMBLY (TTA) - KEMA quality, The Netherlands	IEC 61439-2 (2011)
Electrical data	Rated Voltage	Rated Insulation Voltage (Ui) Rated Operational Voltage (Ue) Rated Frequency Rated Operational Frequency (fn)	690V 415V up to 60Hz 50Hz
	Rated Current*	Main Busbar (InA) Rated current (InC): IP41 @ Ambient Temperature Busbar Rated Short-Time Withstand Current (Icw) Busbar Rated Peak Withstand Current (Ipk)	up to 250A up to 250A 17.5kA (0.2s) 35kA
Mechanical characteristics	Dimensions	Enclosure Height Panel Width Depth	DIN sizes Upto 925mm 450 mm 130 mm
	Degrees of Protection	According to IEC 60529 and IEC 61439-2 Clause 10.3	up to IP 41
	Steel Components	Enclosure body Door	1.2 mm 1.2 mm
	Surface protection/ Paint	Enclosure body Door Powder coated	Zinc-Electro plate coated Zinc-Electro plate coated RAL 7032 or 7035 (Light Grey)
	Busbar system	Flat Tin Plated Busbars	In moulded case
	Insulation materials	Resistance of insulating materials to abnormal heat, in conformity with IEC 61439-2, clause 10.2.3.2	Yes
	Temperature-rise	Passed in conformity with IEC 61439-2, clause 10.10.2.3.5, at normal ambient temperature	Normal ambient
Distribution Board	Operational Conditions	Usage/Installation Location Environmental Conditions (Micro-Environment) Relative Humidity @ 40°C Ambient Temperature (24h mean value) Altitude above sea level	Indoors Pollution Degree 3 100% 35°C up to 2000 m

\* Rated current is dependent on load configuration.

Note: For Main Distribution Board - see the Dunes M series catalogue.

“The **Dunes series of SMDB’s and FDB’s** designed in the Middle East by engineers familiar with our regional customer needs and climatic conditions ensuring a safe, reliable and available distribution of power where it is needed, at the load.”

**Al Hamad Switchgear the original equipment designer, manufacturer and verifying team that designed and type tested DUNES series to the latest IEC standards – NOT a third party panel builder!**

***“Low voltage power distribution solutions, type tested internationally but designed and manufactured locally to meet local applications.”***



# ALHAMAD

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