

Central Battery and Inverter Systems

We supply a wide range of AC/DC and AC/AC central systems

We supply a wide range of DC Central Battery Systems designed to meet customer requirements and compliant with EN50171. Central Battery Systems often have the following advantages over self-contained emergency luminaires:

The Central Battery Cubicle allows easier maintenance, monitoring, control and battery replacement when necessary.

- With the wide range of battery types and sizes available the design life of the system and the duration of discharge can be more easily tailored to suit individual applications.
- The luminaires are remote from their emergency power supply so they can be located in areas where high ambient temperatures are present.

Low Power DC Systems



Low Power Systems

Wall mounting 24V low power systems using 10-year design life valve regulated lead acid batteries. Table below shows our standard range.

Model	Rating in Watts		Cabinet style
	1 Hour version	3 Hour version	
15/24	195	86	A
24/24	313	138	B
38/24	495	218	B
48/24	620	275	C
65/24	720	373	D

Cabinet style	Height	Width	Depth
A	500 mm	400 mm	200 mm
B	600 mm	500 mm	250 mm
C	700 mm	500 mm	250 mm
D	800 mm	600 mm	250 mm

Typical Order Code: 38/24/M3/218/S - is a 24 Volt 3-Hour Maintained unit giving 218 Watts sealed lead acid batteries but without Amp or Voltmeters

High Power DC Systems

Features:

- Lockable lift off covers for easy installation and maintenance
- Separate battery and gear compartments
- Recessed instrument panel
- A wide range of optional extras
- Finish epoxy powder RAL 7032
- Maintained and Non-Maintained options
- Dual output option for system flexibility
- Flexible manufacturing facility allows maximum customer specific options



Options :

M = Maintained NM = Non Maintained
AV = Amp and Voltmeter LV = Low voltage cut-off
S = Sealed lead acid batteries

High Power Systems

Floor standing high power systems using 10-year design life valve regulated lead acid batteries. Table below shows our standard range

Voltage	Rating in Watts			Cabinet style
	1 Hour	2 Hour	3 Hour	
24	340	195	135	1
	480	280	190	1
	750	430	300	1
	1050	610	420	1
	1350	790	545	1
	1550	925	635	1
	1925	1120	780	1
50	680	390	270	1
	960	560	380	1
	1500	860	600	1
	2100	1220	840	1
	2700	1580	1090	2
	3150	1850	1270	2
	3850	2250	1560	2
	4700	2800	1960	3
110	1500	890	610	2
	2150	1250	870	2
	3350	1950	1350	2
	4800	2750	1900	3
	6100	3550	2450	3
	7150	4150	2850	4
	8700	5050	3500	4

Cabinet style	Height	Width	Depth
1	1000 mm	600 mm	440 mm
2	1250 mm	800 mm	540 mm
3	1250 mm	1000 mm	640 mm
4	1250 mm	1050 mm	700 mm

Typical Ordering Code: 50/NM3/600/AV/LV/S - is a 50 Volt, 3-Hour Non-Maintained unit supplying a 600 Watt load with Ammeter and Voltmeter and Low Voltage cut-off and sealed lead acid batteries

ORBİK's range of Static Systems are built in accordance with BS EN50171 and are divided into two categories, LPAC (low power AC) and HPAC (high power AC). The LPAC system is offered with a range of power outputs from 150VA to 1500VA with the HPAC systems ranging from 2kVA to 200kVA and all systems are Sinewave output to ensure compatibility with most lighting loads. Both system types come with Volt Free Contacts for remote monitoring and a Fire Test Input is included for integration with the building fire alarm and systems as standard and can be supplied for 1 or 3 hour duration with other autonomies available on request. The battery is monitored during the Battery Test and if the battery discharges faster than predicted then an alarm is raised. The system achieves this by comparing the actual discharge current against a typical discharge curve. This test provides an early warning of battery failure, which is a critical feature for an emergency system. Deep Battery Discharge Protection, Battery Disconnection protection and Reverse Battery Polarity Protection are also included as standard.

AC Systems



LPAC

The LPAC is a single-phase system designed smaller installations or for floor by floor installations. Load monitoring is supplied as standard and is a cost effective alternative to addressable systems. The LPAC is configured for passive standby (inverter normally off) for maximum efficiency. The inverter output is directed through 4 independent changeover relays, each of these relays has a separate mains input, which can be configured to allow a non-maintained, maintained or switched output. Each output is individually protected against short circuit by fuses effectively providing 4-way distribution to the luminaires, in addition to providing load discrimination. Each output is individually monitored for load change, earth leakage and overload.

Load Monitoring: During the Auto Test (weekly), the system monitors the load on each of the 4 output lines. If the system detects that the load on any of the 4 output lines has changed by more than 10VA (3VA for LED loads) from the load recorded during commissioning, an alarm condition will occur and details of the load change will be displayed e.g. 'Line 1- 20VA Change'.

Datalogging as described below is an optional feature for the LPAC range.

HPAC

The HPAC has been designed for larger installations and is available with single-phase input/output for systems up to 20kVA and three-phase input/output for systems ranging from 10kVA to 200kVA. Systems can be configured for passive or active standby depending on the application. HPAC systems can be supplied with static switch changeover (in place of a contactor) resulting in a no-break changeover making the HPAC suitable for high-pressure discharge lighting schemes. HPAC is specifically designed for lighting loads and has the capability to clear a load faults (up to 1/3rd output rating 'C' type MCB) whilst maintaining full load.

Datalogging is a standard feature on the HPAC range and stores records of alarms and test results in an internal non-volatile memory.

LPAC	
Cat No	Rating VA/W
LPAC10/#	150/120
LPAC20/#	300/240
LPAC30/#	450/360
LPAC40/#	600/480
LPAC50/#	750/600
LPAC60/#	950/750
LPAC80/#	1250/1000
LPAC100/#	1500/1200

- # 1 or 3 hour
- Larger systems available on request
- 3 Phase input/single phase output also available.

HPAC (Single Phase)		
Cat No	Phase Input/ Output	Rating kVA/kW
HPAC2.0/1/1/#	1/1	2.0/1.7
HPAC2.5/1/1/#	1/1	2.5/2.1
HPAC3.2/1/1/#	1/1	3.2/2.7
HPAC4.8/1/1/#	1/1	4.8/4.1
HPAC5.6/1/1/#	1/1	5.6/4.8
HPAC6.0/1/1/#	1/1	6.0/5.1
HPAC8.0/1/1/#	1/1	8.0/6.8
HPAC10/1/1/#	1/1	10.0/8.5
HPAC12/1/1/#	1/1	12.0/10.2
HPAC14/1/1/#	1/1	14.0/11.9
HPAC16/1/1/#	1/1	16.0/13.6
HPAC20/1/1/#	1/1	20.0/17.0

HPAC (Three Phase)		
Cat No	Phase Input/ Output	Rating kVA/kW
HPAC10/3/3/#	3/3	10.0/8.5
HPAC15/3/3/#	3/3	15.0/12.75
HPAC20/3/3/#	3/3	20.0/17.0
HPAC30/3/3/#	3/3	30.0/25.5
HPAC40/3/3/#	3/3	40.0/34.0
HPAC50/3/3/#	3/3	50.0/42.5
HPAC60/3/3/#	3/3	60.0/51.0
HPAC80/3/3/#	3/3	80.0/68.0
HPAC100/3/3/#	3/3	100.0/85.0
HPAC120/3/3/#	3/3	120.0/102.0
HPAC150/3/3/#	3/3	150.0/127.5
HPAC200/3/3/#	3/3	200.0/170.0

Mini-Sine

A mini static inverter emergency lighting unit for loads up to 150 watts

Orbik low power compact Mini-Sine is a Mini Static inverter system designed to operate loads up to 150W at 230V. This popular unit is available in 2 versions, either for 1 or 3 hour duration on mains failure.

A purpose designed lead acid charger provides a float voltage of 27V within a tolerance of 1% with a sustainable charge current of 5A and over current protection. The charger is short circuit and battery reversal protected with the addition of thermal shutdown protection.

Addition cooling for the charger during early charging stages is provided by a quiet chassis mounted fan.

A high efficiency soft start modified sine wave inverter provides the emergency back up making it suitable for inductive loads. Output is 230V \pm 10% 50Hz \pm 1%. It is able to provide continuous loading up to 150W and includes overload protection. The sine wave inverter includes over temperature and short circuit protection and is suitable for operation in an ambient of up to 30°C.

The front panel provides a number of indicators displaying healthy supply, power failure battery disconnect/charger failure and over a charge indicator that extinguishes when the charge current falls below 1 Amp.

Additional fault monitoring is provided via a set of volt free contacts allowing for remote monitoring of the Mini-Sine.

Mini-Sine is supplied with Lead Acid Batteries which are housed within its robust high quality steel enclosure that is supplied in a white finish.

Mini-Sine has advantages compared to self-contained systems for emergency lighting which include lower maintenance being a central unit, mains luminaires can be used with higher light outputs compared to conventional emergency luminaires which typically produce lower ballast lumen factors. Also with integral batteries the Mini Sine can operate luminaires which maybe placed in environments unsuitable for batteries due to extreme heat or cold.

Mini Sine has also been successfully utilised to operate with certain discharge luminaires. Please contact our technical department for assistance.



Ordering Codes

Cat No	Description	Batteries
MS150/1	150W 1 Hour Static Inverter Emergency Lighting Unit	2x12V 12Ah
MS150/3	150W 3 Hour Static Inverter Emergency Lighting Unit	2x12V 25Ah

Dimensions: 375mm x 440mm x 160mm

Weight: 21Kg (MS150/1 including batteries)
30Kg (MS150/3 including batteries)