

COMPACT AC/AC SYSTEM

- **Competitive 500VA static inverter system**
- **Compact - ideal for smaller installations**
- **Fully complies with BS EN 50171:2001**
- **Four separately fused outputs**
- **Digital display to clearly indicate system status**
- **EasiCheck compatible version available**

Many features normally only associated with larger units are included in the standard specification of the Menvier Compact AC/AC static inverter system. The inverter has a rated output of 500VA/400W and benefits from 4 independently fused outputs, battery deep discharge protection, automatic temperature compensation and a clear, informative system status display panel. The unit also fully complies with the latest BS EN 50171:2001 standard. An output voltage of 230V AC permits any suitable, unmodified mains luminaires to be operated at full output in emergency mode.



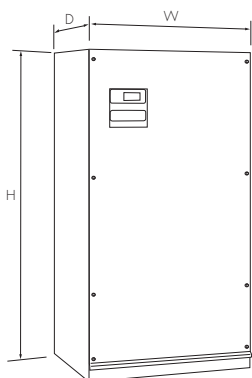
WHERE TO USE COMPACT AC/AC SYSTEM

- Schools and colleges
- Offices
- Public houses
- Restaurants
- Student accommodation blocks
- Nursing homes
- Community centres
- Medical centres
- Industrial units

SYSTEM OPERATION

- In mains healthy condition, the system charges the batteries and stores power, ready for emergency operation
- In mains healthy condition, the power to luminaires designated for emergency use is supplied from the normal mains via a by-pass contactor inside the cubicle
- In the event of a mains failure, the system provides emergency power to dedicated mains slave or designated standard mains luminaires, until mains power is restored (or for the rated duration of the system in the event of extended mains failure)
- Output voltage, from the system via the inverter, is 230V AC nominal
- Local change-over switching can be effected using an ACM1 module, controlling single or multiple luminaires (if fed from common switched mains supply)
- Suitable standard mains luminaires require no modification to operate with the static inverter (unless ACM1 change-over module is integral). All lamps in multi-lamp luminaires will be lit during mains failure, unless separate control gear is provided for individual lamps
- Sub-circuit monitoring and hold off relays can be added to the system to energise the emergency luminaires in the event of a localised mains circuit failure, if the ACM1 modules is not used
- Full details of modes of operation is shown on page 8-11
- Full details of ACM1 module is shown on page 98

DIMENSIONS



H (mm)	W (mm)	D (mm)
970	530	400

SPECIFICATION

General	
Cubicle	1.6mm zinc coated steel panels with powder coat RAL7032 Light German Grey finish. Removable cover retained by screws. Cable entries via removable top gland plate
Batteries	Valve regulated lead acid, 10 year design life
Charger and controls	
Mains supply	230V ± 10% AC single phase supply, 50 Hz
Input control	MCB to BS3871 Pt 1, or BS4752 Pt 1
Fusegear	HRC type to BS88
Terminals	DIN rail mounted near to cable entry
Transformer	Double wound with earth screen to BS171
Rectifier	Full wave controlled thyristor/diode bridge
Contactor	Standard contactors comply with requirements of BS5424
Charger	Constant voltage, current limited type with electronic solid state controller. Voltage controlled to within 2% of setting at up to 10% mains supply variations. Full recharge within 24 hours. 80% capacity within 12 hours. Current limit facility
Deep discharge protection	
Cables	Compliant with BS6231
Load circuits	4 independent fused output circuits.
Monitoring circuits	Terminals provided for connection of remote monitors and controls
Temperature compensation	Fitted as standard. Charger voltage is automatically adjusted with reference to ambient temperature to optimise charging and battery life. Pre-set for optimum performance at 20°C
Test push button	Simulates mains failure
Display panel	Composite facia with LCD display and LED indicators
Alarm warning	Audible alarm fitted internally plus common volt free contacts for remote signalling of a fault condition and terminals for remote alarm unit option
Inverter	
Output voltage	Pre-settable in the range 220-240V AC. Default setting is 230V AC. Voltage tolerance is 2% on loads of 0-100% of system rating
Frequency	50Hz. ±0.1%. Waveform: Sinusoidal
Voltage regulation	Static 2%, dynamic 6%
Isolation	1kv rms between input and output terminals
Total harmonic distortion	Typically 3% or better. Max. 10%
Power factor	Will supply loads in the 0.7 lag - 0.7 lead range
Overload	200% for 10 seconds, 125% for 20 minutes without reduction in output voltage
Start-up time	Standard 300mS. Soft start
Noise level	Effectively silent on both charge and discharge
Efficiency	83% nominal. Typically 82-85%
Protection	DC input protection. AC output fuses DC input reverse polarity protection Short circuit protection Pre-charge protection fuse
Low voltage shut down	Inverter module automatically shuts down when battery discharges to a pre-set level. Re-set is automatic following the restoration of the mains supply
Inhibit	An inhibit switch to control the inverter is fitted on the main pcb in the cubicle
Technology	Pulse width modulation with high frequency switching

COMPACT AC/AC SYSTEM

METERING AND DISPLAY PANEL

- Simple and easy to read status display
- LCD meter indicating battery voltage or current Reading mode indicated by LED:
 - Volts
 - Amps
- Indication LED's
 - Power On
 - Charge Fail
 - Battery High/Low Volts
 - Deep Discharge Protection (protection circuit has operated)
 - Inverter Running

REMOTE MOUNTED OPTIONS

- Remote Alarm Unit
- Sub Circuit Monitor
- Hold Off Relay Monitor
- ACMI's

Full details of these options can be found on page 28

CATALOGUE NUMBER - Compact Static Inverter

System Reference	Inverter Output Rating (VA)	Output Watts	Standby Time	Weight (kg)
AC500VA/M3	500	400	3 hours	135.0



DESIGN & INSTALLATION NOTES

- To ensure the system is suitably rated, list the luminaires to be used, with their characteristics, to ensure the wattage and VA power rating of the inverter is not exceeded
- Using fluorescent luminaires with poor power factor will increase the VA load
- Note - BS EN 60598-2-22 prohibits the use of glow starters in fluorescent luminaires used for emergency lighting.
- A full set of Installation, Operating and Maintenance Instructions is supplied with each system to assist the installer carry out the work efficiently and safely
- Adequate ventilation has been provided in the cubicle to allow a safe dispersal of gases but it is important to remember that when choosing where to locate systems, particularly those with large batteries, attention must be paid to ensuring a build-up of potentially explosive gases is avoided
- Please refer to the System Design section for details of ventilation calculations
- Warning notices should be displayed on entry doors to battery rooms:
BATTERY ROOM. EXTINGUISH ALL NAKED LIGHTS BEFORE ENTERING. NO SMOKING