RDF
Lighting-Power-Control

BPC ENERGY

PowerPro™ ELMOD Range
Single or Three Phase Modular Inverter

The PowerPro EL ranges are Static Inverter Systems designed for RDF and manufactured by BPC in the UK specifically for emergency lighting applications according to European BS EN50171, EN50272-2, BS 5266 and ICEL 1009.

» Escape route lighting

» Open area lighting

» High risk task area lighting

Features

- 24kVA Power Cabinet, built up of 4kVA Power Modules
- 1/1 & 3/1 Configuration via display
- Hot-Swap Power Module
- True sinewave output
- Output configurable to 3 modes of operation (Changeover/Inverter/Non-Maintained)
- No break Load Transfer for use with Discharge Lamps
- Deep Discharge Protection
- Reverse Battery Polarity Protection
- Front access for all maintenance and repair
- Each module automatically equally shares the input and output current, all inverter modules share the batteries
- Battery Short Circuit Protection
- Battery discharge management, auto-transfer between floating and equal charging, temperature compensation
- Multiple communication options RS232, RS485, dry contacts, TCP/IP Adapter for local and remote communication

RDF Lighting Power and Control.
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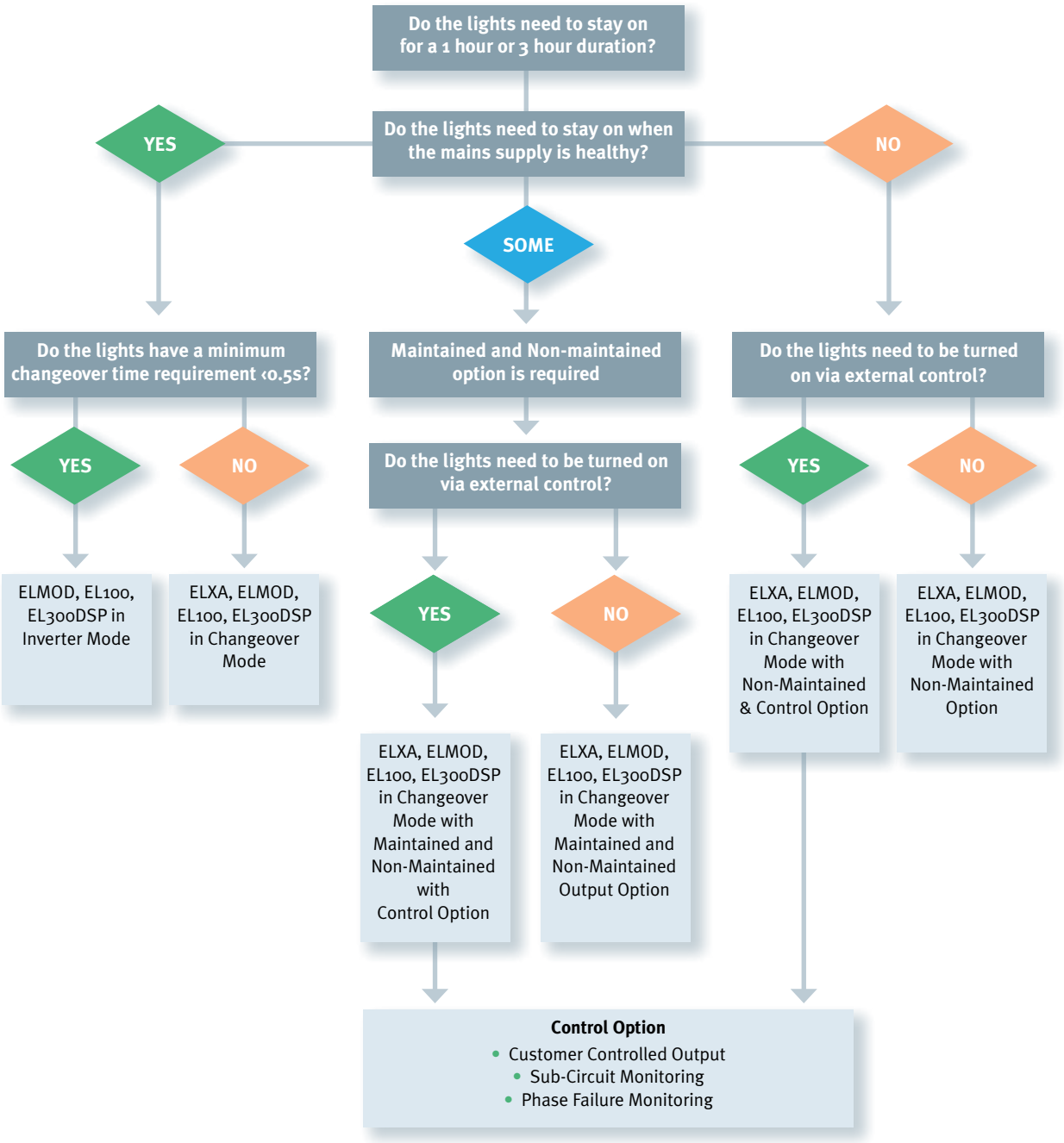
PowerPro EL Considerations

Choosing the right Static Inverter to support your Emergency Lighting System will depend on a number of key factors; it is key to ensure the right system is provided for the right type of installation and this can depend on a variety of considerations. Below is a quick guide to understanding your requirements.



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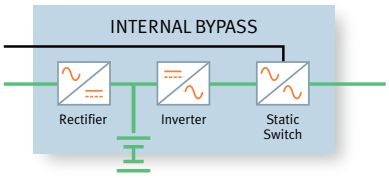
PowerPro EL System Operation Descriptions

With multiple ways to control lights within an application, the below descriptions and drawings show the various ways the lighting load may be controlled.

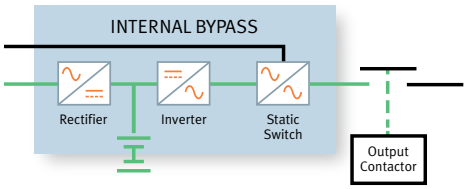
MAINTAINED OUTPUT

Static Inverter provides continuous power to the emergency luminaires during normal operation and during power failure.



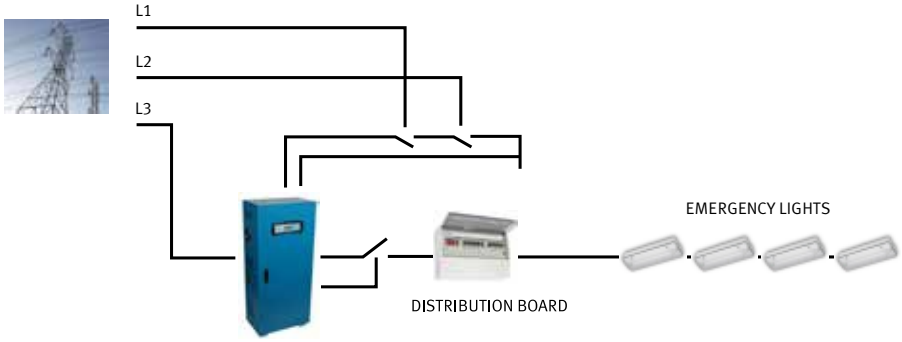
NON-MAINTAINED OUTPUT

Static Inverter output and emergency luminaires are off during normal operation. During power failure the Static Inverter output is activated and the luminaires turn on.



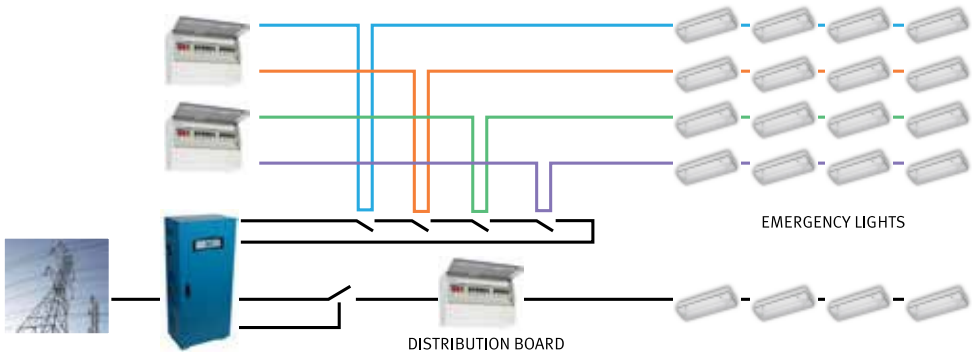
PHASE FAILURE MONITORING

- During normal operation emergency lights non-maintained
- Emergency lights operate during mains failure
- Emergency lights operate if any other incoming phase fails



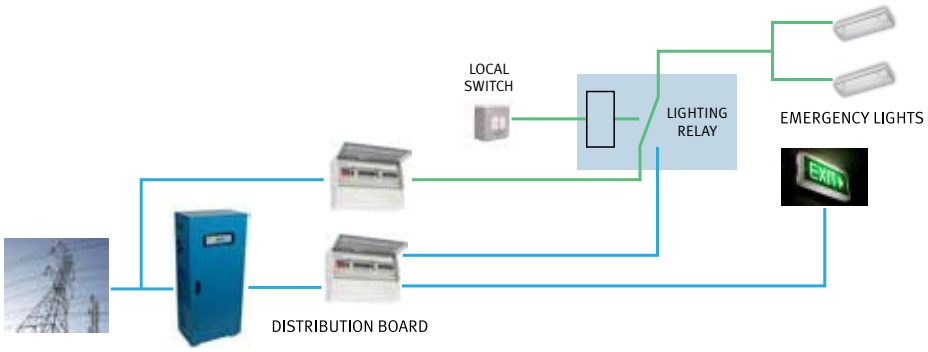
SUB-CIRCUIT MONITORING

- During normal operation emergency lights non-maintained
- Emergency lights operate during mains failure
- Emergency lights operate if any sub-circuit breaker on non-emergency lighting trips



CUSTOMER CONTROLLED OUTPUT

- During normal operation emergency lights switch maintained
- Emergency lights operate during mains failure
- Some lighting circuits left as maintained
- Emergency lights operate if local switch is OFF during mains failure



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PowerPro ELMOD Single & Three Phase Input & Single Phase Output Static Inverter

Technical Specification

MODEL	EL MOD/4					
Power Rating kVA / kW	4 / 3.6					
INPUT						
Nominal Voltage	220 / 230 / 240 Vac (1Ph + N + PE)					
Voltage Range	±25%					
Frequency Range	50 Hz ±10%, 60 Hz ±10%					
OUTPUT						
Nominal Voltage	220 / 230 / 240 Vac					
AC Voltage Regulation	±1%					
Frequency Range	±4%, (±0.2% battery supply)					
Power Factor	0.9					
Crest Factor	3:1					
Harmonic Distortion (Linear Load)	‹1%					
Transfer Time	‹0 ms					
Waveform	Sinewave					
Load Circuits	1					
Overload	120% continuous, 150% for 10mins, 175% for 1min					
Mode Operation	Changeover, Inverter and Non-Maintained selectable					
Maintained / Non-Maintained	Maintained and Non-Maintained (Standard)					
BATTERY						
Battery Type	VRLA AGM Maintenance Free Sealed Lead Acid Batteries (other versions optional)					
Internal / External	3 hour external					
End of Life to En50171	Included					
Charge Battery to 80% within 12 hours	Included					
Deep Discharge Protection	Included					
DC Earth Leakage	Optional					
LIGHTING CONTROL INTERFACE						
External Mains Fail Test Connection	Included					
Non-Maintained Mode Connection**	Optional					
FAR Connection **	Optional					
External Phase Fail Connection **	Optional					
24 Vdc Supply for External Contactor	Optional					
KNX / DALI / NODE Interface	Optional					
	Key switch with 10min / 1hr / 3hr time delay included					
Volt Free Contacts	3					
GENERAL						
Operating Temperature	-5°C to 40°C / ‹1000m above sea level					
Operating Humidity	≤93% non-condensing					
Acoustic Noise	‹55 dB @ 1 metre					
Protection Degree	IP21					
Dimensions (mm) WxDxH	510 x 850 x 1340					
Net Weight (kgs) (Excluding Batteries)	107					

**only applicable if Non-Maintained Contactor Option fitted

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Single and Three Phase Static Inverters

Options and Accessories

- **Remote Alarm Panel** – External panel for monitoring the Static Inverter.

- **Output Distribution** – Internal distribution of the lighting circuits is standard, multiple output options available including single output and inrush current protection from LED lighting loads.
- **Maintenance Bypass Panel** – to provide flexibility during maintenance, service and/or repairs to the equipment. The bypass can ensure that the system is isolated from the critical load whilst work can be carried out.

- **Integral Fire Suppression** - Temperature sensitive fast acting integral fire suppression aerosol system to suppress or extinguish any fire for internal component protection and to extend system operation for critical loads during building escape due to fire
- **Phase Failure Monitoring** – Factory fitted relays to ensure that the system monitors all three phases. Failure of any phase activates the emergency lights.
- **Sub-Circuit Monitoring** – Factory fitted relays monitor external lighting circuits, if any of the external circuits fail the emergency lights are activated.
- **Lighting Control Interface** – Allows communication via a node/module to the testing and monitoring systems.

- **Fire Alarm Monitoring** – An alarm condition from the fire alarm panel will activate the emergency lights.
- **Night-Watchman Switch** – Enables switching of the emergency lights from a remote location, fail safe in an emergency condition.
- **Light Switch Control Relay** – Enables individual circuits to be controlled externally, fail safe in an emergency condition.
- **Timer Control** – Solar dials or 24hr timers can be used to activate the non-maintained contactor.
- **Earth Fault Alarm** – Monitoring of battery positive and negative for earth leakage.

- **Plinth** – For sites that are using SWA cables, a plinth may be required to raise the unit off the floor and allow the cables to be easily installed.

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