

# Varmatic Lightmaster

## TECHNICAL SPECIFICATION

The idea behind the Varmatic Lightmaster is simplicity itself. The amount of power actually required to supply most forms of lighting is **less** than what is actually drawn by the lights themselves.

The Varmatic Lightmaster is designed to bridge this gap, and deliver significant energy cost savings on your lighting.

The Varmatic Lightmaster has been developed after extensive research by our R&D department and incorporates specially designed electronic and electrical components which provide the optimum saving possible.

### Standard Units

- Voltage:** 240V (SPN) - Single Phase and 415V (TPN) - Three Phase
- Temperature:** Designed for typical switchroom ambients (0°C - 35°C)  
The units are either fitted with louvres or forced air ventilation
- Safety features:** Automatic Bypass Facility  
Protected Inputs  
Status Indication  
Key Operable Selector Switching  
Key Operable Doors  
Isolating Device
- Options:** We can offer a number of options to enhance our standard units:
- Jointing kits (for installations)
  - Omission of multi-meter (kWh) system on the three phase unit
  - Remote by-pass switching override
  - Remote switching of Varmatic Lightmaster
  - Option of MCCB protection instead of fused isolator
  - Outgoing protected ways
  - Time clock with automatic switching
  - Special look enclosure (and paint specification) design
  - Distribution board included with Varmatic Lightmaster
  - Sectionalised contactor switching of load
  - Various auxiliary controls: timers, proximity detection, etc
  - Special input (i.e. 110V ac, etc)
  - On-site supervision or installation available
- Service:** If any of these options are of interest,  
Detailed recommendations after "onsite" surveys  
After sales back-up and service  
Installation service available



VLM003

## PRINCIPLES BEHIND OPERATION OF THE VARMATIC LIGHTMASTER

The theory behind the system is that lighting takes more power than it actually needs. The Varmatic Lightmaster uses electronic devices in order to monitor and automatically adjust this power, and provide a stable and optimum sustainable output.

During initial tests, it was found that in common types of lighting the actual kilowatt input to the whole system could be significantly reduced, whilst still maintaining high quality light output. A combination of the following factors were thought to be responsible for this phenomenon:

- Ballast control of lighting circuits
- Increase the light output per watt of power input
- Reduction in wasted losses in the ballast circuit
- Efficiency against power input fluctuations / power efficiency improvements of the "regulator circuit"
- Manufacturing tolerances (lighting)
- Unique monitoring and adjustment control of our "regulator circuit" within the Varmatic Lightmaster
- The basic principle behind ballasts is that they are non-linear in response to varying power inputs. What was found was that upon initial stabilisation of the ballast itself, that a controlled reduction in power will directly result in a reduction in ballast losses / watts, whilst still maintaining lamp stability. It is these reductions in losses that provide the majority of the savings.

All of this is achieved without the need to either alter or interfere with the sine wave of the ac supply (as the sinusoidal waveform of the lighting load is unaffected). This is why we also state that our system is harmonically neutral and no "chopping" of the waveform takes place.

Below are some additional points of interest about the Varmatic Lightmaster:

- Extends lamp life
- Reduces loading on cables and switchgear - leading to reduced chance of damage or fire as a result of overheating
- Fail safe protected
- Transparent to user
- All energy saving claims can be substantiated
- Makes best use of potential energy savings of existing lighting circuits - although it is true to say that the newer style of lighting yields better results
- Continuity of load provided by closed loop technology and bypass switching
- Long life expectancy of product
- Wide range of lighting applications - from car parks, shopping malls, factories to warehouses - the Varmatic Lightmaster can be used in all
- Optional extras can be provided - such as distribution circuits, timing or other controls; special metering or indication; specially designed units for specialised applications
- Installation kits can be provided for ease of fitting
- Light output changes whilst using the Varmatic Lightmaster are imperceptible to the human eye
- During its short life (only launched in February 2001) the Varmatic Lightmaster has attracted huge interest from a wide range of companies in the market place such as local government, heavy industry, retail, and leisure outlets.
- Typical paybacks of between 12-24 months - making this product one of the wisest investments your company will ever make
- No need to re-wire your lighting circuits, as all interconnections are done at the distribution boards
- On board metering (optional on the single phase units) providing a method of ongoing savings
- Built to latest British and European standards.



This document is the property  
of SDC Industries Ltd.  
Unauthorised reproduction of  
the content of this document  
is not permitted.