

# VARMATIC LIGHTMASTER – VOLTAGE OPTIMISATION FOR LIGHTS

## CASE STUDY

### THE ENGINEERING WORKS

#### BACKGROUND

SDC Industries installed the Varmatic LightMaster in an engineering works in the South of Scotland. The company were experiencing extremely high electricity bills, and required a solution to the problem.

We had completed a successful electrical distribution project in the past for this particular organisation, therefore, they knew they SDC Industries were a professional and highly experienced company in the electrical field.

The client was advised that SDC Industries manufacture and install voltage optimisation equipment for lighting only. The device would be fitted to the lighting distribution board, and could make savings of up to 30% on their annual lighting costs.

#### LIGHTING SURVEY

An SDC Industries Sales Engineer visited the site to carry out a survey of the lighting at the engineering plant. The factory is fitted with fluorescent lighting, which is in use 24 hours a day, 7 days a week, 50 weeks per year. We advised that a 3 Phase, 60KVA Varmatic LightMaster would be the preferable size to make optimum savings on this particular lighting load.

<b>Load</b>	3 Phase, 50KW
<b>No. of Hours in Use</b>	24 hrs/day, 7 days/week, 50 wks/year
<b>Cost per KWh</b>	6.5p + 0.456p CCL = 6.96p

#### **PRIOR TO INSTALLATION OF THE VARMATIC LIGHTMASTER**

##### **No. of KWh used per Annum :**

50KW x 24 Hrs/Day = 1,200  
x 7 Days/Week = 8,400  
x 50 Weeks/Year = 420,000

**Annual Usage = 420,000KWh**

**COST PER ANNUM = 420,000KWh x 6.96p per KWh ÷ 100 = £29,232.00**



## AFTER INSTALLATION OF THE VARMATIC LIGHTMASTER (30% SAVING)

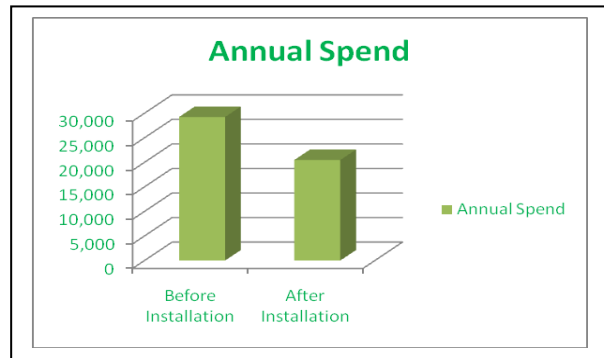
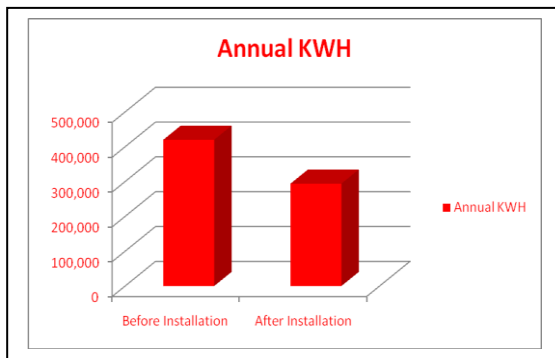
### No. of KWh used per Annum :

50KW Load – 30%	=	35KW
35KW x 24 Hrs/Day	=	840
x 7 Days/Week	=	5,880
x 50 Weeks/Year	=	294,000

Annual Usage is = 294,000KWh

COST PER ANNUM = 294,000 x 6.96p ÷ 100 = £20,462.40

**SAVING PER ANNUM (30%) : £29,232.00 - £20,462.00 = £8,770.00**



## **PAYBACK**

**SUPPLY PRICE OF 60KVA VARMATIC LIGHTMASTER ÷ FINANCIAL SAVING**

**£4,960.00 ÷ £8,770.00**

**= 0.56 YEARS**

## **ANNUAL KWH SAVINGS**

Savings on mains electricity x 0.43

50KW – 35KW (30%) = 15KWH

x 24 = 360KWH

x 7 = 2,520KWH

x 50 = 126,000KWH

## **ANNUAL CARBON/CO2 SAVINGS (KGS)**

= 126,000 x 0.43

= 54,180KG CO2/ANNUM

÷ 3.67 = 14,763KG CARBON/ANNUM

## **ANNUAL CARBON/CO2 SAVINGS (TONNES)**

= 54.18 TONNES CO2/ANNUM

= 14.763 TONNES CARBON/ANNUM



**INDUSTRIES**

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