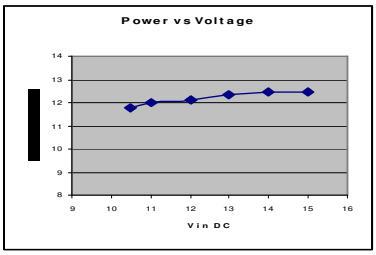
MED Electronics Low Voltage Fluorescents

BALLAST DATA SHEET

Part Numbers: **12VDC7WB thro 12VDC18WB**

Features

Battery Voltage DC Supply 10.5V to 14.7V.
Ballast for Low Wattage Lamps 7W to 18W.
HF operation, 25kHz.
Low loss, high efficiency better than η = 85%
Reverse polarity and lamp missing protection.
Short circuit current limiting.
Input-output isolation 2500VAC
Good input power regulation (see fig 1) ------→



Absolute Maximum Ratings

Parameter	All Ballasts	Unit
Vin DC	16	V
Reverse voltage	16	V
Operating ambient temperature max	50	℃

Recommended Operating Conditions

Parameter	Min	Max	Unit
Vin DC	10.5	14.7	V
Ta, free air temperature	-10	50	℃

Electrical Characteristics

Parameter	Test Condition	Ta	7W	9W	11W	13W	16W	18W
Iin Input Current	12VDC	25℃	0.6A	0.77A	0.94A	1.11A	1.36A	1.5A
Io Output Current RMS	12VDC	25℃	0.127A	0.15A	0.169A	0.185A	0.195A	0.198A
Operating power loss η >= 85%	12VDC	25℃	1.05W	1.35W	1.65W	1.95W	2.4W	2.7W
Typical variation of input power for 11W Ballast versus Input Voltage (see Fig 1)	11W Lamp at Ta 25℃	Pin Vin	10.7W 10.5V	11W 11V	11.16W 12V	11.44W 13V	11.7W 15V	11.94W 16V
Operating Frequency	12VDC	25℃	All Ballasts operate between 23kHz and 26kHz					

Parameter	Test Condition	Ta	Value
Reverse polarity input surge current. Protected by self-resetting polymer fuse	12VDC	25℃	50A peak decays rapidly to quiescent value
Reverse polarity quiescent current	12VDC	25℃	0.1A
Short circuit load, input current	12VDC	25℃	0.15A
Open circuit load, input current	12VDC	25℃	0.25A

All ballasts have same dimensions **96Lx40Wx25H** mm

Using Low Voltage Fluorescents from MED Electronics

LVF Ballast Part No 12VDC7WB thro 12VDC18WB

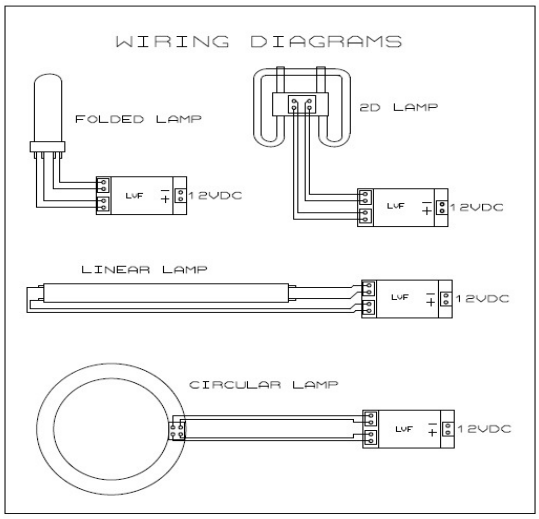
The ballasts are designed for use with fluorescent lamps rated from 7W to 18W, operating from a **12VDC** battery supply, for dry and internal use only. Should you require high humidity or marine environment application, please consult with ***MED Electronics*** for advice. Moderately damp atmospheres can be accommodated by the use of a conformal coating on the PCB and its components**.** **Please enquire**. The ballast will supply nearly **Constant Power** to the lamp during falling battery voltage. The ballast has a 4-pin connection to the lamp. This is to ensure that the heaters in the lamp are energised during normal operation. Best performance will be obtained when the lamp connecting wires are 30cm long or less and preferably twisted together. Long cable runs should be on the battery side of the wiring scheme and suitably rated for the current involved. For **12VDC** systems twin 2.5mm^2 cable is recommended. If single wires are used for the DC supply they must be twisted together. For multiple ballasts from the same DC supply, a DC bus, or DC ring main is essential of at least 6mm^2.
To maintain proper lamp life the heaters should always be connected. Only the rated lamp wattage marked on the ballast should be used. You should not see significant reduction in light output as the battery voltage falls. Ballasts are made in UK. Not imported

Absolute maximum ratings

Supply voltage 16VDC. Start-up minimum ambient temperature, at **12VDC**, -10°C.
Maximum ambient temperature 50°C. Operation beyond this may cause permanent damage to the ballast.
Nominal supply voltage is 10.5 to 14.7VDC. 11W Nominal input current **0.94 Amp at 12VDC**.
When the battery voltage falls below 10.5V the ballast should be switched off until the battery is recharged to prevent damage to the battery. **Never** use an AC supply.
The ballast must be allowed to have free air circulation to prevent overheating. All electronics apparatus generates waste heat which must be dissipated. The lamp itself will run hot during normal operation.
The ballasts are protected against accidental reversal of the **12VDC** supply, lamp out or broken, but it is inadvisable to leave ballasts in either of these states for long periods of time. Any fault should be remedied without delay.

DO NOT under any circumstances connect the battery to any of the lamp terminals on the ballast. **NEVER** connect the ballast to an **AC supply**, 115VAC or 230VAC mains voltage.

The ballast will be destroyed instantly and may become hazardous.



Please refer to web page http://www.med-electronics.co.uk/LVF/ for up to date ballast prices and shipping cost.

Manufactured in UK for World wide delivery. LVF, Low Voltage Fluorescents. Low Voltage DC input Electronic Fluorescent Ballasts, 12V Ballast Inverter, DC Fluorescent Ballast Inverters for Battery Operation. High efficiency, low loss. The ballast converts 12V DC into high voltage, high frequency AC to strike and run the lamp. Applications in solar power, renewable energy, boats and vehicles, camping, domestic, emergency lighting and portable light sources. Ballasts may also have applications in UV lighting for pathogen control, illumination of fluorescent minerals in rocks. Low Voltage Safety lighting for aquariums. Re-usable ballast, only the lamp needs to be changed at the end of its life. Ballasts also have reverse polarity protection. Even when battery is nearly flat ***Constant Power*** will be delivered to the lamp. 12V DC Fluorescents, fluorescent. A 17Ahr battery will provide 11W fluorescent light for about 16 hours. Special requirements catered for, enquire about larger volume discounts. One off prototypes a speciality from our design department. Ballasts have protection built in for Lamp Out or Broken. The ballasts are ideal for any configuration of lamp of the same wattage power. Any 7W 9W 11W 13W 16W & 18W lamp can be used with these ballasts of any shape in the same power range. All lamp colour temperatures from 2700K to 6000K. Lamp life is maintained by running lamps at correct wattage power rating. Lamps which are under run will only last a few weeks. If in doubt please enquire at med2003@ntlworld.com

All ballasts are 96x40x25mm

Published by MED Electronics. Provisional Data Issue2, 140710. 41 Ridgeway Lincoln UK LN2 2TL 01522 826904