

# EDB1000

## Electronic Digital Ballast 1000W DSP controlled



Electronic digital ballast suitable for 1000W HID lamps

### Features:

- Built-in PFC (pf>0.99, 100-260 Vac full range).
- EMI filter inside.
- Compact shape, low weight.
- DSP controlled.
- Stand alone controlled and programmed by DMX, external interface or Delectra Remoto.
- Flicker free output.
- On/off switch.
- Dimmer and strobo input (PWM controlled).
- Open and short-circuit protected, self-resetting over temperature trip.
- Forced cooling auxiliary fan outputs with DSP controlled step.
- External ignitor required.
- CE standards compliant.
- UL 1029 standards compliant.

**Electrical features:**

| <b>MAIN input:</b>                    | <b>Min</b>         | <b>Typical</b> | <b>Max</b>        |      |
|---------------------------------------|--------------------|----------------|-------------------|------|
| Main voltage                          | 100                | -              | 260               | Vrms |
| Power factor                          | -                  | 0.99           | -                 |      |
| Input line current @ Pout=1000W       | 4.4<br>(@Vin=260V) | 5              | 12<br>(@Vin=100V) | Arms |
|                                       |                    |                |                   |      |
| <b>LAMP output:</b>                   |                    |                |                   |      |
| Maximum lamp power                    | -3.5%              | 1000           | +3.5%             | W    |
| Minimum power                         | -3.5%              | 350            | +3.5%             | W    |
| Maximum start-up lamp current         | 13                 | 14             | 15                | A    |
| Square wave frequency                 | 2%                 | 170            | 2%                | Hz   |
| Open circuit voltage (with ignitor)   | 330                | -              | 370               | V    |
|                                       |                    |                |                   |      |
| <b>FAN outputs:</b>                   |                    |                |                   |      |
| Voltage (@ 2.5W fan load)             | 22                 | 24             | 27                | V    |
| Voltage (@ no load)                   | 30                 | 33             | 38                | V    |
| Maximum power (in total for 2 fans)   | -                  | -              | 7                 | W    |
|                                       |                    |                |                   |      |
| Operating and storage temperature (¹) | -30                | -              | 45(**)            | ° C  |
|                                       |                    |                |                   |      |
| Fuse request (external)               | T 8A @Vin=230V     | -              | T 20A @Vin=100V   |      |

(¹) Forced air cooling required (see Page 5 for the details).

## Electronic Digital Ballast Communication:

To control or monitor the electronic ballast, an optional display board is required.

With display board you can change:

- Lamp power (dimmer function).
- Supply lamp frequency.
- DMX address.

Or you can monitor:

- Internal Heatsink temperature.
- Lamp power, voltage and current.
- Lamp life.
- Ballast life.
- Time missing before lamp ignition (in case of hot lamp).

On request:

- 485 BUS for internal fixture communication.
- Other customized functions/settings for lamp.

## Lamp specification:

|              | Min | Typical | Max  |      |
|--------------|-----|---------|------|------|
| Lamp voltage | -   | -       | 150  | Vrms |
| Lamp current | -   | -       | 14.5 | Arms |

When the lamp current reaches the maximum permissible value, the ballast behaves as a constant current source.

For very low output voltage a fault condition is detected (short-circuit).

When the lamp voltage exceeds the maximum permissible value a fault condition is detected (over voltage).

**DMX Chart:**

| DMX channel | Function    | Type of control | Effect                             | Range (decimal) | Range (percentage) |
|-------------|-------------|-----------------|------------------------------------|-----------------|--------------------|
| 1           | Lamp ON/OFF | step            | Lamp OFF                           | 0 ÷ 128         | 0 ÷ 50             |
|             |             | step            | Lamp ON                            | 129 ÷ 255       | 51 ÷ 100           |
| 2           | Dimmer      | step            | No effect                          | 0 ÷ 4           | 0 ÷ 1              |
|             |             | proportional    | Dimmer from max to half power      | 5 ÷ 255         | 2 ÷ 100            |
| 3           | Strobe      | step            | No effect                          | 0 ÷ 4           | 0 ÷ 1              |
|             |             | proportional    | Strobe frequency from 6.5 to 35 Hz | 5 ÷ 255         | 2 ÷ 100            |
| 4           | Fade        | step            | No effect                          | 0 ÷ 4           | 0 ÷ 1              |
|             |             | proportional    | Fade time from 13 s to 120 ms      | 5 ÷ 255         | 2 ÷ 100            |

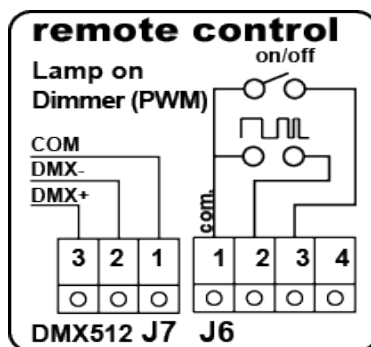
## Cooling:

Optimum cooling performance will be guaranteed using 24 Vdc ( 60 x 60 mm ) fans with minimum airflow 23.5 CFM ( 0.67 CMM ).

Its position should be like the photo below. The correct airflow direction is indicated on the label. Thanks to the ballast shape you can put the fan very close to it.



## Wiring of the remote control:

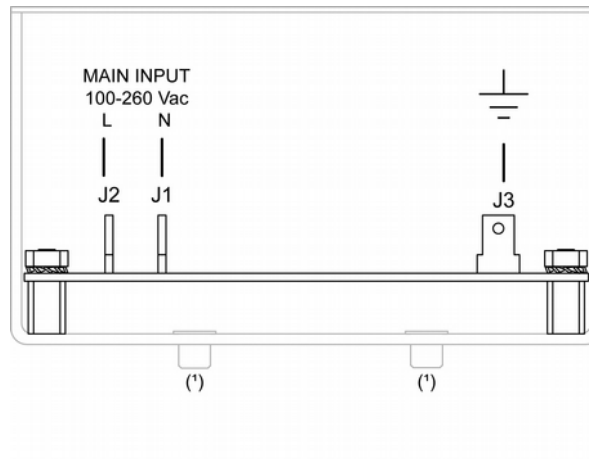


Dimmer input frequency from 10 KHz to 20 KHz, 5 V - 5 mA open collector driven.

Warning: For reliable operation do not drive dimmer input duty cycle below 40%.

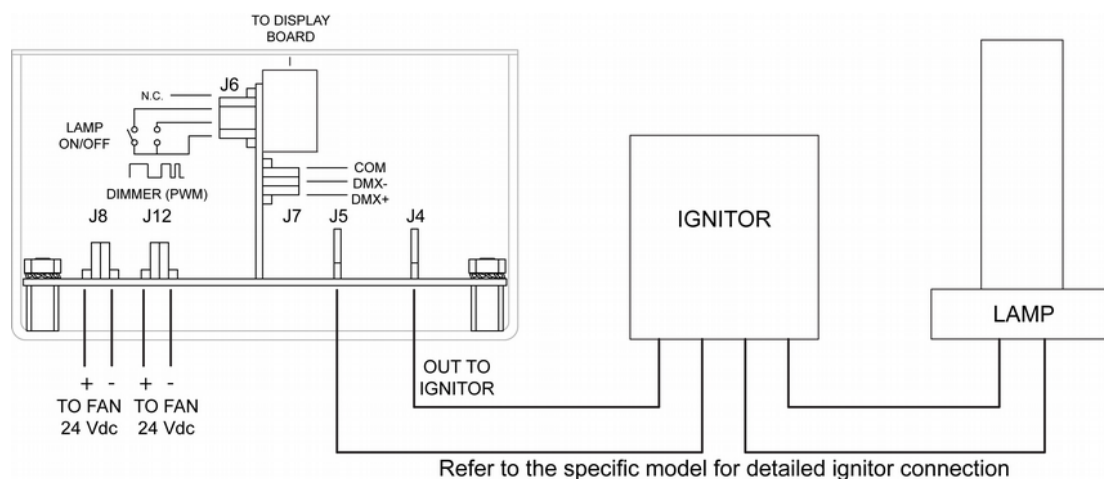
## Wiring of the ballast:

### Rear view:



(1) Optional

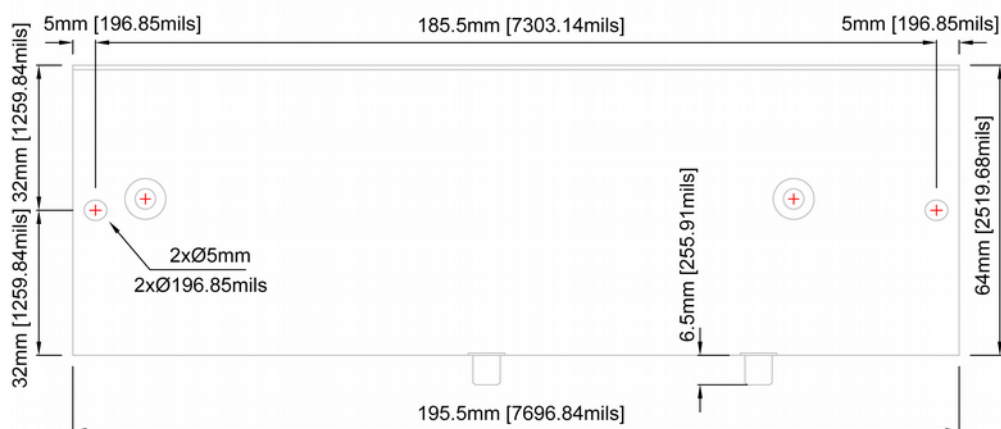
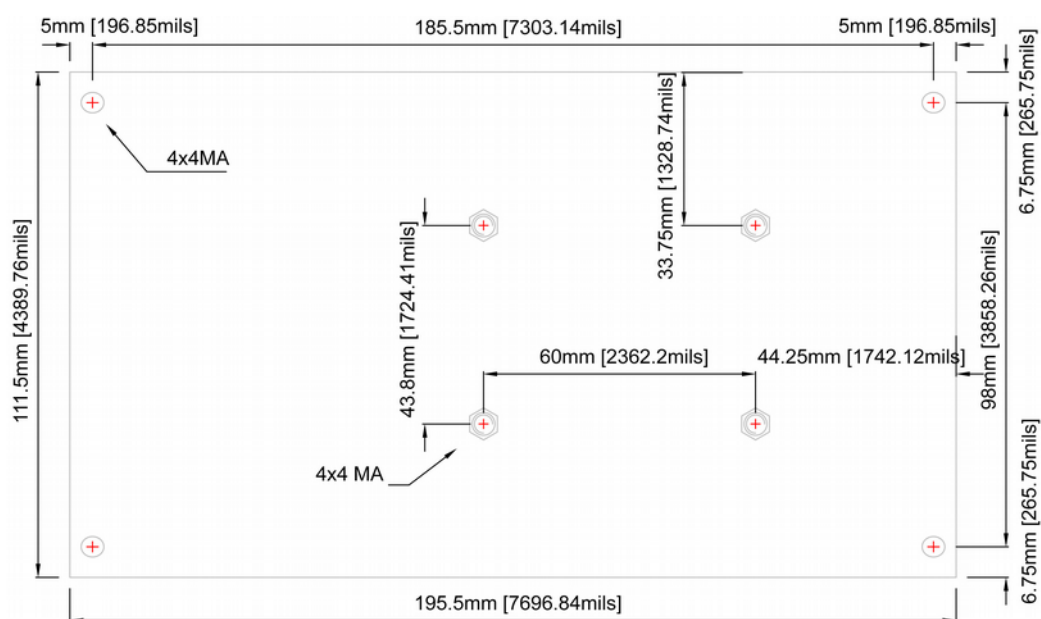
### Front view:



## Dimensions:

|                         |                    |      |
|-------------------------|--------------------|------|
| Height / Length / Width | 2638 / 7677 / 4449 | mils |
| Height / Length / Width | 67 / 195 / 113     | mm   |

## Fixing points:

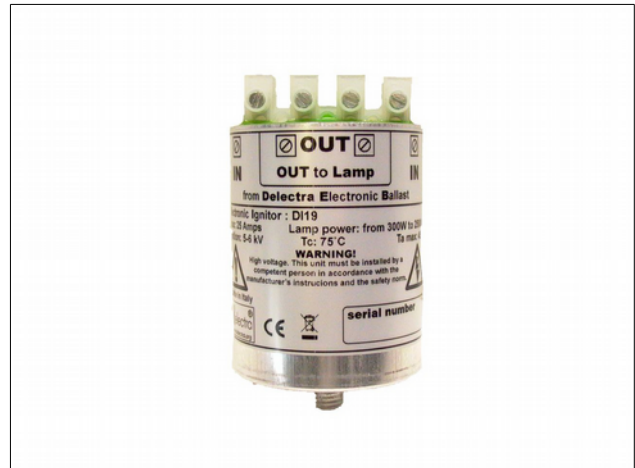


## Ignitor:

Recommended ignitor are: DI18, DI19.



Ignitor DI18 (6-7 kV)



Ignitor DI19 (5-6 kV)

## Warning:

The ignitor produces starting voltage in the order of several kV and electromagnetic radiation interference which are hazardous to sensitive instrumentation.

The electronic ballast must never be installed or operate in an explosive or volatile atmosphere. Never use the ballast or ignitor near flammable gases or liquids.

Do not touch any conductive parts during operation.

Any installation or repair is only permitted by qualified personnel.

No potential isolation is provided between line input and output. Accidentally grounding of an output terminal by direct contact or arcing to GND can damage the unit (no warranty replacement).

## Contacts:

For further information about technology, delivery terms conditions and price please contact:  
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Technical data can change without prior notice.