

EDB2000

Electronic Digital Ballast 2000W DSP controlled



Electronic digital ballast suitable for 2000W HID lamps

Features:

- Built-in PFC (pf>0.99, 180-260 Vac).
- 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-controlling over temperature trip.
- Forced cooling auxiliary fan outputs with DSP controlled step.
- External ignitor required.
- CE standards compliant.
- UL 1029 standards compliant.

Electrical features:

MAIN input:	Min	Typical	Max	
Main voltage	180	230	260	Vrms
Power factor	-	0.99	-	
Input line current @ Pout=2000W	8.6 (@Vin=260V)	9.7	12.5 (@Vin=180V)	Arms
LAMP output:				
Maximum lamp power	-5%	2000	+5%	W
Minimum power	-3.5%	350	+3.5%	W
Maximum start-up lamp current	19	21	22	A
Square wave frequency	2%	170	2%	Hz
Open circuit voltage (with ignitor)	380	-	400	V
FAN outputs:				
Voltage regulation	from 12	-	to 27	V
Maximum power (in total for 2 fans)	-	-	8	W
Operating and storage temperature ⁽¹⁾	-30	-	+45	° C
Power derating temperature	+45	-	+55	° C
Fuse request (external)	T 20A @Vin=230V			A

(¹) Forced air cooling required (see page 5 for 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	-	-	180	Vrms
Lamp current	-	-	21	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 (80 x 80 mm) fans with minimum airflow 51.5 CFM and static pressure 0.35 inch H₂O / 87.7 Pa.

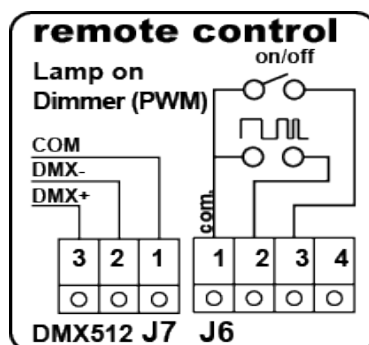
Recommended fan: SANYO DENKI SAN ACE 80 9GA0824P4H001

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:

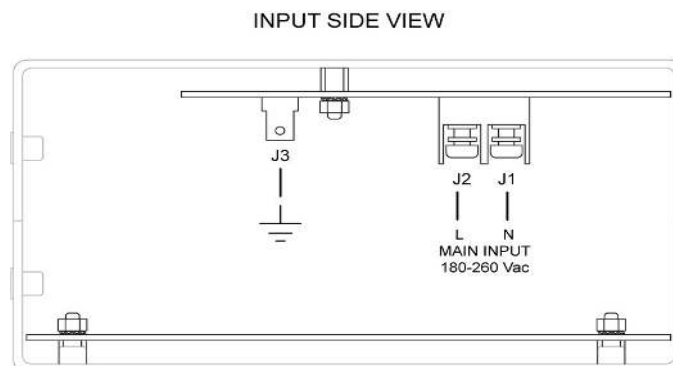


Dimmer input frequency from 10 KHz to 20 KHz, 5 V - 5 mA open collector driven.

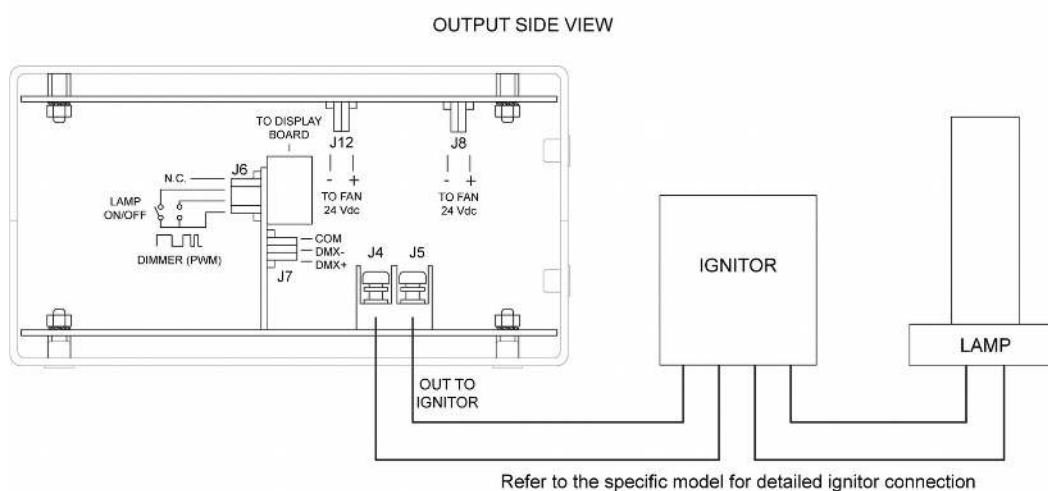
Warning: For reliable operation do not drive dimmer input duty cycle below 40%.

Wiring of the ballast:

Right side view:



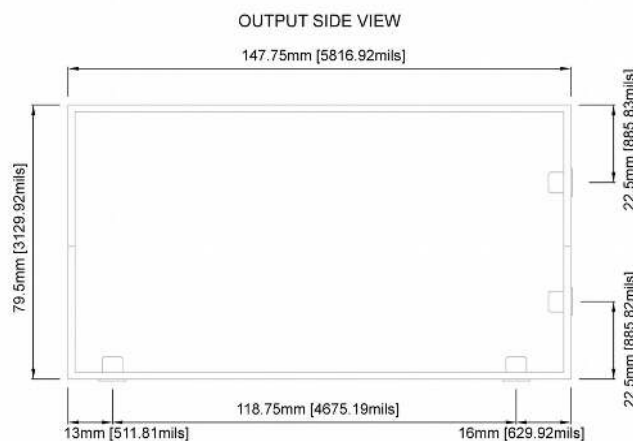
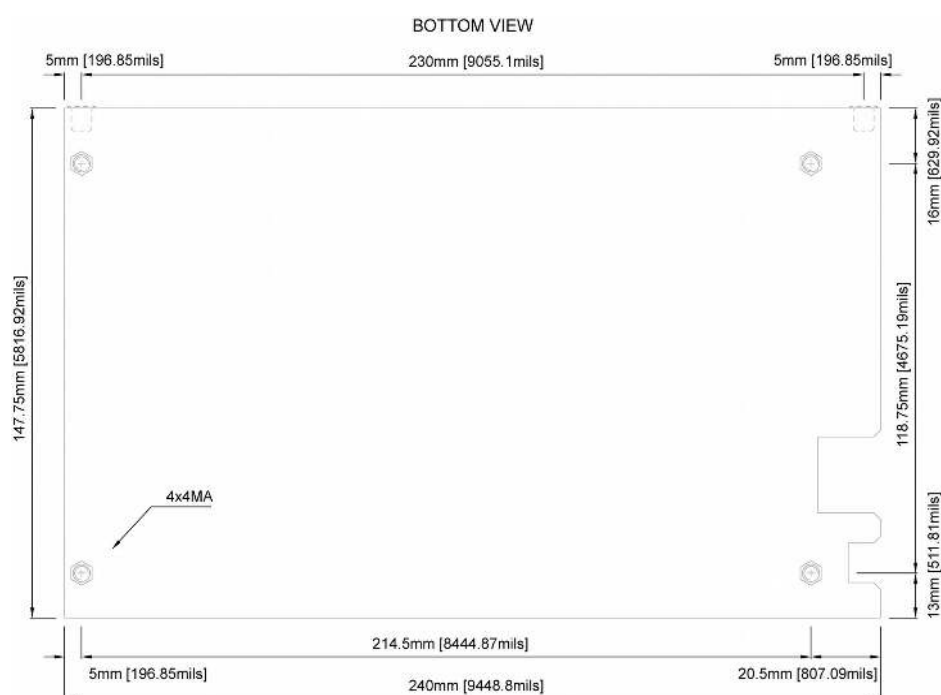
Left side view:



Dimensions:

Height / Length / Width	3130 / 9449 / 5827	mils
Height / Length / Width	79.5 / 240 / 148	mm

Fixing points:



Ignitor:

Recommended ignitor are: DI19, DI35.



Ignitor DI19 (5-6 kV)
(Cold restrike)



Ignitor DI35 (35-40 kV)(¹)
(Hot restrike)

(¹) For properly working with hot restrike ignitor (DI35), is necessary to insert an additional common mode filter at the ballast output wires, formed by 4 turns on a toroid like the Laird mod. 28B1531-000 (or equivalent) available on request.

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:
 ELETTRROLAB S.r.l. info@elettrolab.it

Technical data can change without prior notice.