EB1812P EB2418P
Electronic Ballast

Operating Guide



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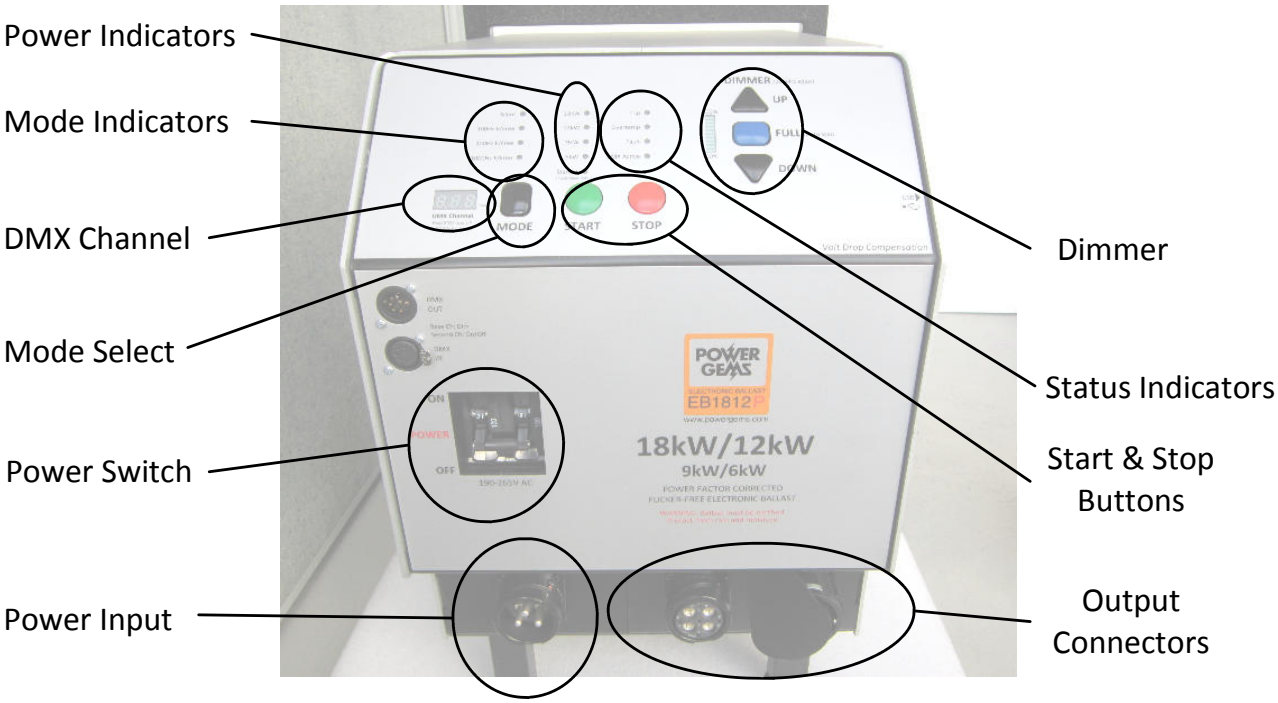
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Front Panel Controls



Quick Start
Connect to the AC supply, plug the luminaire into the output connector, power up using the Power switch and press Start. The lamp should strike and will normally take a couple of minutes to warm up. Should there be a problem the ballast will shut down and indicate what is wrong.

Power in
The ballast should be connected to an AC supply in the range 195-265V AC.

If the input voltage dips below the minimum rated value the ballast will switch into an under-voltage mode (<165V); the lamp will keep running, but switches to a low power until the voltage is restored. In the case of severe under-voltage (less than about 125V) the ballast will shut down. Over-voltage on the input should be avoided as this can lead to damage.

The Earth wire (green/yellow) in the mains cable must be connected to the supply safety earth to ensure operator safety.

Output Connectors
The connectors may be able to supply a range of different lamp powers depending on the wiring configuration, this is indicated above each output socket. Only one lamp may be connected at any time.

The ballast will automatically detect which socket is in use and apply the appropriate power to the lamp. Some ballasts may have a power select switch which needs to be set.

Start & Stop
The ballast can be started using the front panel controls, remotely, by DMX or automatically as soon as power is available.

On ballasts configured for ARRI the rocker switch on the luminaire is fully functional and can be used to start and stop the lamp. For safety, when the ballast is powered up it will not automatically start if the switch has been left on.

Auto Start
If enabled the ballast will strike as soon as power is supplied to it. To enable Auto Mode hold the Mode button for 5 seconds until a dot lights up on the LED display. Hold again for 5 seconds to cancel.

DMX
The DMX Active light will illuminate when DMX is detected, the front panel Start button and dimmer controls will not function. Two channels are used to control the ballast, the displayed channel is used to control the dimming while the next one is used to turn the ballast on and off by setting a level above or below 50%. The ballast will continue running at the same level if the DMX signal is lost.

To change the DMX channel number hold the stop button and use the up and down keys.

Dimmer
The up and down controls can be used to vary lamp power between 40-100%. The dimmer will only have an effect once the lamp has warmed up.

Power Indicator
Output power level, during warm up a lower power range may be indicated.

Mode Selector
The ballast provides three flicker free output modes and a silent mode. The flicker free modes all allow filming at any speed up to 10,000fps. The Silent mode is a low noise option for when speed is not critical; the light is not flicker free.

During normal operation there can be some movement of the arc in the lamp which is picked up by the camera. Selecting a higher operating frequency may reduce the amount of arc movement.

A 1000Hz mode is available which can be helpful in providing the most stable arc for High Speed Filming. 1000Hz is above the stable operating range of the lamp so it is necessary to adjust the running frequency for each lamp. While holding the Start button use the up/down buttons to give the best performance. The bar graph indicates a range of 900-1100Hz.

Recent ballasts default to a crystal locked 1000Hz, if the frequency is adjusted the mode light will flash. To reset to exactly 1000Hz hold the Full button for 3 seconds.

The 1000Hz mode may not be available for some lamps.

Auto Scan
As an alternative to manual adjustment the ballast can automatically select the most stable running frequency when in the 1000Hz mode.

To get the best results the lamp should be up to full operating temperature (run for more than 20 minutes). Hold down the Start button and then press the Full button for 2 seconds. The display will change to a rotating pattern, and you will hear the ballast scanning through the operating frequency range. The full scan takes about 135 seconds. At the end of the scan period the ballast moves to the frequency which showed the best stability. In some cases a small manual frequency adjustment may be required. To abort the scan at any point press Start and Full for 2 seconds.

Volt Drop Compensation
The ballast measures the volt drop in the cable between the ballast and the light fixture. This allows the power loss in the cable to be calculated. The output power is then increased by this amount so the lamp running power remains at the rated value no matter what length of head lead is used.

Status Indicators

Trip	Fast Flash: (x2/s): An Earth Trip has been detected. Press Stop to clear. Slow Flash: (x0.5/s): A Short circuit has been detected. Press Stop to clear.	Steady: Output trip—no current was detected after the ignition period. Press Stop to Clear.
Overtemp	Flashing: The output Bridge module is too hot. Press Stop to clear (will only clear if the ballast has cooled sufficiently).	Steady: The Power Module is too hot. Press Stop to clear (will only clear if the ballast has cooled sufficiently).
Fault	Flashing: There is a fault on the Bridge Module. Seek technical assistance.	Steady: There is a fault on the Power Module. Seek technical assistance.
Started	Flashing: There is a break in the safety loop.	Steady: Lamp running

Troubleshooting

Bear in mind the ballast is part of a system which on the output side includes cabling, the luminaire, the HMI lamp (bulb/globe), and a high voltage igniter. On the input side there is often a network of cables, connectors and circuit breakers. All components in the system need to be correctly maintained to ensure reliable operation. Particular care needs to be taken with the igniter and High Tension leads in the head as these can feed dangerous voltages back to the ballast. A faulty igniter can damage multiple ballasts if it is simply moved from ballast to ballast without attempting to identify the root cause of a problem.

Symptom	**Action**
Started LED flashes when Start pressed	This indicates a break in the safety loop to the luminaire. With an ARRI fixture the rocker switch may be in the off position. Check the lamp door is closed, and that the head feeder connectors are fully mated.
Earth Trip	There may have been a flashover to earth in the luminaire. Most likely to happen when the lamp is hot but indicates the High Tension leads need some attention
Short Circuit	May be caused by a short on the head feeder cable. Try replacing this cable.
Output Trip	After the ballast tried to strike the lamp it could not detect any current in the output — this may be because the lamp is end of life. Inspect the lamp and see if it appears damaged or aged. If a hot strike was being attempted then the lamp may strike successfully once it has cooled.
Fault LED	An internal fault has been detected, there will be a corresponding red/flashing light visible on one of the modules at the rear of the ballast. This may be cured by exchanging the faulty module, but this should be carried out by a service technician.
Overtemp	If the ballast is reporting Overtemp check that the air inlets and outlets are not blocked. The ballast should be protected from direct sunlight, and be raised up from ground level where the air may be hotter. Leave the fans running to allow the ballast to cool. Once it reaches normal temperature the overtemp LED will clear.
Light Flickers	This may be arc movement—try using a higher output frequency, or use the tuning functions if operating in 1000Hz mode.