



EB85P EB125P EB180P
Electronic Ballast
Operating Guide



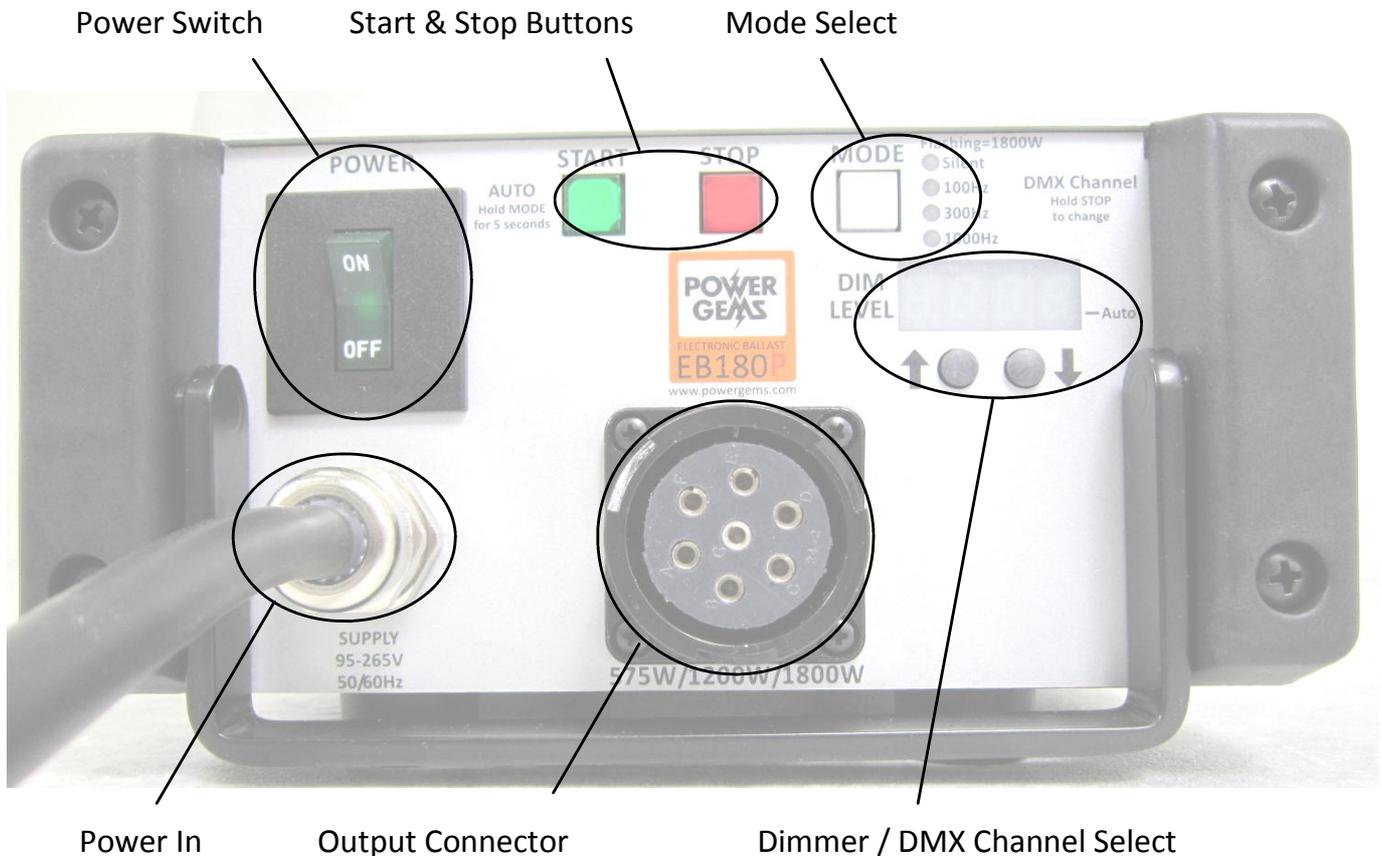
Power Gems Ltd
Unit 1, Fairhills Trade Centre,
Fairhills Road, Irlam,
Manchester, M44 6BA
United Kingdom

Tel: +44 (0)161 776 7030
Fax: +44 (0)161 776 7039

Power Gems Corporation
7702-1 Balboa Blvd.
Van Nuys, Los Angeles,
California 91406
USA

Tel: +1 818 376 1800
Fax: +1 818 376 1801

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 EB85P/EB125P should be connected to an AC supply in the range 90-265V or 100-265V for EB180P. If the input voltage dips below the minimum rated value the ballast will switch into an under-voltage mode — 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 65V) 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 under 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. If an 1800W lamp is detected the mode LED will flash.

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

Auto start is selected by holding the Mode key for 5 seconds, a dot in the right hand corner of the display indicates it is active. If enabled the ballast will strike as soon as power is supplied to it.

DMX

When the ballast is connected to a DMX signal the display will change to show the active channel number, 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%. If the DMX signal is lost for more than one second the ballast will return to local operation.

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 dim the lamp from full power down to 50%, the level is shown on the display. The dimmer control will only have an effect once the lamp has warmed up.

Mode select

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.

Some of the more recent digital cameras have a tendency to pick up arc movement in the lamp due to increased frame rates, short capture times and digitisation issues. In this case using the 300Hz flicker free mode is recommended as it may offer a worthwhile improvement in arc stability. A 1000Hz mode is also available but a higher frequency does not guarantee arc stability and can in some circumstances actually have the opposite effect!

Settings

The dimmer level, mode, auto start and DMX channel are all remembered when the ballast is powered off.

Diagnostics

In the event of a problem the LED display will show an error message to indicate what is wrong.

trip: This indicates either that the lamp has failed to strike or a more serious fault such as a flashover to earth or short circuit. Repeated trips may indicate a serious problem in the head or head cable which should be investigated.

OPEn LOOP: There is a break in the normally closed safety circuit that runs to the luminaire. This could mean that the luminaire has been disconnected, that the door is open or the switch on the head is off. Check the lamp and cable.

too hot: The ballast has overheated. This should not happen in normal operating conditions, check that nothing is obstructing the free flow of air around the ballast and leave the power on so that the fan can run.

Troubleshooting

Bear in mind that 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 ignitor. 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 ignitor which can feed dangerous voltages back to the ballast. A faulty ignitor can damage multiple ballasts if a luminaire is simply moved from ballast to ballast without attempting to identify the root cause of a problem. If a problem cannot be diagnosed then the complete system of luminaire, ballast and cable should be sent to a qualified service technician for examination.

Symptom	Action
Nothing happens when the Start switch is pressed.	<p>Check that the correct type of luminaire is connected as different manufacturers use their own wiring schemes. The socket type is indicated on the underside of the ballast.</p> <p>Check that there is no break in the safety loop circuit. This could be due to the door being open on the luminaire (particularly if the lamp is pointing downwards). Alternatively there could be a problem with the door switch, or a break in one of the cables. The continuity of the safety loop can be checked with a resistance meter. Try swapping the head feeder cable.</p> <p>With ARRI luminaires ensure the rocker switch on the fixture is in the ON position.</p>
Lamp ignites as soon as power is applied	<p>If there is a dot illuminated in the corner of the display Auto mode is enabled. Hold the mode button for five seconds to cancel.</p> <p>Check if DMX control is in use and set to run the ballast.</p>
Ballast attempts to start but shuts down and displays "trip"	<p>Check that there is a lamp fitted in the luminaire.</p> <p>Is there any ignitor sound or sparking within the lamp? If not then the ignitor may be faulty. Try a known good luminaire on the ballast to confirm.</p> <p>If there is sparking within the lamp but no ignition inspect the lamp – does it appear old (white, opaque rather than clear)? If so then it may be end-of-life and should be replaced.</p> <p>If there is no ignitor sound then there could be a short circuit on the head feeder cable or within the luminaire. Try a known good cable and luminaire to confirm.</p> <p>Is there any rasping or arcing sound coming from the luminaire? The High voltage leads may be flashing over to earth. This is more likely to happen if the lamp is hot so leaving the luminaire to cool for 10 minutes may cure the issue. However the High voltage leads should be inspected as soon as possible and replaced if they show any signs of ageing.</p> <p>Rasping or arcing sounds can sometimes be caused by breakover between the pins within the lamp – some ignitor & lamp combinations have poor hot strike performance, so again, waiting for the lamp to cool may clear the issue.</p> <p>If a luminaire is suspected of having earth-fault or ignitor issues then it should not be used on others ballasts as it may cause damage. It should be sent to a qualified technician for servicing.</p> <p>If the ballast continues to trip even with a known good fixture then there may be an internal fault and the unit should be referred to a qualified service technician.</p>
Light goes out while running	<p>Check the door switch on the luminaire. If it is poorly adjusted heat can cause it to open.</p> <p>The lamp may be end-of-life: examine its condition.</p> <p>Check the condition of the head feeder cable. If the contacts are in poor condition they may heat up and become high-resistance in use.</p> <p>If the ballast indicates it is "too hot" ensure that the ventilation is not obstructed, that the ballast is protected from direct sunlight and raised from the ground where the air can be hotter.</p> <p>Ensure the line voltage is sufficient.</p>
Light Flickers	<p>This may be due to arc movement – try using the 300Hz operating mode.</p> <p>The lamp may be end-of-life leading to arc instability.</p>