The Rutherford Global Power Tunnel Lighting System has been developed for the Tunnelling and Hard Rock Mining Industries. This system has been designed with the construction and tunnelling environment in mind. It is a robust system using half the power of a Fluorescent Lighting System and has five times greater maintenance free life.

Several standard system designs are available and customised solutions are available also;
- Independent supply
- Multiple point supply
- Basic supply

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**Distribution Board Specification**
- Rated Voltage: 1100V - 400V
- Rated Power: 240V - 110V
- Length: 600mm
- Height: 330mm
- Width: 1100mm

**Manufacture**
- Plug and socket arrangement
- Incoming isolating switches
- Protection circuit breakers
- Suitably rated circuit breakers
- Test certificates

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**Rutherford Global Power LED Tunnel Light**
The Rutherford Power LED Tunnel Lighting System has been designed for the customers benefit to reduce power consumption compared to a normal fluorescent tunnel lighting system.
The system will simply pay for itself with the energy savings.
The Rutherford Global Power LED Tunnel Lights are housed in a ridged construction Poly Carbonate Tube which can withstand the operational conditions in most construction applications.
The Rutherford Power LED Tube Luminate has also been designed to allow ease of storage, transport and installation.
The slim design will also reduce storage space and transportation cost.

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**LED Tube Specification**
- Tube Material: Poly Carbonate
- Operating Temperature: -20 to 50°C
- Size: 1630 x 60mm Diameter
- Light Output: 276 LED chip = 2000 Lumen
- LED Quantity: 342pcs
- Working Humidity: <95%
- Plug: 240 Volt 63 Amp
- IP Rating: IP55
- Total Power Consumption: 18W
- Colour Rendering index: 84Ra
- Socket: 240 Volt 63 Amp
- Colour Temperature: 6500 - 7000K
- Input Voltage: 85 - 265VAC
- Power Factor: >0.85
- Cable: 5 meters of LSOH
- Colour Rendering Index: 70-80
- Working Voltage: 240V
- Colour: 5000K - 7000K (Cool White)
- Operating Life: 50000 Hours
- Light Source: 7-8lm/pc 3528SMD TOP LED
- Approx to Conventional Lamp: 36W
- Lumens: 1914 - 2262
- Power Rating: 18 Watts
- Beam Angle: 160°
- Working Frequency: 50 - 60HZ
- Shock Proof IP 55 Housing
- Power Factor: 0.94
- Fitting Tube: Polycarbonate cylindrical

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**TUNNEL LIGHTING SYSTEMS**
The lighting system complies with the Requirements of BS 6164. This system has been designed with the construction and tunnelling environment in mind. It is a robust system using half the power of a Fluorescent Lighting System and has five times greater maintenance free life.

Several standard system designs are available and customised solutions are available also;
- Independent supply
- Multiple point supply
- Basic supply
TLB Series - Tunnel Lighting Boards 1100-400V / 240-110V

Lighting boards consist of Main Circuit Breakers, Transformer, Outgoing Circuit Breakers and protection devices. These distribution boards have been designed to take the main cable power and convert this to usable power for the LED lights.

The mains supply for the system ranges between 1100V-400V. Components are rated at 50Hz and are fitted in an enclosure system complete with protection devices.

Power outlets from the lighting board range from 240V – 110V with protected socket outlets for supply to lighting circuits and small power.

Tunnel Lighting Boards dimensions:
- Height 600mm
- Width 330mm
- Length 1100mm

TDB Series - Tunnel Distribution Boards 1100-400V / 240-110V

Distribution boards are generally larger boards that provide a greater capacity for distribution. They are complete with Main Circuit Breakers, Transformer, Outgoing Circuit Breakers and protection devices. These distribution boards have been designed to take the main cable power and convert this to usable power for the LED lights.

The mains supply for the system ranges between 1100V-400V. Components are rated at 50Hz and are fitted in an enclosure system complete with protection devices.

Power outlets from the distribution board range from 1100V – 110V. The units feature protected socket outlets and glanded outlets for supplies to lighting, pumps, small power and welding facilities.

Tunnel Lighting Boards dimensions:
- Height 800mm
- Width 500mm
- Length 1200mm

LED Lighting - Tube Lights

Rutherford Global Power tube luminaires are rated to accept 240V – 110Vac voltages with options for 1Ø and 3Ø supplies.

Our tube lights utilise the energy efficiency of LED technology to halve the power requirements of the lighting system.

The tube lights are robust taking into consideration harsh environments such as construction and tunnelling.

Table - Features and Benefits

<table>
<thead>
<tr>
<th>Features</th>
<th>Benefits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stainless steel option</td>
<td>Corrosion resistant – longer life</td>
</tr>
<tr>
<td>Pilot protection</td>
<td>Protects against live disconnect</td>
</tr>
<tr>
<td>Sockets and adaptors</td>
<td>Quick Connect – IEC compliance</td>
</tr>
<tr>
<td>Transformer</td>
<td>Multiple voltages</td>
</tr>
<tr>
<td>Pad-lock Circuit Breaker</td>
<td>Isolation</td>
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<tr>
<td>Roll Frame</td>
<td>Robust and damage resistant</td>
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</tbody>
</table>

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<tr>
<th>Features</th>
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</tr>
</thead>
<tbody>
<tr>
<td>LED light source</td>
<td>Long life – halve power consumption</td>
</tr>
<tr>
<td>IP55 rated</td>
<td>Good protection against moisture and dust – complies 6164</td>
</tr>
<tr>
<td>Single or Double Entry</td>
<td>Through wiring capable for daisy chain tunnel coordination</td>
</tr>
<tr>
<td>End cap wings</td>
<td>Loop mounting, anti-roll feature</td>
</tr>
<tr>
<td>76mm tube diameter</td>
<td>Suits a range of clamps, saddles, pipe connectors</td>
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<tr>
<td>Polycarbonate tube</td>
<td>UV stabilised high impact outer case</td>
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<tr>
<td>Pre-fitted</td>
<td>No need for electrician for site fitting of cable</td>
</tr>
</tbody>
</table>

Lighting System

The Rutherford Global Power LED System will automatically balance the load of the three phases by its unique plug and play method. No electrician required for installation.

The Tube Lights come complete with IP67 plugs and 2.5 metre LSZH or EPR cable leads on a single incoming or double entry incoming and through coordination. The double “daisy chain” system, allows for cable economy, each light fitting plugs into the next, with a maximum distance of 400m on the lighting circuit for the standard design.

Rutherford Global Power typically suggest that every fourth fitting is an emergency light as this will provide equal balance of load with a three phase supply.