The first true driver-on-board FRD on the market!

**True Driver-on-Board and Chip-on-Board combination.**

The TRIUMPH **ACTIVATE** 8W LED FIRE RATED DIMMABLE DOWNLIGHT provides the best of today’s state of the art technology.

**TRIUMPH: ACTIVATE**

Assembled in a fully automated semiconductor plant utilizing machine vision technology, the ACTIVATE driver-on-board light engine at the heart of TRIUMPH incorporates patented silver-free flip chip technology to create a uniquely robust chip-on-board LED, free of the fragile wire bonds associated with traditional chip-on-board LEDs.

Supplied as standard with a stylish 38° LEDCHROIC™ optic, the robust COB technology allows the installer to interchange this with a wide beam 60° LEDCHROIC™ optic offered as an accessory.

The wide flange on the TRIUMPH ACTIVATE makes it an ideal retrofit halogen replacement for renovations, as well as in new build, achieving the same light level using circa 44% less fittings, reducing installation costs and dimmable as standard.
**ACTIVATE DRIVER ON BOARD**

ACTIVATE true Driver-On-Board (DOB) technology eliminates the electrolytic capacitor and provides driver efficiency and reliability to improve LED lifetime.

All power supply, driver components, dimming functionality, power factor correction, surge & thermal protection are integrated onto the LED PCB powered directly from the mains supply.

ACTIVATE is a very efficient technology which is significantly more reliable than separate or driver ‘integrated’ into the fitting or heat sink.

- Easy to install. No external driver to locate in the void, nor issues of incorrectly connecting a mains supply to a LV fitting causing failure
- Electrolytic capacitor free – eliminates the weakest component
- Light engine with driver-on-board manufactured in a fully automated semiconductor plant with machine vision quality control
- Driver-on-board consumes less power and is more efficient
- Provides IC control for stable drive current to maximise LED performance and life
- Smooth dimming functionality is achieved using a range of selected dimmers
- Natural and soft dimming of the uniform LED COB
- 5 year warranty, no quibble, no online registration

The TRIUMPH ACTIVATE doesn’t stop at DOB technology. It also uses the latest Chip-on-board (COB) LED technology, delivering a high lumen output of ≥640lm in a single beam, low power consumption of 8W and low heat emissions.

Of particular consideration for lighting designs, the single COB light beam is easier to control, allows the use of a LEDCHROIC optic, and brings greater uniformity than multiple SMD or multi-lens LED fittings.

Compared to 50W GU10 halogen, the TRIUMPH ACTIVATE produces:

- Over 35% more light output, so fewer fittings may be used for the same lighting effect, reducing costs
- Energy savings in excess of 90%, reducing CO2 Emissions and electricity costs
- Efficacy of ≥80 luminaire lm/cctW, compliant with Part L1 & L2 UK Building Regulations
- LEDs run cooler; resulting in 50,000 hour life – compared to halogen lamp changes every 1,000 hours, saving on maintenance costs

**WHAT IS THE DIFFERENCE BETWEEN ‘TRUE’ DRIVER ON BOARD, PARTIAL DRIVER ON BOARD AND INTEGRATED DRIVER?**

LEDs are generally powered by a DC supply. A driver circuit is required to rectify and condition AC power from the mains supply. Traditionally these drivers have been large power supply boxes of discrete electronics, (usually including transformers, rectifying bridges, regulators and a large electrolytic capacitor), on a trailing lead from the light fitting.

**TRUE DRIVER ON BOARD**

LED drivers can now be fabricated using integrated circuit electronics on the same printed circuit board (PCB) as the LED chips. This is called ‘Driver-On-Board’ technology, where all driver components are on the board, which is AC powered directly from the mains supply. This is a more advanced concept than simply enclosing, or bolting on a traditional external driver.

**PARTIAL DRIVER ON BOARD**

Usually has an integrated circuit on the printed circuit board, but often has other circuitry located elsewhere in the fitting, typically in the heat sink region, compromising its performance and the reliability of the fitting.

**INTEGRATED DRIVER**

Generally means that the driver circuitry is located elsewhere in the fitting, typically in the heat sink region, reducing the thermal mass of heat sinking and the efficiency of heat transport. Driver circuitry will typically be conventional.
FIRE RATED

The TRIUMPH steel can and brass fire shield ensures maximum fire safety by stopping flames from entering the ceiling void. The fire shield is designed to conduct heat away from the core components and LED COB while resisting fire. ROBUS has designed a customised heat sink for TRIUMPH. The high surface area aluminium finned heat sink provides optimal heat conduction away from the COB LED’s and DOB components to ensure long service life.

Integrated insulation stand-off protects the heat sink from flammable dust and also allows insulation to be loosely applied above and around the fitting and so avoids ‘cold spots’ in insulated voids. This also ensures there is a sufficient air gap between the insulation and the fitting for efficient operation.

The TRIUMPH ACTIVATE retains the integrity of fire rated ceilings. It is fire, acoustic and airflow tested, providing compliance with Parts B, C & E of the Building Regulations for installation in most buildings.

3 STEP MACADAM ELLIPSE

Macadam Ellipse Steps or SDCM (Standard Deviation Colour Matching) are used in conjunction with the CIE colour space diagram to define and measure the extent of colour variation in the light emitted from light sources, which is a more accurate colour metric than CCT (Correlated Colour Temperature). A 1-step Macadam Ellipse (or 1 SDCM) encloses an area of colour space in which, there would be no discernible difference in colour visible to most people. A 7-step Macadam Ellipse (or 7 SDCM), in turn, encloses a larger area of colour space in which, there would be a noticeable difference in colour. LED Manufacturers “colour bin” LEDs in order to enable LED luminaire manufacturers to minimise the difference in colour between LEDs in a single luminaire, and indeed, between one luminaire and the next. Most LED manufacturers offer LED bins in the range of 4 – 7 step Macadam Ellipses. Taking a standard 3000K colour bin as an example, this equates to a 7-step Macadam Ellipse with an equivalent CCT range of ~300K and could result in noticeable differences between LEDs from the same bin. For this reason, LEDs from this bin selection would be low cost and this can account for price differences between what appear to be similar fittings from different manufacturers. Some LED luminaire manufacturers make the decision to opt for a tighter LED bin, which costs substantially more, but ensures a more consistent light colour across the fittings from batch to batch.

LED Group recognises customer expectations on colour consistency and consequently, we select our TRIUMPH ACTIVATE LEDs from a class-leading 3-step Macadam bin in order to ensure accurate and repeatable colour performance for this order and the next.

The ROBUS innovation of low profile LEDCHROIC™ 38° optic gives the traditional look of a dichroic lamp with the efficiency of LED technology. The LEDCHROIC™ lens has a uniform light beam with gentle cut-off at extremities without any dark patches. It ensures minimal glare and delivers an even distribution of light with high CRI, making TRIUMPH an excellent replacement for traditional halogen downlighting.

ROBUS has introduced a newly customised low profile LEDCHROIC™ optic for its TRIUMPH range, offering interchangeability to an accessory wide beam LEDCHROIC™ 60° optic lens available which provides wide or extra wide light beam for bespoke lighting using the same lens form factor.

- 38° beam angle as standard and 60° beam angle accessory option
- High lumen output
- Controlled even light distribution
- Single light emitting surface

KEY FEATURES

<table>
<thead>
<tr>
<th>30 minute ceiling</th>
<th>60 minute ceiling</th>
<th>90 minute ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>600mm joist centres</td>
<td>600mm joist centres</td>
<td>450mm joist centres</td>
</tr>
<tr>
<td>Single layer</td>
<td>Double layer</td>
<td>Double layer</td>
</tr>
<tr>
<td>12.5mm plasterboard</td>
<td>15mm plasterboard</td>
<td>15mm plasterboard</td>
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</table>

LEDCHROIC™ lens

LEDCHROIC™ lens
8W LED FIRE RATED DOWNLIGHT

SWIFT Connector
Pre-wired with ROBUS SWIFT 6 pin male/female plug & play connector
Large terminals and integrated cable restraint

DIMMABLE
Dimmable as standard

ACTIVATE: True Driver on Board technology
No electrolytic capacitor
A uniquely combined DOB and COB downlight
Exceeds Part L1 and Part L2
30, 60, 90 minute fire rated
IP65
CRI 80

680 lumens
Cold White [4000K]
640 lumens
Warm White [3000K]

TRIUMPH ACTIVATE LEDCHROIC 8W LED DOWNLIGHT WITH SWIFT CONNECTOR
• True ACTIVATE Driver-On-Board (DOB) Mains Operated technology – providing dimmability, driver efficiency and reliability (no electrolytic capacitor)
• Chip-On-Board (COB) for superb light output, high efficacy and long life
• High lumens output of ≥640 lumens
• Low power consumption of 8W
• Low heat emissions
• Efficacy of ≥80 luminaire lm/cctW to comply with Part L1 & L2 UK Building Regulations
• Fire, acoustic and airflow tested in compliance with Parts B, C & E of UK Building Regulations
• Integrated insulation stand-off enabling insulation to be laid over the fitting
• LEDChroic optic & reflector achieving unequalled light distribution, uniformity and clarity, whilst replicating traditional dichroic aesthetics
• Pre-wired with ROBUS SWIFT 6 pin male/female plug & play connector with large terminals and integrated cable restraint. Fast, simple and efficient installability
• Wide flange with short narrow main body which covers existing cut-out. Ideal for retrofit and shallow ceiling voids
• Dimmable with selected dimmers (dimmer compatibility list available on website)
• Emergency versions available. In emergency mode the warm white provides 120 lumens and in cool white 135 lumens (18% of mains output).
• Accessories available as per below:
  - 60° lens
  - Chrome and Brushed Chrome Bezels
• Operating temperature range of -20°C to +45°C
• IP65

80 IP54 RATR8P03038-01  RATR8P04038-01
Comparable to:
LV 50W Halogen LV 50W Halogen
Total Power (W): 8 8
Power Factor: >0.98 >0.98
Total Light Output (lm): 640 680
Light at 1m (lux): 1140 1190
CRI L100 (K): 80 70
CRI ≥ ≥
Lumen (lm)/cctW: ≥85 ≥85
Diameter (mm): 92 92
Height (mm): 98 98
Cut out (mm): 70 70
Min Order/Carton Qty: 1/18 1/18
Weight (kg): 0.34 0.34

Accessories:
RATRTRIM-03 Chrome Trim
RATRTRIM-13 Brushed Chrome Trim
RATRLENS-60 LEDCHROIC™ lens with 60° beam angle
FEWER FITTINGS, LESS ENERGY

Let’s have a look at a typical example, comparing the performance of 50W mains voltage halogen against the 8W TRIUMPH ACTIVATE in a lounge/diner 6m x 5m with ceiling 2.4m high and requiring around 350-400 average lux level.

ROBUST TRIUMPH ACTIVATE

<table>
<thead>
<tr>
<th>General</th>
<th>Leading brand of halogen 50W GU10</th>
<th>TRIUMPH ACTIVATE 8W</th>
<th>SAVINGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation algorithm used</td>
<td>Average indirect fraction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Height of evaluation surface 0.75m</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Height of luminaire plane 2.40m</td>
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</tr>
<tr>
<td>Maintenance factor 0.80</td>
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<td></td>
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</tr>
<tr>
<td>Total luminous flux of all lamps</td>
<td>12,780 lm</td>
<td>13,404 lm</td>
<td></td>
</tr>
<tr>
<td>Total Power</td>
<td>1836 W</td>
<td>166 W</td>
<td></td>
</tr>
<tr>
<td>Total Power area</td>
<td>61.2 W/m²</td>
<td>5.53 W/m²</td>
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</tr>
<tr>
<td>Evaluation area 1</td>
<td>Reference plane 1.1</td>
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<td></td>
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<tr>
<td>Horizontal</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Em</td>
<td>358lx</td>
<td>379lx</td>
<td></td>
</tr>
<tr>
<td>Emin</td>
<td>295lx</td>
<td>379lx</td>
<td></td>
</tr>
<tr>
<td>Emin/Eav (Uo)</td>
<td>0.87</td>
<td>0.78</td>
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</tr>
<tr>
<td>Position</td>
<td>0.75m</td>
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<td></td>
</tr>
<tr>
<td>Major surfaces</td>
<td>Em</td>
<td>Us</td>
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</tr>
<tr>
<td>m 1.5 (Ceiling)</td>
<td>54lx</td>
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<td>m 1.2 (Wall)</td>
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<tr>
<td>m 1.3 (Wall)</td>
<td>100lx</td>
<td>0.64</td>
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</tr>
<tr>
<td>m 1.4 (Wall)</td>
<td>101lx</td>
<td>0.62</td>
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LEADING BRAND OF HIGH QUALITY GU10 LAMP

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</tr>
<tr>
<td>Major surfaces</td>
<td>Em</td>
<td>Us</td>
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</tr>
<tr>
<td>m 1.5 (Ceiling)</td>
<td>51lx</td>
<td>0.82</td>
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<tr>
<td>m 1.2 (Wall)</td>
<td>96lx</td>
<td>0.59</td>
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<tr>
<td>m 1.3 (Wall)</td>
<td>96lx</td>
<td>0.60</td>
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</tr>
<tr>
<td>m 1.4 (Wall)</td>
<td>88lx</td>
<td>0.59</td>
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OUTSTANDING SAVINGS

TRIUMPH ACTIVATE provides comparable light output, uses over 40% fewer fittings and saves over 90% energy to provide massive initial and long term savings.

Compare the performance of the TRIUMPH ACTIVATE against a leading brand of quality GU10 products below and see the difference in costs and performance.

A TYPICAL 6X5M LIVING ROOM INSTALLATION

| Total fittings used | 36 | 20 | |
| Average illuminance | 358lx | 379lx | |
| Total luminous flux of all lamps | 12,780 lm | 13,404 lm | |
| Total power | 1836 W | 166 W | |
| Total power per area | 61.2 W/m² | 5.53 W/m² | |
| Total energy used per year (kWhrs): | 3342 | 302 | 3040 |
| CO2 emissions (Tonnes per year) | 1.82 | 0.16 | 1.66 |
| Total energy cost per year | £401/€557 | £36/€50 | £365/€507 |
| Total re-Lamp cost per year | £65/€90 | £/€0.00 | £65/€90 |
| Total cost of ownership per year | £466/€649 | £36/€50 | £430/€599 |

Note:
The above costs and savings are based on 5 hours use each day, replacement halogen lamp cost of £1/€1.40 lamp and electricity cost @ £0.12/€0.17/kWhr. A more detailed energy saving and payback calculation can be achieved using the downloadable calculator on www.ledgrouprobus.com which shows payback periods in a few months, such is the energy saving of this downlight.
ENERGY SAVING
With the Driver-on-board (DOB) and Chip-on-board (COB) combination the TRIUMPH ACTIVATE creates 35% more light output compared to 50W GU10 halogen.

a. FEWER FITTINGS REQUIRED
The TRIUMPH ACTIVATE delivers 640/680 lumens spread across a 38° or a wide 60° beam angle meaning the same light levels as a 50W GU10 halogen can be achieved with 44% fewer fittings, saving initially on fitting costs and installation times and in the long term on energy bills.

b. 90% LESS ENERGY THAN HALOGEN
The TRIUMPH ACTIVATE delivers on average 50,000 hours of consistent LED performance, while using 90% less energy, reducing CO₂ emissions and electricity costs. (Based on a 6m x 5m meeting room with 2.4m high ceiling with the light level reference plane at desk height (0.75m) and target average lux level of 350-400 lux).

c. CASH SAVINGS
A 6m X 5m room fitted out with TRIUMPH ACTIVATE instead of traditional halogen would typically save £430 / €599 per annum.

WARRANTY
The 5 year warranty underpins our promise on the quality and reliability of this fire rated downlight. Fire tested and approved for use in 30, 60 and 90 minute fire rated ceilings. This fitting can be expected to operate effectively for an average of 50,000 hours, which may extend well beyond the 5 year warranty, depending on total hours of usage.

No quibble warranty and no product registration needed – if it fails within the warranty period due to a product issue, a replacement will be provided in line with our standard warranty terms.

LOADPRO LED Dimmer
- Trailing edge electronic dimmer optimised for LED loads
- Suitable for 2 way switching
- Min load of 3W
- Max LED load of 133W
- Max resistive load of 200W
- Compatible with most recessed or surface back boxes and is suitable to be fitted to most white or decorative switch plates
- Soft start
- Push on/off operation
- Overload protection
- Fits standard 41mm depth box

<table>
<thead>
<tr>
<th>RLA200DT-01</th>
<th>As seen here</th>
</tr>
</thead>
<tbody>
<tr>
<td>RLA200DTP-01</td>
<td>White front plate</td>
</tr>
<tr>
<td>Min load:</td>
<td>3W</td>
</tr>
<tr>
<td>Max resistive load:</td>
<td>200W</td>
</tr>
<tr>
<td>Max LED load:</td>
<td>133W</td>
</tr>
<tr>
<td>Height (mm):</td>
<td>62</td>
</tr>
<tr>
<td>Width (mm):</td>
<td>24</td>
</tr>
<tr>
<td>Depth (mm):</td>
<td>48</td>
</tr>
<tr>
<td>1 to Pack Qty:</td>
<td>10</td>
</tr>
</tbody>
</table>
SWIFT CONNECTOR SYSTEM

The Swift connector system saves time and money by providing a fast and simple method of connecting an infinite number of standard and emergency fittings to the wiring infrastructure. The male connector is factory wired to the fitting with the female connector included for site installation.

It utilises 4 poles, each of which is able to accept 3 x 2.5mm² conductors on the supply (female side) and has cable restraint for 3 x 4 core cables. These would typically consist of:

- **Cable 1**: Permanent live, earth & neutral.
- **Cable 2**: Earth, live & switched live to/from switch.
- **Cable 3**: Loop out permanent live, neutral, earth and switched live to additional fittings.

The system provides the following benefits:

- The female connector can be wired into the lighting circuit infrastructure at an early stage.
- The male connector is pre-wired to the fitting so time saving.
- Large terminals facilitate loop in/out for 3 conductors to other connectors and switches.
- The 4th terminal provides a distributed permanent/loop live to all fittings for emergency or other use.
- The first connector can be used for wiring to an emergency test switch permanent supply as well as to the light switch. This negates the need for a junction box and additional terminations, saving both time and money.
- Fittings are not connected until final completion ensuring they are not damaged by other trades such as plasterers, painters or suspended ceiling installers during fit-out.
- A presence detector can be used by substituting the wiring to the switch with a 4 core cable (Ls, E, N, Lp).
- Plug & play emergency pack is simply installed between the fitting male, and mains supply female, connectors where required providing a fast, simple and versatile emergency solution.
GO TO www.ledgrouprobus.com for an in-depth online review of the TRIUMPH ACTIVATE, including:

- TRIUMPH ACTIVATE VIDEO
- INTERACTIVE CALCULATORS