



# Resilience

**Stylish, robust lighting with low energy performance**

**Resilience is a contemporary-styled slimline fitting that combines energy-saving T5 fluorescent lamp technology with robust construction and ingress protection to IP65. Ideal for a wide range of demanding applications, Resilience is offered with a comprehensive choice of lamp options. It is manufactured from high impact polycarbonate.**

Resilience has been specially designed to provide low energy consumption and excellent lighting performance in areas where high impact resistance and IP65 ingress protection are a must. Such areas have traditionally been served by bulky, unattractive fittings with average consumption. Resilience with its T5 technology, low profile styling and excellent energy performance breaks the mould.

Resilience offers all of the advantages of T5 fluorescent lighting, including high energy efficiency and high light output, long life with excellent lumen maintenance (retains 90% in first 20,000 hours), very good colour rendering and enhanced control options. Resilience fittings are available with 28W, 35W, 49W or 54W T5 lamps in single or twin configurations, making them suitable for all applications. Common applications include replacement of existing batten or discharge lighting, as well as for new build projects.

All variants include high frequency electronic control gear for enhanced controllability, with options for zoned on/off

switching and/or dimming when linked to standalone controls such as Chalmer's AutoLux and BlueWave controllers, occupancy or daylight sensors – or to a lighting management system.

*"Resilience's two-part moulded, gasketless IP65 sealed design allows fast access for maintenance with none of the deterioration problems associated with silicone gaskets, while maintaining the optimum temperature for T5 lamp operation"*

**For even greater versatility, Resilience can also be provided with a range of additional options, including:**

- Integral emergency lighting
- DSI (digital serial interface) dimming
- Analogue dimming
- Variety of lamp options for longer life, improved lumen maintenance and shatter-proof performance
- Multi-wattage control gear options

## FEATURES

- IP65 with high impact resistance
- Multiple lamp options for all applications
- DSI and analogue dimming options
- Emergency lighting options
- Ceiling or wall mounting options
- Stylish, low profile design

## BENEFITS

- High energy efficiency with low cost of ownership
- High light output ratio (LOR)
- Versatile controllability
- EN 12464-1 compliant for lighting indoor spaces
- Fast, trouble-free installation with adjustable snap-on mounting brackets integrated retaining clips (no danger of dropping), wide choice of 20mm cable entry points and recessed cable channels
- Easy access for maintenance, no tools required to open fitting, easily removable control gear tray
- Clear back versions for upward and downward light
- Some versions qualify for Enhanced Capital Allowances



**Chalmer**

Experts in Energy Saving Lighting and Heating






## SAFETY AND PERFORMANCE

As you would expect from a company with over 25 years experience in the lighting and controls market, Resilience offers the following benefits:

- Dedicated ECG types for HO (High Output) and HE (High Efficiency) lamps
- 50,000 hours lifetime\*
- Preheat start within 1 second
- Constant light output for  $U_N = 198\text{ V}$  to 264 V
- Reliable lamp ignition at  $t_a = -20\text{ }^\circ\text{C}$  to  $+50\text{ }^\circ\text{C}$
- Cut-Off technology
- Energy Efficiency Index = A2
- Automatic safety shut down at end of lamp life or in case of failure acc. to EoL T.2
- Automatic ignition after lamp replacement
- Suitable for emergency lighting (DC operation, 0 Hz)

\* for  $t = 75\text{ }^\circ\text{C}$  at  $t_c$ ; max. failure rate of 10 %

## TECHNICAL SPECIFICATION

|                                                                                                                                                           |                                                                                                                                                                                                                                                             |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supply voltage .....                                                                                                                                      | 220 to 240V                                                                                                                                                                                                                                                 |
| Line frequency .....                                                                                                                                      | 50 to 60Hz                                                                                                                                                                                                                                                  |
| Suitable for emergency lighting (DC operation)                                                                                                            |                                                                                                                                                                                                                                                             |
| Lamp start within 1s with optimum filament preheating. If there is a temporary interruption in the power supply (<0.5 s) the lamp will start within 0.3 s |                                                                                                                                                                                                                                                             |
| Same luminous flux with direct and alternating current; the battery voltage may drop to 176 V. Ignition must take place above 198 V                       |                                                                                                                                                                                                                                                             |
| Automatic restart after lamp replacement                                                                                                                  |                                                                                                                                                                                                                                                             |
| Energy Efficiency Index .....                                                                                                                             | EEI = A2                                                                                                                                                                                                                                                    |
| Approval marks: .....                                                                                                                                     |    |
| Safety acc. ....                                                                                                                                          | to EN 61347-2-3                                                                                                                                                                                                                                             |
| Lamp operation acc. ....                                                                                                                                  | to EN60929                                                                                                                                                                                                                                                  |
| RI suppression: .....                                                                                                                                     | acc. to EN55015                                                                                                                                                                                                                                             |
| Line harmonics: .....                                                                                                                                     | acc. to EN 61000-3-2                                                                                                                                                                                                                                        |
| Immunity acc. ....                                                                                                                                        | to EN 61547                                                                                                                                                                                                                                                 |
| <b>Dimensions (LxWxD):</b>                                                                                                                                |                                                                                                                                                                                                                                                             |
| 2 x 49w version .....                                                                                                                                     | 1560x160x75mm                                                                                                                                                                                                                                               |
| 2 x 54w version.....                                                                                                                                      | 1260x160x75mm                                                                                                                                                                                                                                               |
| <b>Weight:</b>                                                                                                                                            |                                                                                                                                                                                                                                                             |
| 2 x 49w version .....                                                                                                                                     | 3.2 kg                                                                                                                                                                                                                                                      |
| 2 x 54w version .....                                                                                                                                     | 2.5 kg                                                                                                                                                                                                                                                      |
| IP Rating:.....                                                                                                                                           | IP65                                                                                                                                                                                                                                                        |

Specifications may change without prior notice

## CERTIFICATION

March 2010 will see the first stage of new Commission of the European Communities regulations with regards to ecodesign requirements (2005/32/EC) for fluorescent lamps, and for ballasts and luminaires able to operate such lamps, and repealing Directive 2000/55/EC.

By using the latest control gear and lamps, Resilience not only complies with future European legislation, but also conforms to EN 60598-1 and relevant Parts 2. Tri-phosphor and amalgam fluorescent lamps comply with EN61195 (safety) and EN60081 (performance) and with nominal initial (100h) lumen values included in this criteria.

## ORDER CODES

### UNDERSTANDING ORDER CODES

|                           |               |
|---------------------------|---------------|
| Product .....             | <b>RES</b>    |
| Number of Lamps .....     | <b>/1</b>     |
| T5 lamp wattage .....     | <b>/28/54</b> |
| Dimming.....              | <b>/D</b>     |
| Analogue dimming.....     | <b>/A</b>     |
| Digital dimming.....      | <b>/D</b>     |
| Emergency capability..... | <b>/E</b>     |

### ORDER CODES

|                  |
|------------------|
| RES/1/28/54      |
| RES/1/28/54/E    |
| RES/1/28/54/D/D  |
| RES/1/28/54/D/A  |
| RES/1/35/49      |
| RES/1/35/49/E    |
| RES/1/35/49/D/D  |
| RES/1/35/49/D/A  |
| RES/2/28/54*     |
| RES/2/28/54/E*   |
| RES/2/28/54/D/D  |
| RES/2/28/54/D/A* |
| RES/2/35/49      |
| RES/2/35/49/E    |
| RES/2/35/49/D/D  |
| RES/2/35/49/D/A  |

\* qualify for Enhanced Capital Allowances, see [www.eca.gov.uk](http://www.eca.gov.uk)



Authorised User No. 00046

Resilience is available with a variety of configurations including single wattage and DALI control gear options. For further information please call our office on 01582 748700.

