

tp24 - L I dedicated low energy.

In 2002 a summit of world leaders in Kyoto, Japan, led to the Kyoto protocol. This was the agreement by many major governments to agree to target time based carbon reduction limits. As a result of this agreement the British Government introduced new legislation to the building regulations for new homes in respect of lighting. The new section on energy saving was introduced as Part L section I and required all new homes to install 30% low energy lighting. The specific requirement demanded that the low energy lighting be dedicated (should not be able to replace with incandescent) and have a lumen efficiency of at least 40 lumen per watt

At the time of introduction there was very little on the market that could meet this requirement. Most low energy light fittings were designed for use in commercial situations and were unsuitable for domestic use. None the less the requirement had to be met so the builders put in the minimum requirement. This took the form of a wire pendant set with a 3u fluorescent stick like tube lamp. The only dedicated system at that time was a system pushed by Philips and BJB that had a ballasted lamp holder and a four-pin lamp. In this system the ballast last for 25,000 hours and the lamp about 6–8,000 hours.

The BJB ballast is very big and uses a European style 40mm shade ring not commonly available in the UK. The lamp was also big and ugly. The majority of these products fitted were removed very quickly by the new owners and replaced with regular fittings, giving no energy saving.

The light fittings fared even worse. Again stuck with the only dedicated system available the fixtures were very big and very expensive. The Government set up a subsidy scheme (DEELS) that allowed retailers to recover £4.90 an arm on sales of light fixtures. The lighting manufacturers thought this was a great way to get money from the tax payer and made fittings with this system, claiming back the rebate.

The subsidy had a negative effect with the public because the new fittings were still expensive and very big and ugly. (This has now been reduced to £2.90 and usually runs out by October each year)

During this time a few smaller retrofit fluorescent lamps had come on the market with self-ballasted caps. These lamps looked better and were smaller, but could not meet the Building Regulations because they were not dedicated and not as efficient as the stick type lamps.

As tp24 is a major lighting supplier to the new homes market it was essential to find a better solution. We took advantage of the new smaller lamps and worked with some manufactures to source lamps of this type that could comply with the 40lm/w requirements. In addition we designed and developed a simple dedicated interface, that we designated as LI, so as to clarify it from any other lamp.

In our LI dedicated low energy solution the cap is very similar to a GU10 style 2-pin that you see on halogen spot lamps. The difference is that our cap has a hole in the middle of the lamp base and the lamp holder has a central male interference member or pin. This stops the normal halogen lamp from entering but allows our lamps to be retrofitted into a regular spot lamp holder. We have also increase the collar of the lamp holder to make fitting much easier.

The result is that the new dedicated lamp holder is much smaller and unlike the BJB type will not fail. If the ballast fails it is simply a matter of changing the lamp.

tp24 has a published, but as yet, un-granted UK patent application and an un-published PCT application that needs to be followed up with specific applications to relevant countries by January 2008. In addition we have some design rights (to be progressed) on the new lamps first shown in January 07.

tp24 has gone on to manufacture a range of products using this system, all of which are manufactured in China. The pendant set is being adopted by many of the major builders and is sold direct and by several major electrical wholesalers. To date we have sold over 15,000 sets. We also have new low energy down lighters that are being taken up by some of the builders. Sales of these products are increasing continually as builders specify and voluntarily increase their low energy requirements.

Our light fitting range is now extends to about 250 lines and is the largest selection of dedicated low energy lighting on the market. All our fittings are designed with the new homes market in mind because this is the largest market for these products. It is much easier to go green when you fit new lights in your new home then to have to change your existing fittings.

We continue to improve and develop new products and intellectual property. We have recently designed and patented a quick fit system for our light fittings that allows the fixture to be fitted

easily by a layperson, saving the cost of an electrician. This feature is now incorporated in most of our products.

A number of factories and other lighting manufactures have asked us to use our system. We believe a monopoly on the system will not be advantageous and are currently in the progress of licensing our system in China. This will allow us to receive royalties of the sale of the combined lamp and lamp holder system and to establish LI as the de facto solution of small, dedicated self-ballasted CFL.

To see our range of lighting visit

<http://www.tp24.com/>

To view the development presentation visit

<http://www.tp24.com/update/Kyoto2007/Kyoto2007.html>

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