

We all appreciate the added detail provided by the manufacturers, especially the improvement in locomotive lighting quality - and for those who also use DCC, the sky really is the limit with almost any possibility being covered for us within the decoder settings.

(DCCconcepts Zen Decoders for example have more than 30 fully configurable lighting effects that <u>any</u> modeller can access with just a little guidance. <u>Click here</u> for some more information)

But... what about the other end of the train?

Railways in the UK are fenced off with no public access, so the lighting at the front of a train was, for many years, just a matter of "train classification" and had nothing at all to do with lighting the way.

On the other hand, on busy railways with communication basically limited to line of sight, clearly indicating the other end of the train clearly really DID matter.

Imagine: Many trains on busy routes with communication limited to observable factors. Signalling being controlled from distant signal boxes. Many places where a train could run slow, break a coupler and accidentally split... or even simply break down between stops.

Both the driver and the following train need something to tell them when all is not well!

The railways were conscious of all this... and, having learned from accidents and other things during their early days, created very specific lighting rules for both ends of the train.

As modellers who value accuracy and love the detail, we also need to learn, adopt and install lights at the rear of our trains. Here are a few examples showing how DCCconcepts have made this easier for modellers in $OO \sim 4mm$ scale.

AS ALWAYS: Our advice is general. We are dead certain that the technical stuff is spot on, but there are many years of real-world operation and many different periods or prototypes to model. Exceptions and changes to prototype practice DO exist. Before you start, research your own prototype to make sure that what is discussed here is also appropriate for your models.

General guidelines for use of lamps at the rear of UK trains...

Passenger trains - up until the early 20th century (early 1920's, with 1924 as the only date I can find - but some railways such as GWR were slower to change & kept them until about 1934)

- One Red lamp to the rear, One lamp either side of the rear coach. The side lamps had two lenses, one front, one rear. They showed White to the front, Red to the rear.
- Exception was the SR when running on SR rails, they used only the two side lamps, only adding the central rear lamp when running on the rails of other railways



General guidelines for use of lamps at the rear of UK trains continued....

Goods trains - Generally "steam until the early BR years".

- Unfitted freight: 1 x red lamp to the rear, plus one lamp either side. The side lamps had 2 lenses. They were white to front, red to the rear.
- Initially ALL goods trains had the 3 x lamps at the rear... but as vacuum braking proliferated, fully fitted or "through-braked" trains dropped side lamps. Using only a single red lamp (see this picture of a client's guards van).
- Again GWR and SR had slightly different interpretations at times, so check.
- The lamp in the guards hand is also made by DCCconcepts. The wiring is so small its invisibly glued down his body!





Passenger trains - stating in the BR period ... to the present day

- One red lamp at the rear of the train. Generally central as possible, of course, as they were removeable lamps, the position of the lamp bracket was the final arbiter.
- Even with DMUs, etc., which may have had built-in lamps, the added "removeable lamp" was still required until the 1960's. As a very clear example of this, the stylish BR period "Blue Pullman" entered service with both built-in lighting AND lamp brackets!
- Today it's a mixed bag as most have fully fitted driving cabs both end which DO include rear lights that no longer need supplementing with a removeable lamps... even so, there are still loco-hauled services (some of course are charters of preserved stock) ...with a red lamp to the rear.

Freight trains - From later in the BR period to present day

- Until 1969, a brake van needed a red light at the rear.
- After 1969, the need for a brake van was removed... But all trains still needed one red lamp at the rear of the train. Again, placed as central as possible, but of course, as they were removeable lamps, the position of the lamp bracket was the final arbiter.
- Flashing lamps replaced oil lamps in the late 1970's, leading to the LED powered lamp we see today.
- They flash at 120 cycles per minute or 2 x per second.





General guidelines for use of lamps at the rear of UK trains continued....

What colour were the oil lamps?

- LNER Passenger and goods train tail lamps were red until 1938 then white: goods side lamps were black.
- I may be wrong but the only other use of red lamps that of which I am aware was the side mounted lamps on passenger break coaches up until "The Grouping" in the 1920's.
- The LMS lamp became the standard across BR after nationalisation.
- LMS/BR lamps were painted black until about 1960, when they became white... but you can bet that they weren't all suddenly re-painted so there's lots of choice.
- For the brave, lamps on the Coronations matched the loco colour & had wings as well as being fully lined :-)!
- SR and GWR, etc... check please, as I really do not have the info (I am a Midland and LMS man after all... and surely, nobody <u>really</u> models railways with brass domes or whose up lines point North!)

Unless its for the Royal Train or a new premium express, don't make them bright white.. OR clean red or black.

For most of the steam era and the early diesel period, they were chipped, battered about and generally grubby.

So... some dry-brushing with your finest mucky weathering colour is going to be needed!











Sourcing and adding lamps to your 4mm scale rolling stock.

There are several options out there, and you can even paint a microdot LED and pretend it's a lamp if detail doesn't matter to you!

But... having driven myself crazy having to file away far too much white-metal from the castings I could get back then and then needing to drill them to take a Nano-LED, about ten years ago I set out to create some high quality working lamps for DCCconcepts.

We are pretty proud of them as they even have hinged handles that are NOT the size of steam pipes, unlike most competitive offerings! The details are <u>HERE</u> (takes you to our website)

Unless you have laser-vision you can also use this style of lamp for GWR. (The main visual difference between LMS and GWR at this small scale is the orientation of the handle)

The LMS / BR Loco lamp ONE LENS, ONE COLOUR. RED LED (Correct red tint)

DML-LLBRD

6 per pack, with tiny resistors

The LMS / BR LOCO LAMP ONE LENS. TWO COLOURS RED LED + WARM WHITE LED

DML-LLBSL

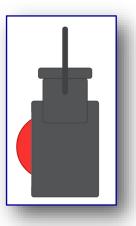
6 per pack, with tiny resistors

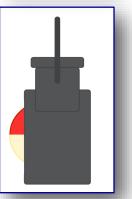
The LMS / BR GUARDS VAN or COACH SIDE LIGHT LAMP TWO LENSES. TWO COLOURS RED LED + WARM WHITE LED DML-LLBRW

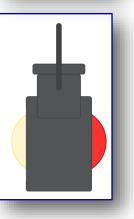
6 per pack, with tiny resistors















The light at the <u>end</u> of the train

Sourcing and adding lamps, continued.

The LNER Lamp. There are two versions

This was the standard LNER / related railway lamp until BR. It continued in use but was also supplemented by the LMS/BR lamp as time progressed. It was generally white... although not often as clean as this photograph! SR modellers can also use this lamp as the SR used a very similar design.





The LNER/ Eastern Region oil lamp for locos, coaches and rolling stock use. Also usable for the end of Pullman-based trains throughout the "Oil Lamp" era.

DML-LNERR ONE LENS, RED LED (With the correct red tint). 6 per pack, with resistors **DML-LNERW** ONE LENS, WHITE LED (Warm White). 6 per pack, with resistors

The BEST... OO/HO scale modern End of Train lamp (EOT).

The EOT lamp came into existence in the latter part of the 1970's.

Initially using incandescent lamps, the high efficiency of LEDs saw them move to LED as soon as it was practical.

With so many superb models of rolling stock now available it was essential that we added the EOT lamp to the DCCconcepts lamp range.





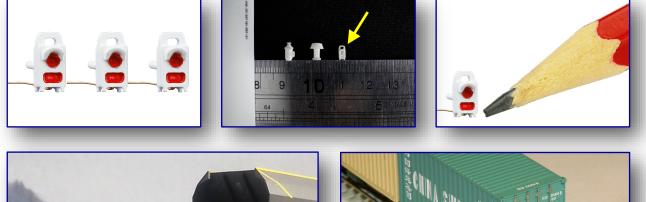
DML-EOTS3 This is so much more than just a pack of EOT lamps...

- 3 EOT lamps
- 3 Controllers and harnesses
- 3 Hall effect triggers for automation
- 3 NEO magnets to trigger operation
- Fine connection wire
- A quantity of axle pickup springs
- Resistor selection.



The modern End of Train lamp (EOT) continued

Comprehensive instructions for connection are, of course, available online. (Click HERE)





Getting power from track to lamp... Axle springs.

Axle springs: adding almost NO friction but giving excellent pickup...

We offer these in three diameters. (Check your axle diameters before ordering).

They slip onto the axle, giving a large contact area without adding pressure to increase the load on your locomotives. (the "tag" end should be the same side as the insulated wheel)

This photo tells the story and shows their use.

DCF-PS1.5

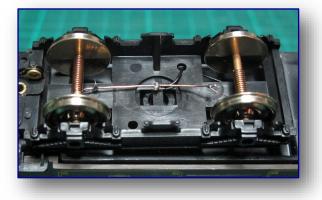
1.6mm internal diameter for 1.5mm P4, EM and N scale axles

There are 48 pcs per pack

DCF-PS2.0

2.1mm ID for 3mm OD OO, HO (and some EM) axles.

There are 48 pcs per pack



DCF-PS3.0

3.1mm ID for some HO and Some OO, inc. some recent Bachmann tenders.

There are 48 pcs per pack



Getting power from track to lamp... Wiper Pickups

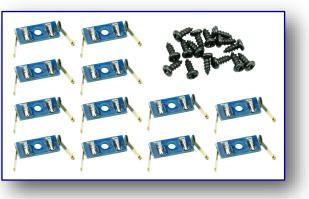
Other useful stuff to help your installation go smoothly.

A more traditional approach to pickups

DCCconcepts pickups are easy to install and they can be secured with glue or the tiny screws that are provided in the pack.

They can also be cut and used individually.

Made of phosphor bronze, we have gold-plated them so they will never oxidise or corrode, so you'll have the best possible electrical contact.



DCF-WP12

12 sets of gold plated phosphor bronze pickups suitable for locos, tenders, coaches & wagons. **There are 12 pairs of pickups per pack**



Two bearing reamers

DCF-BR2

Two versions for use with rigid frame & bogies/trucks.



36x 50mm pieces per pack

DCF-HSSet

Small enough for decoder wire. also in red, black, clear



In a 500gm / 1.1 lb pack

DCT-LLD

2.1mm ID for 3mm OD OO, HO (and some EM) axles.



Decoder wire in all colours

CLICK HERE for range

Fine stranded 32g wire that is perfect for any installation



12 tiny connection PCBs

DCW-12PCB

A dozen micro PCBs to help you to keep installations tidy



33 metres per reel

DCC-KAP8

Super-thin insulation ideal for all installation needs



There's more... but I'll keep it for next time!

Passenger coach lighting is easier now that LED strips are available... but what about first class, or coaches in the "Age of elegance" which featured table lamps. We'll tell you more about them, and how using DCCconcepts Pullman and more modern table lamps can make it all so much better. Here's a "Taster" of what is to come.



That's it for this time....

Next time really WILL be ZEN Black decoders.

(We have delayed it because of unexpected delays with the instructions, which have prevented us putting the full ZEN Black range on sale to the trade & therefore onto our website).

The FOCUS Forum. By the way... if you are not already a Focus Forum member, why not join?

Click here.

You will find a hassle free, informative, supportive forum to participate in, with lots of interesting threads, supportive members and a mountain of knowledge for you to share.

Richard Johnson, DCCconcepts CME