LFX7 - Flashing Effects Lighting LED Controller

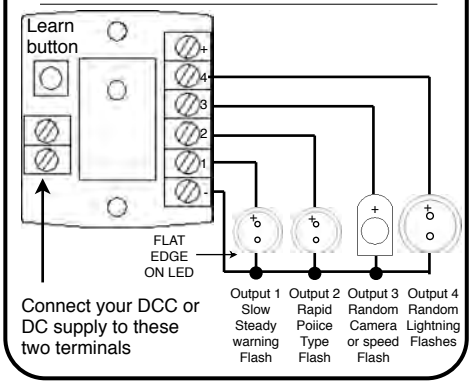
CAUTION - ALWAYS SWITCH OFF POWER TO YOUR LAYOUT BEFORE CONNECTING THIS CONTROLLER

The Flashing Effects Lighting controller has 4 different flashing effects for direct connection to LEDs and can be operated on DC with switches or powered and controlled by DCC. Please read these instructions before connecting the LFX to power.

CONNECTING THE LED's

The LFX7 simulates 4 different flashing effects using LEDs and can be powered and controlled by either DCC or regular DC using switches. We recommend that you try the LFX using the various LEDs supplied before fitting in models.
Switch off power before connecting anything!
Output 1: Steady flash for Belisha or warning lights on lorries/roadworks. Suggest amber LED
Output 2: Rapid double flashes usually seen on modern police cars, fire trucks, ambulances. Suggested LED - clear Blue LED
Output 3: Random Camera flash which could be on a photographer or a police speed trap! Suggest very small clear bright white LED.
Output 4: Lightning flashes are random flashes to simulate Lightning or Electric Arcing. Suggest round white bright LED - could also be used with Flash output 3 for extra lightning!

The outputs directly connect to LEDs (no resistors needed with LFX) but be sure to wire **-** negative polarity on flat edge. Up to 4 LEDs of exactly same type can be used on each output. Extra set of LEDs also available as pack LED7.



POWER AND CONTROL BY DCC

Every DCC accessory needs an 'address' assigned to it and with One Touch™ DCC this is very quick and easy to set up. It is easiest to set up once LEDs have been connected. Start by connecting your LFX to your DCC track output and switch on - the LFX LED should light. Set up your controller to control DCC ***accessories***.

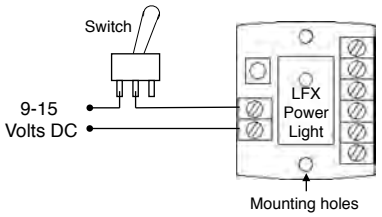
Setting outputs to 4 consecutive addresses
• Set your DCC controller to the accessory address you choose for output 1 (eg 61)
• Press the 'Learn button' once - all LEDs connected to the LFX7 will flash. Then send either a ◀ or ▶ 'direction' command from your controller - the LEDs will stop flashing and your LFX7 output 1 is now set to your address (eg 61) & outputs 2, 3 and 4 to the next (62, 63, 64)

Setting outputs to 4 arbitrary addresses
• Set controller to DCC accessory address you choose for the output you wish to set (eg 61)
• Press the 'Learn button' once - all LEDs you have connected to the LFX7 will flash.
• Press Learn button repeatedly until LED on the output channel you wish to set is flashing.
• Send either a ◀ or ▶ 'direction' command from your controller - LED will stop flashing and that channel is now set to your address (eg 61). Repeat this procedure for each output channel you want to set - you can do this at any time.

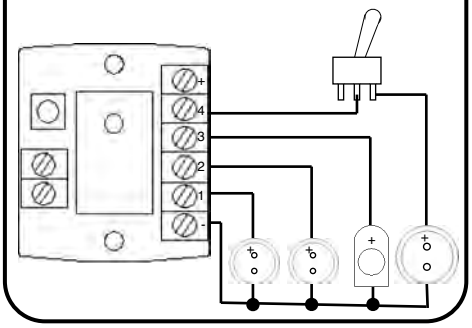
Controlling the outputs
You can control the LEDs by simply setting your controller to the DCC *accessory* address of the LED output you wish to control and sending a ◀ or ▶ 'direction' command from your controller to switch it on or off (actual buttons used for accessory control vary between controllers, so refer to its instructions). Using our examples:
Address 61 ◀ or ▶ = Switches output 1 on / off
Address 62 ◀ or ▶ = Switches output 2 on / off
Address 63 ◀ or ▶ = Switches output 3 on / off
Address 64 ◀ or ▶ = Switches output 4 on / off

POWER AND CONTROL BY DC

To use the LFX module with DC layouts, you need to supply it with 9-15 Volts DC. Most DC controllers have a DC accessory supply or you could use a 9 volt battery. Connect the LFX to the supply using the two screw terminals as shown in the diagram below (polarity not important) and the LFX power LED should light. You can add a switch to power the LFX on / off.
If it does not light see Troubleshooting below



Note that when it is being powered by DC all effect outputs are constantly on, so if you want to be able to switch any effect(s) on and off individually you can add a switch in series between the output and LED as below:



Installing the Flashing Effects LFX and LEDs
Once you have tried your LFX module you need to decide how and where best to fit lights on your layout. The steady flashing light on output 1 could be fitted to a Belisha beacon or on a vehicle. Output 2 is usually fitted to an emergency vehicle - some models have translucent plastic light bars on top which can be lit very effectively by mounting the LED underneath. The camera flash LED could be mounted on a model figure in front of its head and wires hidden out of sight - the LED can even be painted black to look like a camera! The lightning output 4 with the bright white LED will need experimentation for best results on your layout, but projecting onto the backscene from the LED hidden at the back of buildings can work well. You can also experiment with fibre optics as found on christmas decorations - try roughing up the outside of the fibre optic to reveal the light along the strand.

You can connect a maximum of 4 LEDs on each output of the LFX7 but for best results use the same type of LEDs on each output. The best way to decide to use is to connect various LEDs and experiment.....

Unlike traditional filament lamps, LEDs do not get hot and so can quite safely be fixed to the inside of card or plastic buildings or into model street lights or signs using adhesive tape or glue.
We have made the LFX module as small and light as possible so that it can be easily hidden inside a building or scenery, though it can be mounted under the baseboard and held using a double sided sticky pad or small screws, but be careful not to overtighten.
If using the LFX on DCC you can connect it directly to the nearest DCC rails - note it may be easier to set the addresses before mounting it in a building or a 'hard to get at' place - see step 3 above.

The following accessories for your LFX7 are available from your Train-Tech Dealer or www.dcpexpress.com

LED7: Pack of LEDs for LFX7
Pack of extra LEDs as included with the LFX7.

LEDCLIP1: Solderless LED clips
Pack of clips with 200mm of wire which enable LEDs to be connected away from the LFX without soldering

LEDs are available from many sources - don't be afraid to experiment!

Troubleshooting when using a DCC system

• Check that the power light on the LFX is on - if not and locos run correctly on the track check the connection wires between the LFX, DCC controller and track.

• If you have connected the LFX to track rails test it connected directly to the DCC controller output instead.

• If the LFX power light is on but the LED's connected to your LFX do not switch on or off, check that your DCC controller is in *accessory* address control mode - note that this is completely different to Locomotive address control and will be explained in your controller instructions.

• If some or all of the LED's connected to the LFX fail to light correctly, double check the wiring and if necessary reverse the connections of some LED's.

Troubleshooting when using a DC system

• If the red power light on the LFX does not come on, check that it is receiving power from a suitable 12 Volt DC supply - the polarity of connection is not important as this is corrected inside the LFX. You can also easily test the LFX by connecting it to a 9 volt PP3 battery - the LFX power light should light and connected LEDs should work normally, although as it is running on only 9 volts they will not be as bright.

• If some or all of the LED's connected to the LFX fail to light correctly, double check the wiring and if necessary reverse the connections of the LED's.

If these steps fail please contact your supplier or DCP for advice and Technical support.

Notes
The LFX module may get slightly warm when used for long periods which is quite normal.

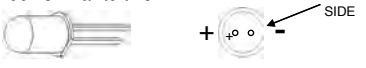
Document Ref D779720/1

General information on using LEDs with models
LEDs are really useful lights which, unlike their conventional filament bulb predecessors, are robust, low power and if used correctly can effectively last forever. But there are important considerations to using them. Firstly LED stands for *Light Emitting Diode* and a diode is an electronic component which only works electrically in one direction, so always need to be fitted the correct way round to work correctly and last. Whilst LED's will work on AC (alternating current) for a while, continuous use on AC or reverse connection will reduce the life.

Most standard miniature LEDs which a modeller will use must only have a maximum voltage of 2 to 3 volts applied, so current flowing through the LED needs to be reduced and this is usually done by a resistor in series (in between), typically 1000 ohms for a 12 V supply. However to make wiring easier for modellers all Train-Tech LFX or Signal LED controllers already have resistors built in so that LEDs can connect directly to the module without the need for any resistors.

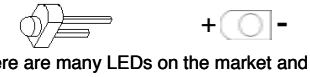
Train-Tech also offer packs of various LEDs for modellers and these always come with instructions and also suitable resistors for using them on a standard Model Railway 12V DC supply.

Connecting LEDs
As explained previously LEDs have a polarity and must be connected the correct way round to light. The most popular LEDs come in 3mm and 5mm diameter cases and look similar to this:



The best indication of polarity on this type of LED is to find the flat side on the round base. This side usually indicates the negative (Cathode) connection and the other wire the positive (Anode) connection to power.

Another really small LED we supply for some Train-Tech products looks like this:



There are many LEDs on the market and it is good to experiment, but check manufacturers data for specific connection information as there are no real standards.

Track Tester

DC & DCC · OO HO · N

Only £5

- Quickly tests track for power faults
- Low cost and easy to use
- Works on N, TT, OO or HO Track
- Indicates the DC polarity, or DCC, or a fault
- Small enough to check point frogs

TT1 Track Tester

Track not included

Buffer Lights

DC & DCC · WIRE FREE · OO HO · N

Track and buffer stop not included

- Add realistic stop light to any siding
- Simply clips onto track – No wires!
- Fits next to most buffer stops & kits
- Or at platform end or free standing
- On DCC both lights are on constantly
- On DC one light is on & varies with speed

BL1 OO/HO gauge Buffer Light
BL2 N gauge Buffer Light

One-Touch DCC™ Digital Signals

DCC · WIRE FREE · OO HO

Track not included

- Signal with DCC decoder built into base
- Can just plug direct into track – no wires!
- Easy to fit and use – no CV programming!
- Can sync to other signals & points

DS1 Home: Red (R) and Green (G)
DS2 Distant: Yellow (Y) and Green (G)
DS3 Home Distant: (R) (Y) (G)
DS4 Distant: (Y) (G) (Y)
DS5 Outer Distant:(R) (Y) (G) (Y)
DS5HS Outer Dist:(R) (Y) (G) (Y) (High Speed mainline)
DS6 Dual Head Home: (R) (G)
DS7 Dual Head Distant: (Y) (G)
DS8 Stop-Caution: Red (R) and Yellow (Y)

One-Touch DCC™ Point Controllers

DCC · OO HO · N · Z

PC1

Point motor and track not included

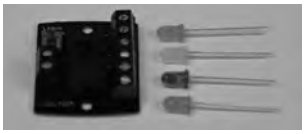
PC2

- Control points and uncouplers using DCC
- Easy to use – No CV programming!
- Work with most solenoid point motors
- Just connect 2 wires to nearby DCC rails
- Easy screw terminals – no soldering
- Built in CDU for efficient operation
- Can sync to other points and signals

PC1 DCC Single Point Controller
PC2 DCC Quad Points Controller

LFX Lighting Effect Controllers

DC & DCC · ANY GAUGE

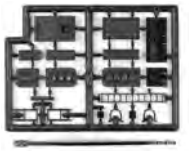


- Easily add lighting effects to your layout
- LEDs screw in – no resistors or soldering
- Powered by 9v battery, 12-16V DC or DCC
- On DC the effect is on when powered
- On DCC the effect can be controlled
- Effects LEDs are included

LFX1 Level Crossing Barrier
Lights a sequence of steady amber and then flashing red LEDs as seen at crossings
LFX2 Home & Shop Lighting
Randomly controls lights in houses, shops, stations, pubs
LFX3 Traffic Lights
Controls one pair of timed traffic lights (TL1 Traffic light kit also available)
LFX4 Log or Camp Fires
A realistic fire effect using amber, yellow, red LEDs
LFX5 Welding effects
Realistic electric arc welding effects with bright LEDs
LFX6 Quad LED Lighting Controller (DCC Only)
Controls 4 sets of LEDs on and off using separate DCC addresses. Directly powers 4 LEDs per output
LFX7 Flashing effects
Simulates four flashing effects ; belisha beacons, emergency services, camera flash, lightning, sparks

Self Assembly Colour Light Signal Kits

DC & DCC · OO HO



Every kit includes the signal head, aluminium post and base plus detailing kit inc ladder, handrails

- Low cost – adapt to your own design
- Control by switches or a signal controller
- LEDs are prefitted to a narrow PCB

General purpose signal kit - no LEDs:
SK1 Basic kit 2/3/4 aspect & dual heads
Signal kits with LEDs and resistors
SK2 Home 2 aspect kit Red (R) Green (G)
SK3 Distant 2 aspect kit (Y) (G)
SK4 Home Distant 3 aspect kit (R) (Y) (G)
SK5 Distant 3 aspect kit (Y) (G) (Y)
SK6 Outer Distant 4 aspect (R) (Y) (G) (Y)
SK7 Dual head Home 2 aspect (R) (G)
SK8 Dual head Distant 2 aspect (Y) (G)

One-Touch DCC™ Signal Controllers

DCC · ANY GAUGE

Signals not included

- Control LED & Semaphore signals by DCC
- Easy to set up & use –No CV programming!
- Easy screw terminals – no soldering
- Can sync to other points & signals

SC1 Dual 2 aspect colour light signals controller
Controls one or two 2 aspect colour light signals.
SC2 3 or 4 aspect or 2 aspect + route signal control
Controls one 3 aspect or one 4 aspect or one 2 aspect + route.
SC3 Dual Dapol OO/N Sempahore signal controller
Controls one or two standard OO or N Dapol motorised semaphore signals by DCC. Signals connect direct to the SC3 - no modifications or power supply needed.

0314

Automatic Coach Lighting

DC & DCC · Auto · WIRE FREE · OO HO

Rolling stock not included

- Easy to fit in seconds - no wiring!
- No switch - senses motion & turns on!
- Turns off automatically 4 minutes after stopping
- No pickups **so works on regular DC & DCC**
- Traditional warm white or modern cool white
- Also with tail light, sparks or door light effect
- Lights stay bright & constant with no flickering
- Fits most OO/HO coaches and maybe cut down

Coach Lighting Strips (including LEDs and battery):
CL1 : Cool white for modern coaches with fluorescent or LED lighting
CL2 : Warm white for traditional coaches simulating oil lamps or bulbs
CL21 : Cool white plus modern flashing lantern LED tail light
CL22 : Warm white plus flickering flame lantern LED tail light
CL23 : Cool white plus bright electric spark arc effect LEDs
CL24 : Cool white plus amber door lights which light after train stops

Automatic Tail, Firebox & Loco Lights

DC & DCC · Auto · WIRE FREE · ANY GAUGE

Rolling stock not included

- No switch - senses motion & turns on!
- Turns off automatically 4 minutes after stop
- No pickup, wires or soldering - LED plugs in
- Fit in brake vans, coaches, loco, wagons etc
- Runs for ages on small button battery

Single output modules:
AL1 Flashing Tail light
AL2 Flame Tail / Firebox
AL3 Constant lighting
LEDs & battery included

Dual output modules:
AL21 Flashing + constant
AL22 Flame + constant
AL23 Sparkarc + constant
AL24 Doors open + constant

SFX Sounds for Trains

WIRE FREE · DC & DCC · Auto

- Easy low cost sound that works on *any* railway
- **Easy to fit in seconds** - no connections
- No switch - senses motion & turns on!
- No pickups **so works on regular DC & DCC**
- Self contained - built in speaker & battery
- Tiny capsule: 25mm x 20mm x 12mm approx
- Fit capsule into loco, tender, wagon, coach...
- **Real recorded sounds** - Steam & Diesel etc

Each Capsule is supplied with battery, sound tube & fitting guide

SFX10: Steam Locomotive
SFX20: Diesel Locomotive
SFX30: Electric Power Locomotive
SFX50: Diesel Multiple Unit
SFX60: Electric Multiple Unit
SFX70: Shunting
SFX80: Passenger Coaches

See our website for more info & to hear the sounds

SEE WWW.TRAIN-TECH.COM OR CONTACT DCP FOR FREE COLOUR BROCHURE

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Train-Tech

Model Technology Made Easy

LFX7 Four output Flashing Effects Lighting Controller

- Steady Flash for Belisha or Warning Lights
- Rapid Flashing for Emergency Vehicles
- Camera Flash for Photographer or Speed Trap
- Random Bright Flashes for Lightning or Arcing
- Set of bright LEDs included for each effect
- Powered and Controlled by DCC or regular DC

www.Train-Tech.com

See our website, your local model shop or contact us for a free colour brochure
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