



# Light-Display for the PC-Light Control Light@Night

Light-Display Part-No.: 050032

>> finished module <<

At least one **Light-Display-Module** and the **Light-Interface** for the parallel interface of a computer will build together the hardware for the **PC-Light Control Light@Night**.

It is possible to connect up to **4 Light-Display-Modules** with **40** light control outputs each onto each **Light-Interface**.

The **lighting effects** (neon lamps, gas street lamps, flashing blue light, light chains, traffic lights and many others) can be assigned to a **maximum of 160 outputs**.

Suitable for analog and digital model railways.

This product is not a toy! Not suitable for children under 14 years of age! The kit contains small parts, which should be kept away from children under 3! Improper use will imply danger of injuring due to sharp edges and tips! Please store this instruction carefully.



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## Introduction/Safety instruction:

You have purchased the **Light-Display-Module** for the PC-Light control **Light@Night** for your model railway.

The **Light-Display-Module** is a high quality product that is supplied within the assortment of Littfinski DatenTechnik (LDT).

We are wishing you having a good time using this product.

The finished module comes with a **2 years limited warranty**.

- Please read the following instructions carefully. Warranty will expire due to damages caused by disregarding the operating instructions. LDT will also not be liable for any consequential damages caused by improper use or installation.

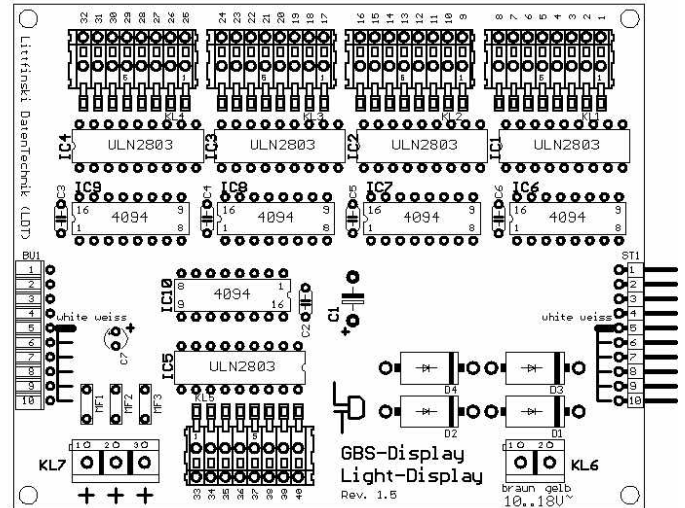
## Connect the Light-Display-Module to the Light-Interface:

- **Attention:** Before starting the installation switch off the drive voltage by pushing the stop button or disconnect the main supply.
- The **Light-Display-Modules** contain a large capacitor which has to be completely discharged before the **Light-Display-Module** can be connected or disconnected. Please wait a couple of minutes after switching off the supply transformer before you connect or disconnect the **Light-Display-Module**.

Connect the **Light-Display-Module** to the **Light-Interface** via the **10-poles pin bar** or to an existing **Light-Display-Module**. The pin bar shall **not be inserted in offset position** to the socket bar.

The **modules are correct inserted** whenever the pc-boards are **flash at the top and at the bottom**. **Picture 1** at the rear of this instruction shows the correct position of the modules.

A **PC-Light control Light@Night** consists of a **Light-Interface** and up to **4 Light-Display-Modules**. Therefore is it possible to control a **maximum of 160 light-outputs** with **different light effects** which can be **individual controlled**.



## Voltage supply to the Display-Modules:

Each **Light-Display-Module** will get the **voltage** from a **model railway transformer** via the **clamp KL6**.

The **supply voltage** can be between **10 and 18 Volt AC** or between **12 and 24 Volt DC**.

If you use mainly **light emitting diodes** on your layout it is possible that one **52VA transformer can supply more than one Light-Display-Module**. **Picture 3** at the rear side of this instruction shows how to arrange the **supply of one transformer to two Light-Display-Modules**.

Please **attend always** to the **same polarity** (marked **brown** and **yellow**) at the clamp **KL6** of the connected **Light-Display-Module**.

If you use **incandescent lamps** for illumination one **52VA transformer can supply one Light-Display-Module**. Also in this case please **attend always** to the **same polarity** (marked **brown** and **yellow**) at the clamp **KL6** of the connected **Light-Display-Module** (**Picture 4** at the rear side of this instruction).

## Connect the Illumination:

**Each Light-Display-Module contains 40 outputs**. **Model incandescent lamps** can be **directly connected**. **LED's** require a **serial resistor** (about 4,7kOhm, depending to the input voltage on KL6).

**Each output** can be loaded up to **max. 0,5 Ampere**. For clamping a connection cable onto one of the 40 outputs please press **carefully** down the **white lever** and insert the cable from the top into the clamp.

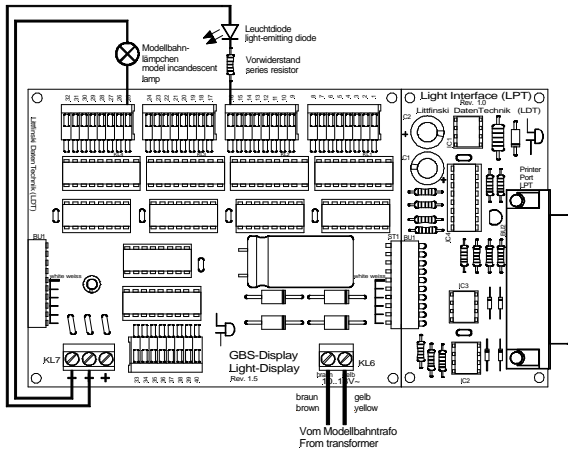
If the **Light-Display-Module** will be supplied with AC-voltage is the **DC-voltage** at the 40 outputs about **(1,414 \* input voltage) – 1,4 Volt**. An AC input voltage of e.g. 15 Volt (on KL6) will give a DC-voltage of about 20 Volt at the outputs.

If the **Light-Display** will be supplied with DC voltage on **KL6** the **output DC voltage** will be **lower by about 1,4 Volt** related to the input voltage. The interrelation between input and output voltage will be shown on **table 1** at the rear side of this instruction.

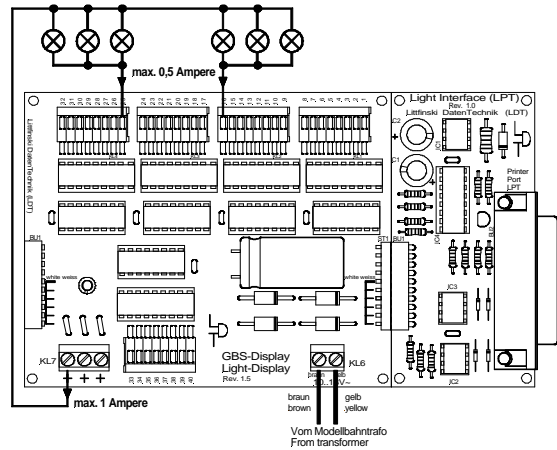
The **common positive pole** for all outputs is **clamp KL7** (**Picture 1** at the rear side).

The **common positive pole** contains **three inputs** which can be loaded with **1 Ampere** each. **Distribute** the common positive connection of the lamps and LED's **evenly** to the three positive clamps **KL7** (**Picture 2** at the rear side).

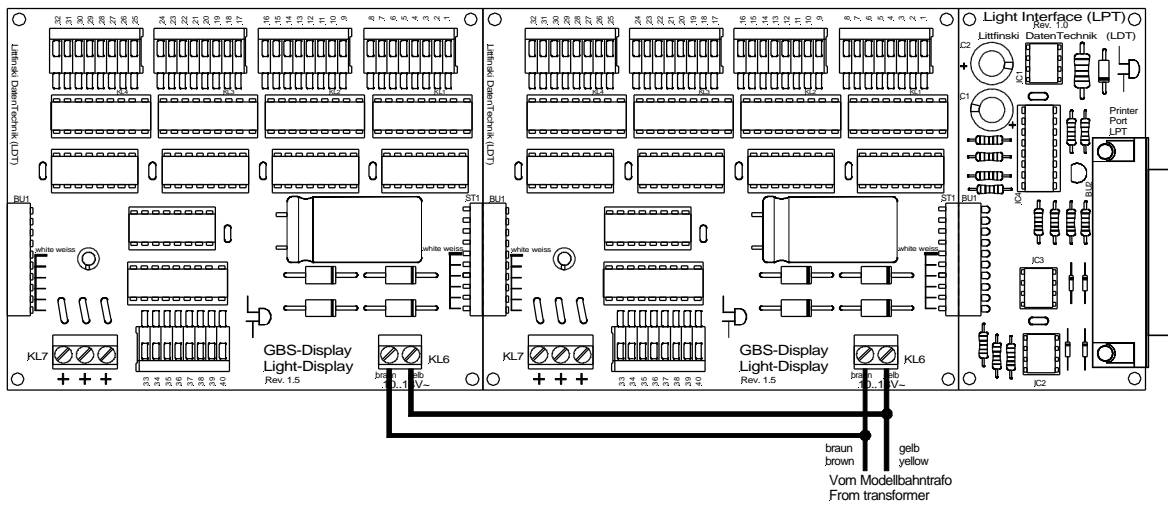
**Picture 1:** Incandescent lamps can be connected directly. For Light Emitting Diodes it is absolutely required to use a serial resistor (about 4,7kOhm, related to the input voltage at KL6).



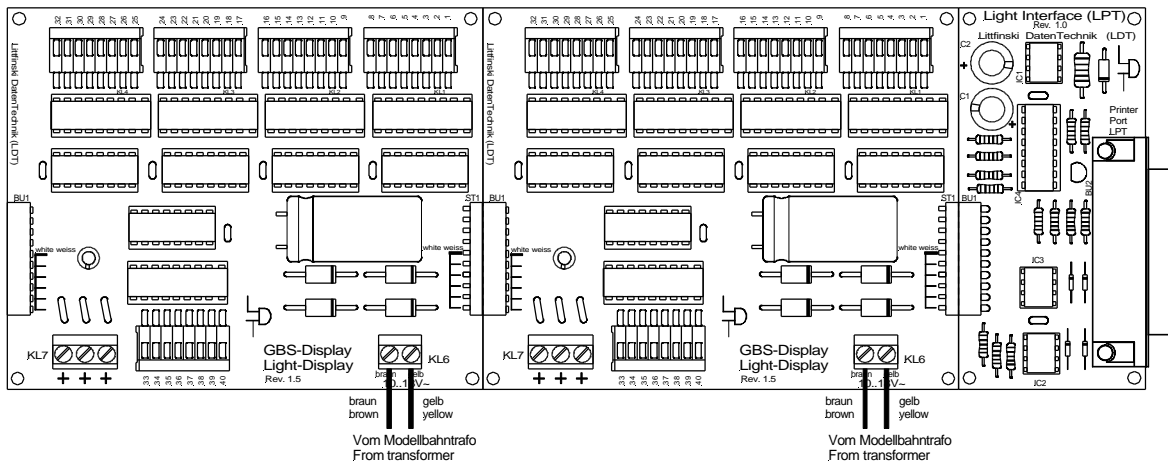
**Picture 2:** Each of the 40 light outputs can be loaded by up to max. 0,5 Ampere. Each input of the three positive clamps (KL7) can be loaded with max. 1 Ampere.



**Picture 3:** If you illuminate your layout mainly with Light Emitting Diodes one 52 VA transformer can supply more then one Light-Display-Module. In this case attend always to the same polarity (marked brown and yellow) at the clamp KL6 of the connected Light-Display-Modules.



**Picture 4:** If you illuminate your layout with incandescent lamps one 52VA transformer can supply one Light-Display-Module. If possible please use only transformers from the same manufacturer and attend to the same polarity (marked brown and yellow) at the clamp KL6 of the connected Light-Display-Modules.



Colored sample connections can be found on our Web-Site [www.ldt-infocenter.com](http://www.ldt-infocenter.com) at the section "Sample Connections".

**Table 1:**

Input Voltage (KL6)	Output Voltage	Input Voltage (KL6)	Output Voltage
AC-Voltage	DC-Voltage	DC-Voltage	DC-Voltage
10 V AC	12,7 V DC	12 V DC	10,6 V DC
12 V AC	15,6 V DC	15 V DC	13,6 V DC
15 V AC	19,8 V DC	16 V AC	21,2 V DC
16 V AC	21,2 V DC	18 V AC	24,0 V DC
18 V AC	24,0 V DC	24 V DC	22,6 V DC

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