



# Train Influence Module (ZBM)

## for the light signal-decoder LS-DEC

from the *Digital-Professional-Series* !

**ZBM-F Part-No.: 600012**

>> finished module <<

- ⇒ If a signal which is controlled by the light signal-decoder LS-DEC stays in position "red" the track section in front of the signal will be switched to current free.
- ⇒ 4 track sections in front of signals can be switched by each train influence module.
- ⇒ The relay outputs can switch launch- and brake-modules as well.

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 or injuring due to sharp edges and tips! Please store this instruction carefully.



## Introduction/Safety instruction:

You have purchased the model railway train influence module (ZBM) for the light signal-decoder LS-DEC.

The ZBM is a high quality product that is supplied within the *Digital-Professional-Series* of Littfinski DatenTechnik (LDT).

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

- Please read the following instructions carefully. Warranty will expire due to damages caused by disregarding the operating instructions. LDT will also be not liable for any consequential damages caused by improper use or installation.
- Also, note that electronic semiconductors are very sensitive to electrostatic discharges and can be destroyed by them. Therefore, discharge yourself before touching the modules on a grounded metal surface (e.g. heater, water pipe or protective earth connection) or work on a grounded electrostatic protection mat or with a wrist strap for electrostatic protection.
- We designed our devices for indoor use only.

The finished module and the finished modules in a case comes with **24 month warranty**.

## Connecting the train influence module to your digital model railway layout:

- **Attention:** Before starting the installation switch off the drive voltage by pushing the stop button or disconnect the main supply.

The train influence module receives the power supply via the clamp KL5. The voltage of 14...18V~ of a model railway transformer (ac output) is acceptable.

## Operation mode:

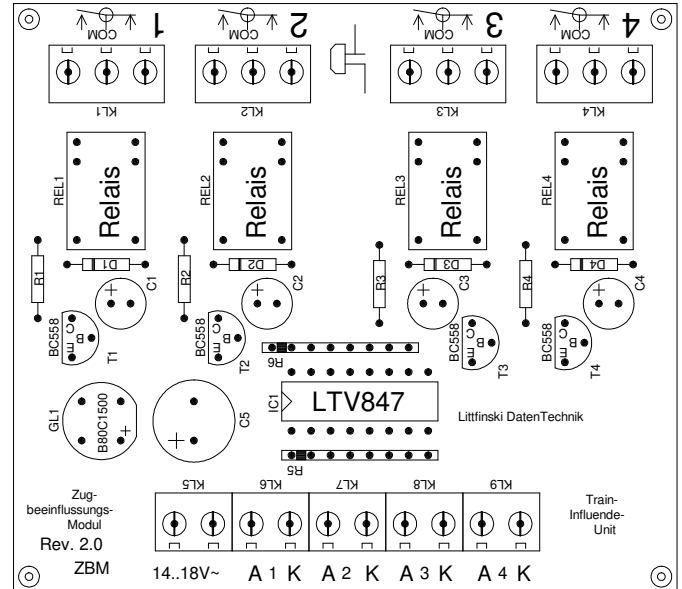
The train influence module includes 4 relays with one shift contact each. The relays will be controlled by switch amplifiers from the light signal-decoder LS-DEC. Thus makes it possible to switch the track section in front of the respective signal current free.

The connection circuits referring to the following description can be found on the rear side of this instruction.

As each light signal-decoder is able of a digital control of 4 signals the train influence module includes 4 relays for switching the track section in front of each controlled signal current free.

Connect the clamps of the train influence module marked "A" with the connection marked "+" of the light signal-decoder.

As the inputs of the ZBM are galvanic separated by opto couplings is it possible that the switch signals come from different light signal-decoders.



Each connection marked "K" has to be connected to the respective output of the light signal-decoder which supplies the red light emitting diode of the signal which is switched "ON" by Hp0 only.

The sample connections of the following page shows that the track section in front of a main signal will be switched current free by Hp0. The light emitting diode supplied by connection RT2 of the light signal-decoder will be switched "ON".

The train influence module has to get the supply from the connection RT2 to the respective input connection "K" as well to assure that the track section will now be switched current free.

To assure that older loc decoders do not loose the drive direction information during the waiting period in front of a signal the track gets a small current supply via a 1.5 kOhm resistor.

Further sample connections for the train influence module ZBM can be found at the Internet on our Web Site ([www.ldt-infocenter.com](http://www.ldt-infocenter.com)) at the section "Sample Connections".

## Accessories:

For safe installation of the train influence modules ZBM-F below your model layout we offer an installation set under the order code MON-SET and for the assembled kits a sturdy exact matching case (order code: LDT-01).

## Further Products from our Digital-Professional-Series:

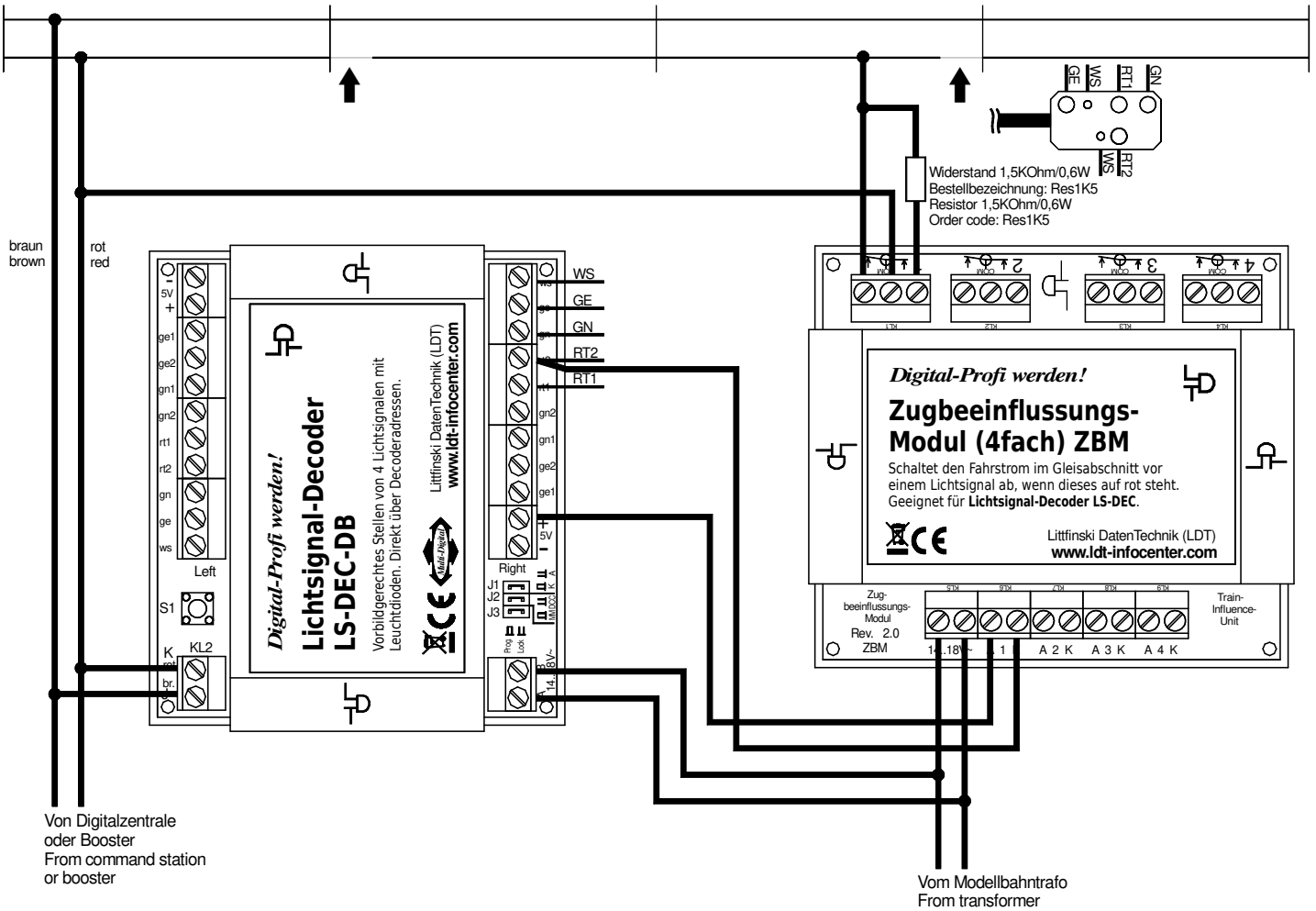
### LS-DEC

Light signal decoder for up to 4 LED train signals. Signal signs will be originally dimmed up and down and directly positioned via the decoder address.

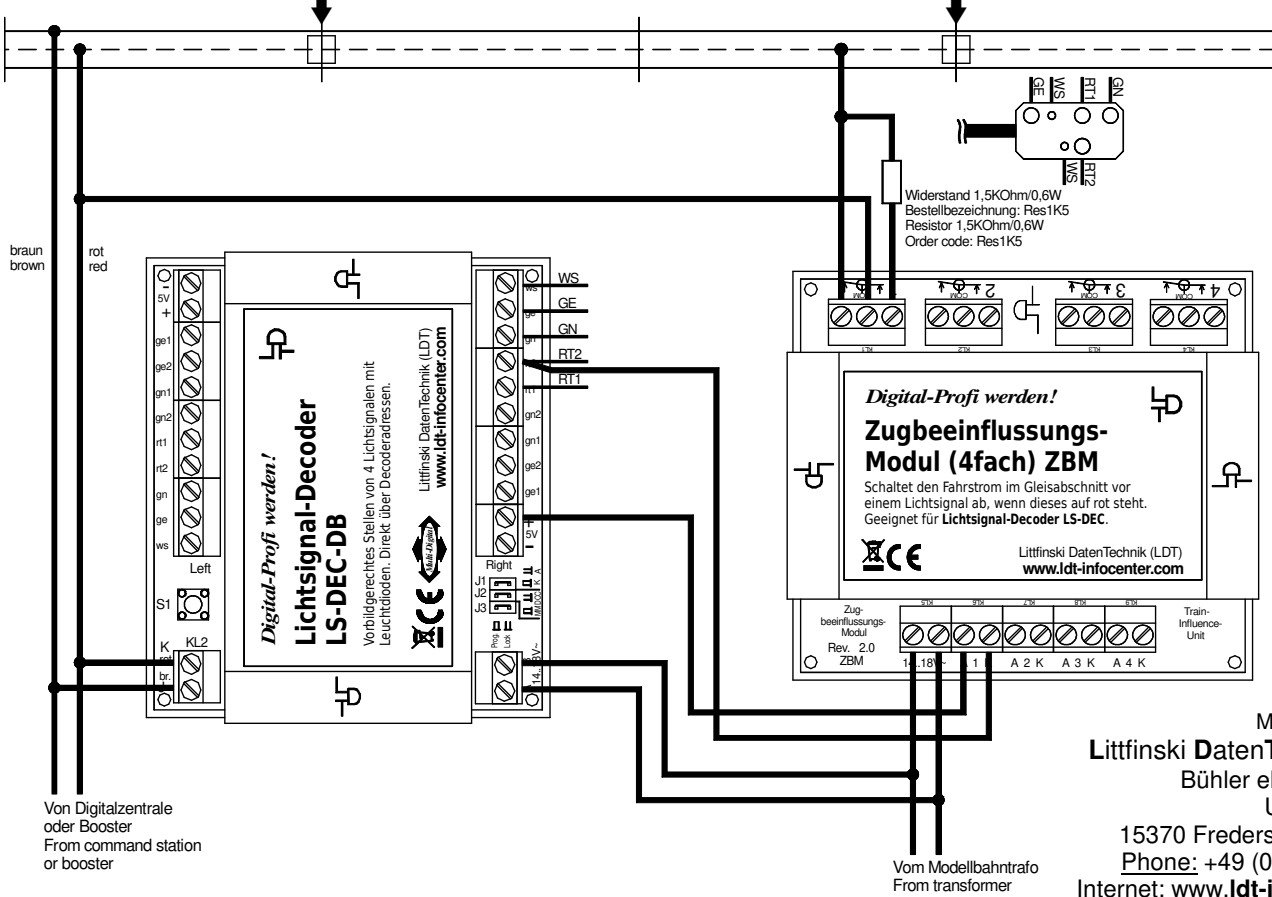
### S-DEC-4

4-fold turnout decoder for four magnet accessories and 1 Amp. switching power each. With free programmable decoder addresses and possible external power supply.

Picture 1: Train influence module ZBM and light signal-decoder LS-DEC connected to a 2 conductor track.



Picture 2: Train influence module ZBM and light signal-decoder LS-DEC connected to a 3 conductor track.



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