Littfinski **D**aten**T**echnik (**LDT**)

Operation Instruction

Reverse-Loop Module

from the *Digital-Professional-Series* !

KSM-SG-F LDT-Part-No.: 700502

>> finished module <<

Suitable for the digital operation of all digital formats

The polar reversal at the reverse-loop will be performed without short-circuit via two sensor rails.

With reason to an external power supply possibility is a simple control of the reverse-loop with track occupancy module (e.g. RM-GB-8(-N) and RS-8) possible. The sensor rails will be controlled 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.

Multi-Digital

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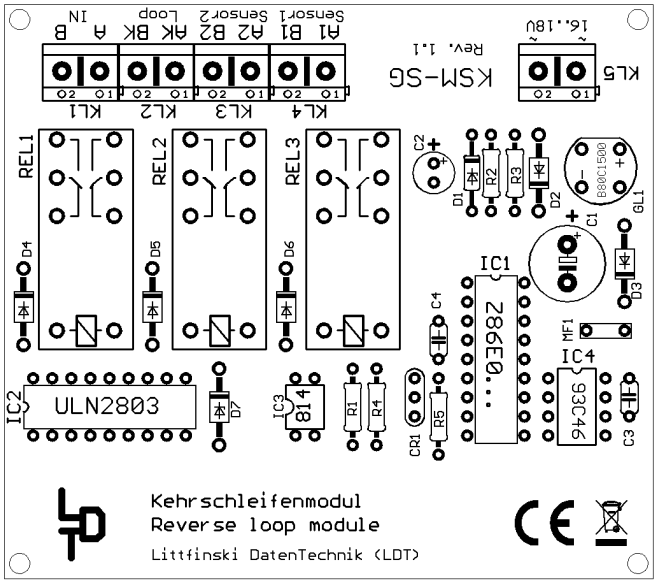
Both rails of the **sensor tracks** (**A1**/**B1** and **A2**/**B2**) and the **reverse loop** (**AK**/**BK**) will be **completely isolated** and connected to the **respective marked clamps** at the **reverse-loop module KSM-SG**.
The **sample connection 1** at the rear side of this instruction shows the complete wiring.
The optimal **length** of the **sensor rails** will be **5 to 20 cm**. The **reverse-loop rail gets the supply via the clamps AK and BK**. The **reverse-loop rail** has to have at **minimum** the **length** of **the longest train** of the layout.

The **reverse-loop KSM-SG** can switch up to **8 Ampere digital current**.



Introduction/Safety instruction:

You have purchased the **reverse-loop module KSM-SG** for your model railway layout.
The **KSM-SG** module is a high quality product that is supplied within the ***Digital-Professional-Series*** of **L**ittfinski **D**aten**T**echnik (**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.

The **KSM-SG** comes as finished module and as finished module in a case with **24 month warranty**.

Connecting the reverse-loop 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 reverse-loop module receives the **power supply** via the clamp **KL5**. The voltage of 16...18V~ of a model railway transformer (ac output) or 22…24V DC is acceptable.

Operation mode:

The **reversal polarity** of the **reverse-loop** will be **performed without short circuit** due to **2 sensor-tracks** which are located at the **entrance** and at **the exit** of **the reverse-loop**.

The **input A** and **B** of the **reverse-loop module KSM-SG** will receive the digital current from the command station or from a booster from the ring-conductor “driving”. It is important that the **reverse-loop** will be **complete inside one booster area** and not between two rail sections which get the supply from two different boosters.

Because the **KSM-SG** itself requires no digital current and **receives** the **energy** from a **model railway transformer** or a **switched current supply unit** is a simple wiring for the **control of the reverse-loop** in **combination** with track **occupancy sensors** possible.

The **sample connections 2** at the rear side of this instruction shows the reverse-loop control via the **feedback module RM-GB-8(-N**) **with integrated track occupancy report**.

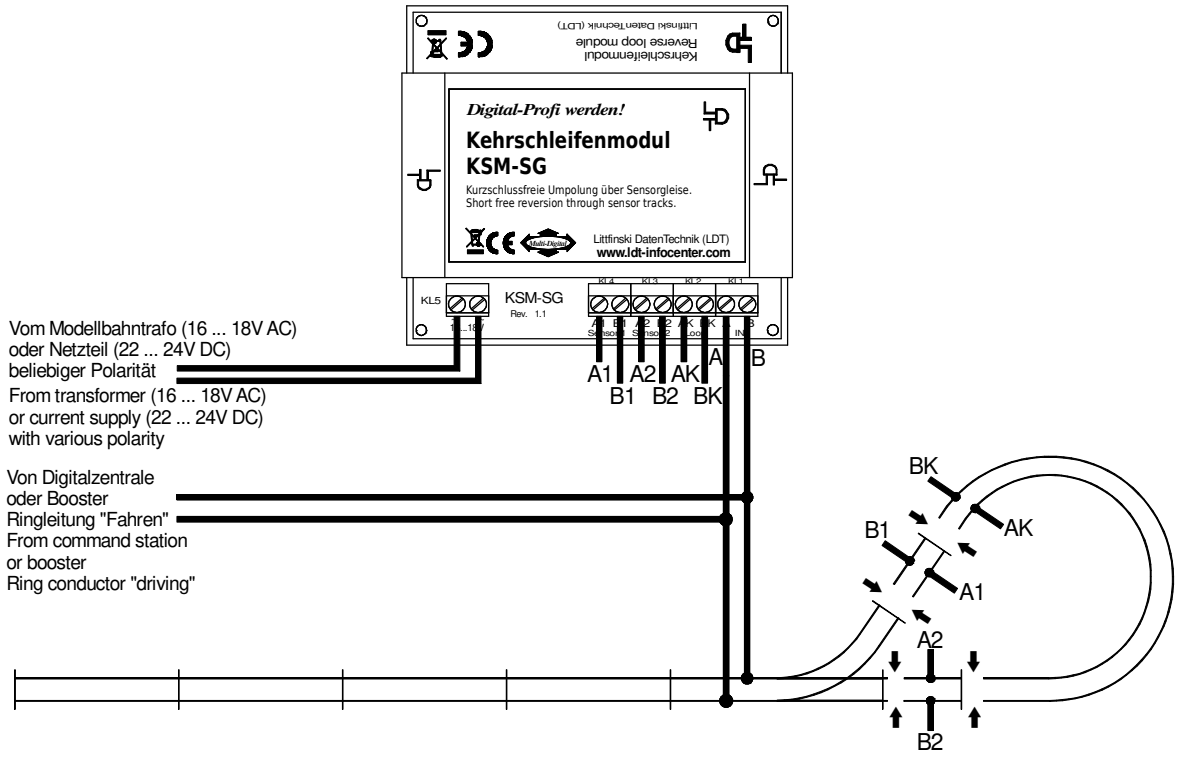
The **reverse-loop module KSM-SG** inputs **A** and **B** receive digital current from one of the **8 outputs** of the **RM-GB-8**(**-N**). On this process will be **every current consumer** within the **reverse-loop recognized** and produces an **occupancy report**. The **sensor tracks** will be **controlled as well**.

Further **information** related to the **control** of **reverse-loops** can be found at the Internet on our Web-Site (www.ldt-infocenter.com) within the section “**Downloads**”. Please download the file “**reverse-loop_32**” of the line “**Reversing loop monitoring**” onto your PC.
At the section “**Sample Connections**” on our Web-Site are additionally **samples** for the **reversal polarity** with the **reverse-loop module KSM-SG** for further track layouts available.

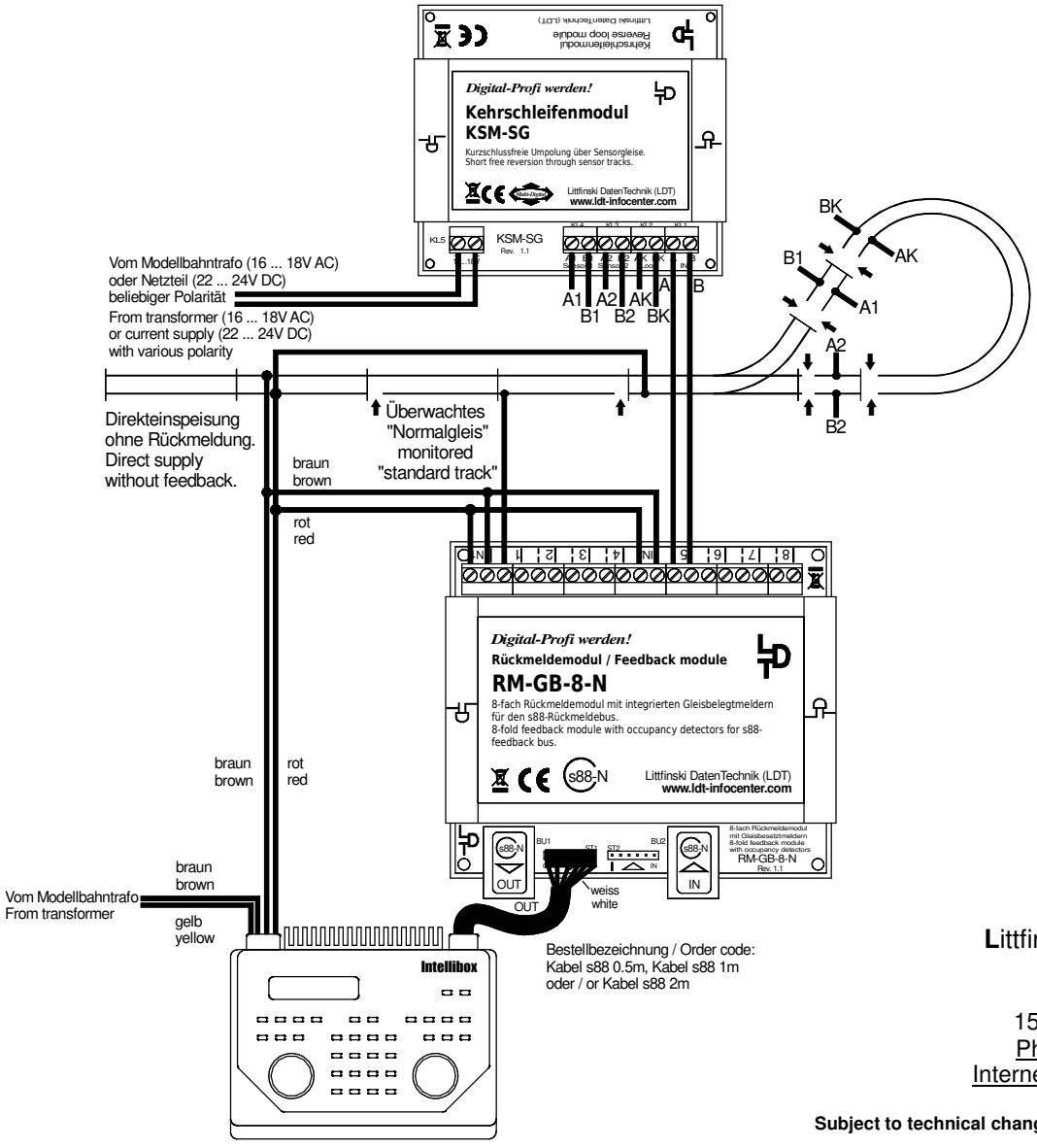
Accessories:

For safe **installation** of the **reverse-loop modules** 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**).

Sample Connection 1: Automatic polarity of a standard reverse-loop with the **reverse-loop module KSM-SG**.



Sample Connection 2: Reverse-loop polarity via the **reverse-loop module KSM-SG** plus **track occupancy report** at the reverse-loop with the **RM-GB-8-N**. Sensor tracks will be monitored as well.



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