



High Speed Interface HSI-88 for the s88- feedback bus

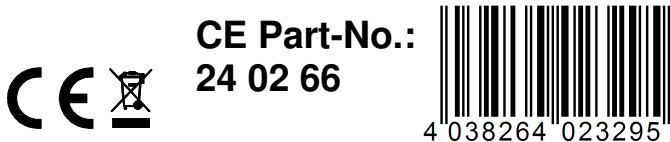
from the *Digital-Professional-Series* !

HSI-88-G Part-No.: 030313

>> finished module in a case <<

- ⇒ Extremely fast (9600-baud) galvanic separated connection through the serial port (RS232) of the Personal Computer (PC).
- ⇒ 3 feedback lines triple the reading speed of the s88 feedback bus.
- ⇒ 3 feedback lines will also ease the grouping and installation of the feedback modules below your model railway panel.

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 Information:

You have purchased the High Speed Interface HSI-88 for the s88 feedback bus. The HSI-88 is a high quality product, which is supplied within the *Digital-Professional-Series* of Littfinski DatenTechnik (LDT).

We wish 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 not be liable for any consequential damages caused by improper use or installation.

The finished modules in a case come with 24 month warranty.

Connecting the Interface to your digital control center and Personal Computer (PC):

- **Attention:** Please switch off your model railway by disconnecting the transformers from AC-current, and switch off your PC before starting the installation of the unit.

Voltage (14 to 18V AC from any model railroad transformer) will be supplied via clamp KL1 to the interface HSI-88.

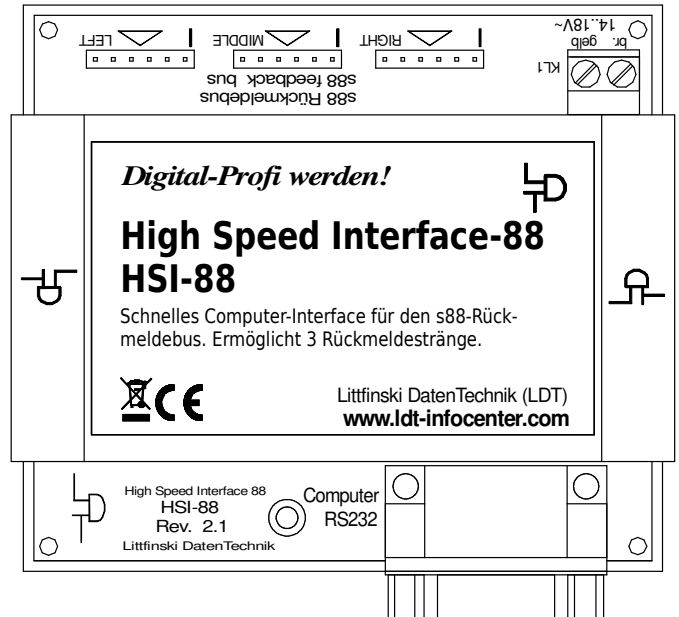
If you use the HSI-88 on a 3L system (Märklin tracks with center conductor) you can use feedback modules which switch to ground connection.

In this case please pay special attention to the correct connection of the supply cables "brown" (system ground) and "yellow".

The input of clamp KL1 is marked accordingly.

If your model railway software supports the HSI-88 you need a **second free serial port** on your PC. This port will be mostly indicated as **COM-Port**.

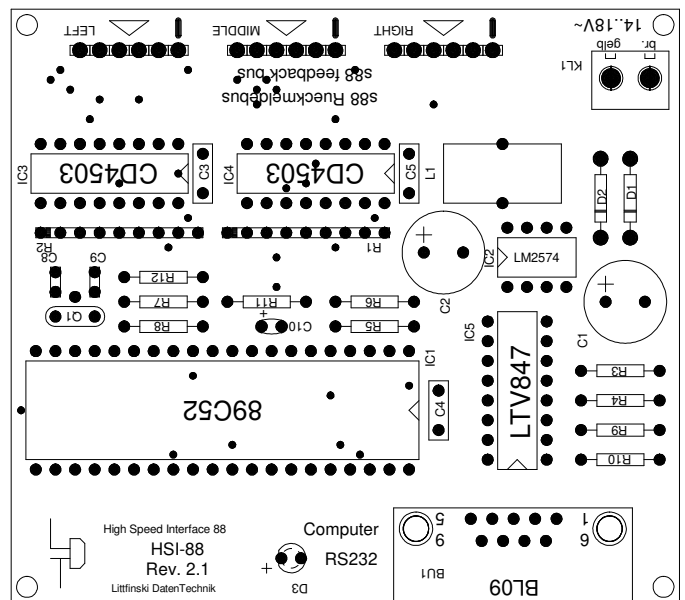
Use the **supplied computer cable** to connect the Interface HSI-88 via the **free serial port** with your PC.



At last connect the s88-feedback modules to the HSI-88 Interface by using the three 6-pole pin plugs marked **LEFT**, **MIDDLE** and **RIGHT**.

With the HSI-88 you can build up 3 feedback lines. This will give the advantage of speeding up the reading of the feedback modules by three times.

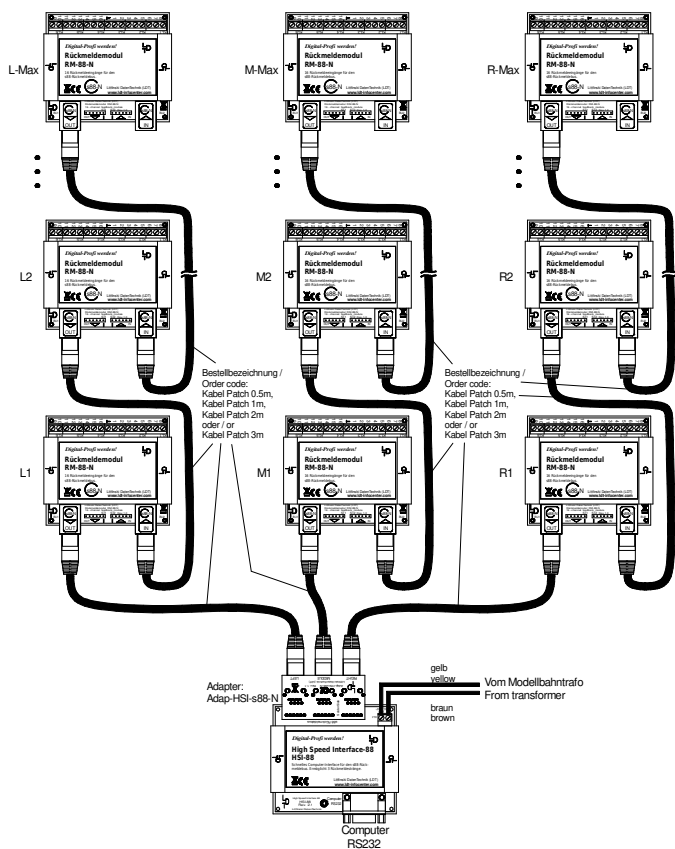
Another advantage is the simple arrangement and installation of your feedback modules below your model railway track panel.



Start always with connecting the **first line** on the input marked as **LEFT** of the HSI-88. If you want to build a second line connect it to the input marked as **MIDDLE**. A third line must be connected to the input marked as **RIGHT** accordingly.

Even if you use only some few feedback modules on your model railway track it is recommended to **distribute** the feedback modules **to all three inputs** (LEFT, MIDDLE, and RIGHT) of the HSI-88 evenly.

As a result, the feedback-information will be much **faster detected** by the HSI-88 and transferred to the PC.



The above **example** shows a possible **distribution of feedback modules to the three inputs**.

The administration and addressing of the feedback modules will be supported by your model railway software.

How to register additional feedback modules please consult the manual of your model railway software.

Standard feedback modules of the s88 feedback system usually include 16 inputs.

With the HSI-88 up to **31** of those **feedback modules** (62 of LDT RM-GB-8-N track occupancy detection modules with 8 inputs) can be controlled. Max. **31** modules can be connected on each bus line. The **summary of all three lines** shall not extend a total of **31** modules.

All **s88-feedback bus compatible** feedback modules can be connected to the interface HSI-88.

Beside the LDT modules RM-88-N and RM-88-N-O for moment-contacts and the RM-GB-8-N for track occupancy detection even different types of feedback modules from different manufacturers can be used.

Different brands and types can be connected to the feed back lines even if **they are mixed**.

Further **examples** for using the HSI-88 and **other LDT products** for performing feedback tasks with various kind of contacts can be downloaded from our **Internet Page** (www.ldt-infocenter.com) from the **download section**.

For the HSI-88-B kit a solid **low-priced casing** is available under the part number **LDT-01**. Further details are available on our Internet Page.

Communication with the PC:

After switching on the power supply a **red LED** at the HSI-88 will indicate **ready-to-operate**.

The HSI-88 works **event driven** that means that each feedback information will be transferred directly to the **PC**. This **saves** considerable **PC resources** and **shortens the reaction time** as the **PC** does not have to poll feedback information in cycles (which means delays) but the **HSI-88** itself will report each change to the **PC** directly and without delay.

During **interaction** between **PC** and **HSI-88** via the **serial port** the **red LED** will be **OFF**. As the interaction will be very fast the LED will show therefore a kind of **flickering**.

If you want to **include** the communication with the **HSI-88** into your own written **model railway software** you can download a list of complete **commands** from our **LDT-Internet Page** (www.ldt-infocenter.com).

Trouble shooting:

What to do if something is not working as described above? If you have purchased the interface as a kit please check carefully all parts and all soldered joints.

Here you will find some descriptions of failures and the causes respectively how to solve the problem:

1. The **rail way software does not recognize the HSI-88**. Feedback information will not be transferred from Interface to the PC.

- Is the **LED** of the **HSI-88** on after switching the unit on? If not, **check** the **power supply** on clamp KL1.
- Is the LED flickering after starting the rail way **software**? Background: after starting the software the PC tries to contact the registered HSI-88 Interface and the LED should flicker. Does the LED not flicker it is possible that the COM port is defective. Check this by **changing the serial ports** of the digital control unit with the port of the Interface HSI-88.

2. After **starting the rail way software** the **LED** of the **HSI-88 Interface** flickers. Nevertheless there will be no connection.

Deactivate the **FIFO-Buffer** of the connection adjustment for the **COM interface** where the HSI-88 is connected to the PC. With respect to the PC operating system (Win2000, XP, Vista, Win7, Win8 e.g.) via Working Place, System Control, System and Device Manager or similar.

Further products from our *Digital-Professional-Series*:

Adap-HSI-s88-N

Via the **3-fold Adapter** is it possible to connect s88-feedback modules directly via the screened Patch-Kabel to the Interfaces

in accordance to .


RM-88-N / RM-88-N-O

16-fold feedback module with 16 inputs (RM-88-N as Märklin s88 switching against ground, RM-88-N-O with 16 galvanic separated opto-coupler inputs) for s88-standard connections

and .

RM-GB-8-N

8-fold feedback module with integrated occupancy detectors for a current load up to 3 Ampere (peak current 7 Ampere) for

s88-standard connections and .

All products can be supplied as easy to assemble **complete kits** as **finished modules** or as **finished module in a case**.

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