



# 8-fold feedback module

with integrated

## occupancy detector

from the *Digital-Professional-Series* !

**SX-GB-8- Part-No.: 320042**

>> finished module <<

- ⇒ **feedback report via Sx-bus**  
(Selectrix® or compatible digital central units)
- ⇒ **short circuit protected**  
(one automatic fuse on each output)
- ⇒ **up to 1 Ampere load on each output**
- ⇒ **feedback address programmable:**  
from **0** to **103**
- ⇒ **release-delay programmable:**  
from **0** to **2,48 seconds**

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.



## Introduction / Safety Information:

You have purchased the 8 times feedback module **SX-GB-8** with integrated detection of track occupancy for your model railway. The **SX-GB-8** is a high quality product that is supplied within the *Digital-Professional-Series* of Littfinski DatenTechnik (LDT).

We wish you having a good time using this product.

Our products are either available as kits or as finished modules. The finished modules come 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 be not liable for any consequential damages caused by improper use or installation.

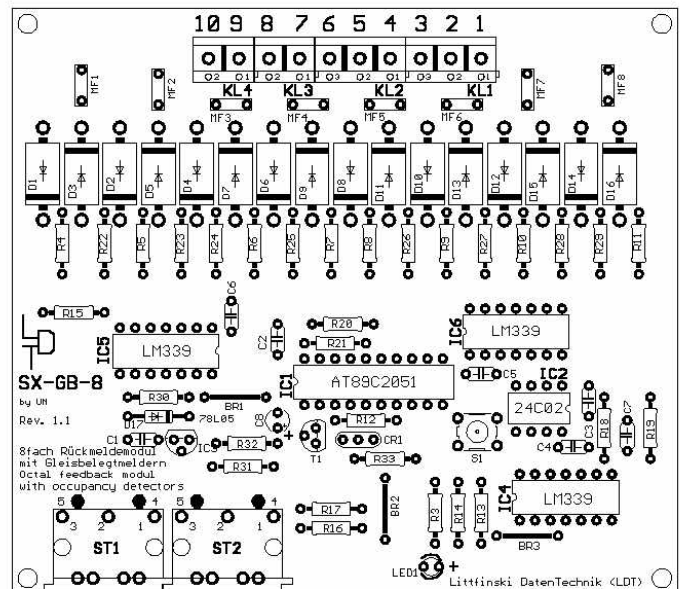
## Connection of the SX-GB-8 to your digital model railway:

- **Attention:** Please switch off your digital control unit and unplug transformers from AC-current before starting connecting the unit.
- The **SX-GB-8** contains two Sx-bus sockets for integrating the module into the digital system. For the direct connection of the feedback module **SX-GB-8** to the Sx-output of the digital central unit please use the attached Sx-bus cable. The Sx-bus of a digital component can be connected to a following component. Therefore is also the connection to a none occupied Sx-socket of another digital component possible which is integrated within the digital system. For this purpose is the **SX-GB-8** equipped with a second Sx-socket.

## General Functions:

The feedback module **SX-GB-8** combines the **occupied track detection** and the **feedback function**. The 8 detectors for occupied tracks work in accordance to the current-detecting principle. Is the module sensing a consumer of a minimum of 0,001Ampere (1mA) within the connected track section this section will be indicated as occupied.

Loc-decoder, carriage-illumination or resistance-axles are electrical consumers which can release an occupancy report. The maximum track-current per output can be up to 1 Ampere.



The **SX-GB-8** contains an **automatic overload fuse** on each of the 8 outputs to protect the connected central unit or the boosters by possible current overload or short circuit. Is a short circuit eliminated the respective output will start up again to supply digital-current to the monitored track section after some seconds.

**Each digital component** connected to the **Sx-Databus** contains an **own address**. **Ex works** the **SX-GB-8** has been set to the **feedback address 1**. You can program this address at the **range from 0 to 103** to your requirement.

To prevent a wrong release report by a **short current-interruption** caused eventually by dirty rails the **SX-GB-8** contains a **release-delay**. **Ex works** the **release-delay** has been set to **0,8 seconds**. In case you require a different delay time you can program a time of **0 to 2,48 seconds**.

## Connecting track sections:

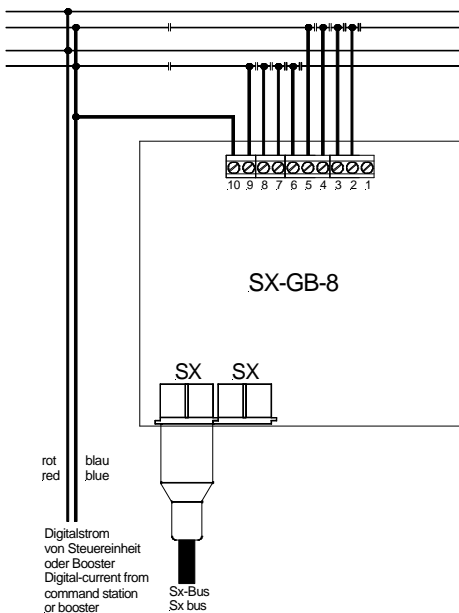
The **feedback module SX-GB-8** can monitor **8 track sections**.

As shown at the connection plan (see rear side) the **blue wire** of the central unit or a booster has to be connected to the **clamp 1 or 10** of the **SX-GB-8**.

The clamps 1 and 10 of the **SX-GB-8** are connected to each other.

The **clamps 2 to 9** supply the **isolated track sections** which shall be monitored.

**Important:** All track sections connected to one **SX-GB-8** must get the **supply from the same central unit** respectively from the same booster.



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

The coding tables for **occupation addresses** and the **release-delay** will be supplied with every **SX-GB-8**. You can download the tables from our web-site as well.

The feedback address will not be directly numerical indicated on the display of Lok-Control 2000 or Control-Handys. Please determine the actual address by the sequence of hyphen and slashes on the display by using the code table for occupancy sensor addresses.

According to the code table the address has been set to 1 because on the very left is a slash indicated and all other signs are hyphens.

For changing the address you can use the **keys 1 to 7** of the keypad. Each stroke on a **key will change from hyphen to slash or vice versa**.

The relations are indicated within the code table.

After input of the required address please activate again the **programming key S1** on the **SX-GB-8**. The **light emitting diode will die** and the **new address has been stored**.

### Indicating or change release-delay:

For the safe function of track occupancy monitoring is it important that a very short current interruption will not immediately report the track section to be free. This so called release-delay can be set on the **SX-GB-8** from **0 to 2,48 seconds** at **steps of 0,08 seconds**.

The **release-delay time** has been set to **0,8 seconds ex works**. This is a favorable average value for most purposes with successful results. Never the less if you require a **change** of the **delay time** you can do it at a **range from 0 to 2,48 seconds**.

Switch off the digital current at the digital central unit with key **[STOP]**.

Change into the functional mode with key **[MODE]**.

Activate now the **programming key S1** at the **SX-GB-8**.

### Inquiry of occupancy reports:

**Occupancy reports** can be indicated on the display of **Selectrix® Lok-Control 2000** or the **Control-Handys**.

Also **compatible digital central units** offer this possibility.

For indicating **occupancy reports** e.g. at the **display** of Lok-Control 2000 change into the function mode by activating the key **[MODE]** by switched-on digital current.

Delete the indicated functional address with key **[CLEAR]** and enter the address of the **SX-GB-8**.

Funkt	1	on
01	- / -	/ - -

Left bottom appears the **SX-GB-8** address. Next to it the occupancy report.

On the display is now the address of the feedback module indicated at the left bottom. The hyphen or slash signs give you the occupancy information of the 8 monitored track sections. A **hyphen** indicates "**track section free**"; a **slash** sign indicates "**track section occupied**".

In accordance to the above sample there are **track 3 and track 5 occupied**. All other tracks are free. Track 3 and 5 are connected to the clamps 4 and 6 of the **SX-GB-8**.

### Indicating or change the feedback address:

Is the **ex work** programmed **feedback address 1** already assigned on your digital system you can assign a new address within the **range of 0 to 103** to the **SX-GB-8**.

First switch-off the digital current at the digital central unit with key **[STOP]**.

Change into the functional mode with key **[MODE]**.

Activate now the **programming key S1** at the **SX-GB-8**. The **light emitting diode will glow** which indicates that the **SX-GB-8** is now in the **programming mode**.

Delete the indicated functional address with key **[CLEAR]** and enter the number **00** with the numerical keys.

Funkt	1	off
00	/ - -	- - -

Every **SX-GB-8** has been set ex works to the feedback address 1.

The **light emitting diode** will **glow** which indicates that the **SX-GB-8** is now in the **programming mode**.

Delete the indicated functional address with key **[CLEAR]** and enter with the numerical keys the number **01**.

Funkt	1	off
01	- / -	- - -

Ex works the **release-delay** time on the **SX-GB-8** has been set to **0,8 seconds**.

The release-delay time will not be directly numerical indicated on the display of Lok-Control 2000 or Control-Handy. Please determine the actual value by the sequence of hyphen and slashes on the display by using the code table for release-delay. According to the code table the release-delay time has been set to 0,8 seconds ex works.

If you intend to program a different delay time you can use the **keys 1 to 7** of the keypad. Each stroke on a **key will change from hyphen to slash or vice versa**.

The relations are indicated within the code table.

After input of the required release-delay time please activate again the **programming key S1** on the **SX-GB-8**. The **light emitting diode will die** and the **new release-delay time has been stored**.

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