

Not suitable for children under three because of the danger of their swallowing the small constituent pieces. Improper use can result in injury from functionally necessary points and edges. For use in dry areas only. We reserve the right to make changes in line with technical progress, product maintenance or changes in production methods. We accept no responsibility for direct or indirect damages resulting from improper use, non-observance of instructions, use of transformers or other electrical equipment which is not authorised for use with model railways, or transformers or other electrical equipment which has been altered or adapted or which is faulty. Furthermore, we accept no responsibility for damages resulting from unsupervised modifications to equipment or acts of violence or overheating or effects of moisture etc. In all such cases, guarantees shall become void.

1 Technical data:

Maximum current-carrying capacity	1.0 A continuous, 5A peak (approx. 5 sec)
Dimensions	27.5 x 31.5 x 12 mm

2 Requirements for using Automatic Braking Control technology

To combine ABC technology with the BM1, BM2 and BM3 block section modules, you will need to use Digital plus GOLD series locomotive decoders or other decoders that support the ABC technology.

3 How does the BM1 work?

With little effort, ABC manages to accomplish just what model railway enthusiasts crave:

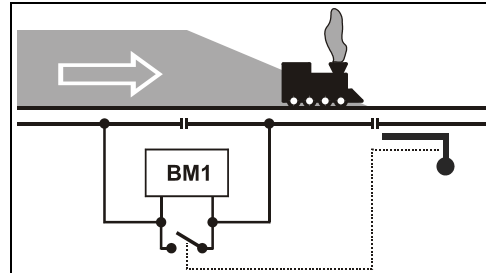
Exact stopping in front of signals and passage in the opposite direction. By means of simple modules which supply the braking section in front of a signal, the locomotive decoder receives the signal status information: if the signal is "red", the train will stop, if the signal is

Digital plus
by Lenz

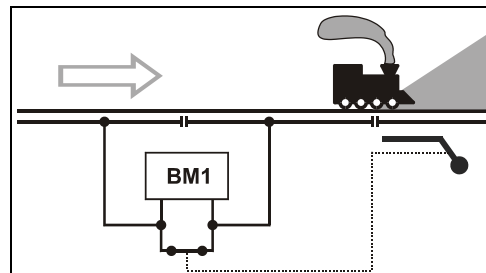
Information BM1

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"green", the train will continue unimpeded.



Technically, this is realised as follows: if the signal is "red", the BM1 module creates an asymmetrical DCC signal in the braking section. This is detected by the new GOLD series decoders. The result is a gentle braking of the train until it comes to a halt, optionally with the set braking delay or set braking distance.



If the train is not to stop, but to continue unimpeded or to start moving again after the stopping time has elapsed, the BM1 will simply be bridged with a switch.

4 Installing the BM1

First, define the length of the braking section in front of the signal. Keep in mind that the fastest train on your layout must be able to come to a standstill within this section. Use the feature "constant braking distance" of the GOLD decoder. This will ensure that all trains will come to a complete standstill within the braking distance so defined.

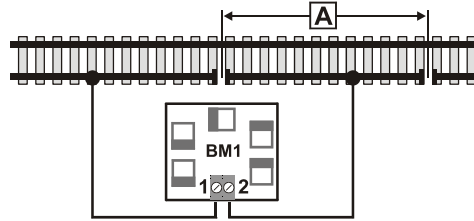
4.1 "On the right means on the right..."

...was a slogan on a motorway sign at the end of the 1980s. It was meant to remind drivers to change back to the right-hand lane after overtaking a truck. The same is true when using the ABC: "on the right means on the right". It is always *the track that is on the right depending on the direction of travel that is separated* when installing a braking section.

Separate the right-hand track at the beginning and at the end of the braking section. Alternatively, you can use an insulating track connector if there is a track joint at the respective point.

Connect terminal "1" of the BM1 with the right-hand track *before* the braking section.

Connect terminal "2" of the BM1 with the insulated braking section "A".



Use a switch parallel to the terminals 1 and 2 to switch the BM1 on or off. You can use a signal switch to do this or use an auxiliary set of contacts of a switch machine. Many signals with double-coil drive are also equipped with a switch like this.

If you wish to use the BM1 in combination with light signals, you will have to install a relay parallel to the green signal bulb. Use the make contact of the relay to bridge the BM1 when the signal is "green".

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