PROGRAMMER
Operating Instructions

Specifications

Current Supply

7-18 Volt AC or 10-25 Volt DC.
The programmer works with every model railroad transformer, yet we recommend a notebook-power supply, because it is stabilized and supplies sufficient power (max. 4.75 A).

Doehler & Haass offers for that purpose the specifically tested power supply PWR-100W with a slide switch for voltages from 12 to 24 Volt DC.

Output Current

Continuous output track (electronic short circuit protection) about 1 A
Continuous output SUSI (electronic short circuit protection) about 1 A

Connections

Power	Screw terminal for AC (both left respectively right clips are each interconnected) Socket for DC
SX-BUS	Presently without function
USB	For USB-2 (USB-cable A/B required)
Track	With connections 1 – GND – 2 Track will be connected to clips 1 und 2. Clip GND serves for tapping of the internal ground voltage (0 Volt), e.g. for metering.
SUSI	With connections GND – ZDAT – ZCLK – VS (from left to right) For connecting SUSI by flexible wires (e.g. SH10A-3) a 4-pole pin strip is included in delivery. For connecting SUSI by the usual SUSI-receptacle connector (e.g. SH10A-2) an adapter (SUSI-pin strip) may be delivered by request.

Please note that the programmer has a USB 2.0 interface. You can therefore connect it to every USB 2.0 or USB 3.0 port of your computer.

Following connection-options are not recommendable, maybe they lead to difficulties:

- Programmer is connected to USB 1.0 or USB 1.1 port.
- Programmer is connected to USB 3.0 Hub, which is **not** connected to USB 3.0 port

Indicators

LED 1	Power supply	lights up constantly when working flashes quickly by short circuit or overload flashes slowly by undervoltage
LED 2	Update indication	lights up when update was started
LED 3	Track power	lights up when track power ON
LED 4	SUSI indication	lights up when SUSI-power ON
LED 5	Reserved	
LED 6	Reserved	
LED 7	USB indication	lights up when USB-interface is connected

Operating Elements

Button T1 Push button for programmer update
Button T2 Reserved

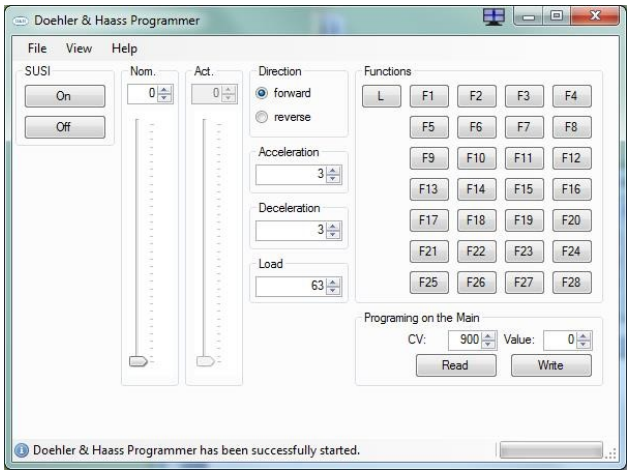
Operating Modes

Operating the programmer can currently only be done via computer (SX-BUS is not yet implemented in programmer software). The program enables following operation modes:

- SUSI-modul Control
- SUSI-modul Programming
- Loco decoder Control
- Loco decoder Programming

SUSI-Module Control

Module control is carried out by: *View* > *SUSI-module control*



Actual speed level follows debit speed level by adjusted accelleration / deceleration and serves for the simulation of the decoder acceleration values (actual-speed level controller cannot be operated and serves only for displaying the currently issued speed level).

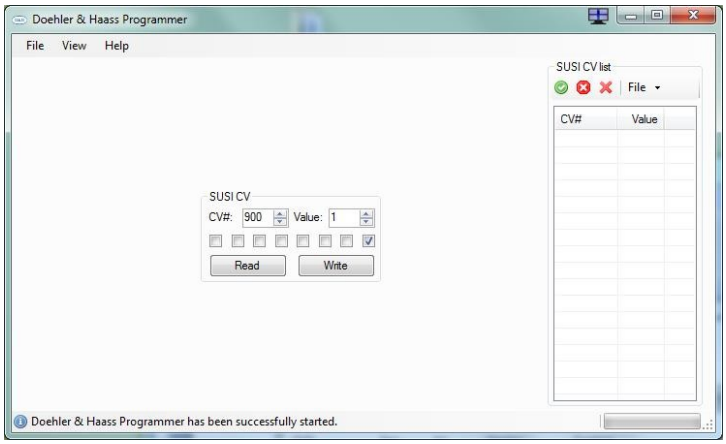
Values for acceleration / deceleration should match the setting of the used decoder to comply with the operation in installed status.

According to SUSI-definition there is only a setting of 127 speed levels possible. Loco decoder transfer accordingly the adjusted speed level (e.g. 14 – 28 – 126 to 127 at DCC).

During operation CVs can be readout and changed at any time, independent from whether the therefore provided decoder supports a bidirectional transmission or not, because there are only signals at the SUSI-interface involved.

SUSI-Module Programming

Programming is carried out by: *View* > *SUSI-module programming*

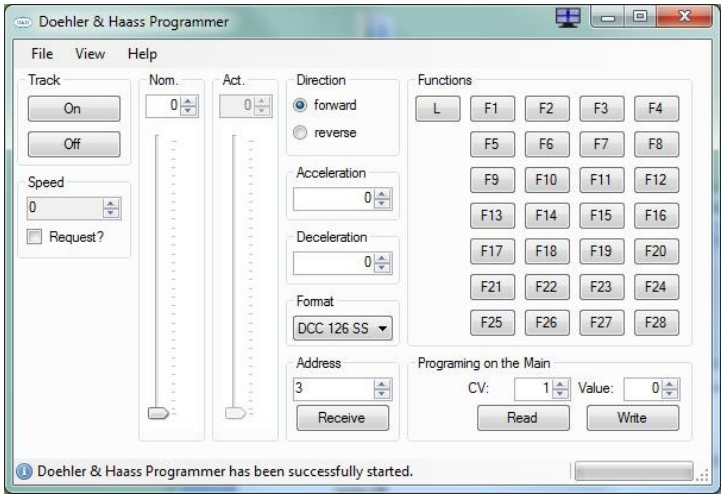


This setting allows essentially a quick access to all CV-values and their saving.

Reading out all SUSI-CVs (CV 897 to CV 1024) is carried out by clicking the green hook.
Process can be cancelled at any time by clicking the red cross.
Displayed CVs can be archived by *File* ↓ *Save*.
All CVs can be read and written again by *File* ↓ *Open*.

Loco Decoder Control

Control is carried out by: *View* > *Loco decoder control*



The Programmer permits operating locomotive decoder in for following system formats:

System name	Address range	Speed steps	Functions
SelecTRIX 1	111	31	1
SelecTRIX 1 +1 ZK *)	111	31	9
SelecTRIX 1 +2 ZK *)	111	31	17
SelecTRIX 2	9999	127	16
DCC short addresses	99	14	16
DCC short addresses	99	28	16
DCC short addresses	99	126	16
DCC long addresses	100 – 9999	14	16
DCC long addresses	100 – 9999	28	16
DCC long addresses	100 – 9999	126	16

*) ZK = additional channel

Speed levels indicating scrollbar adapts oneself automatically to the operating mode.

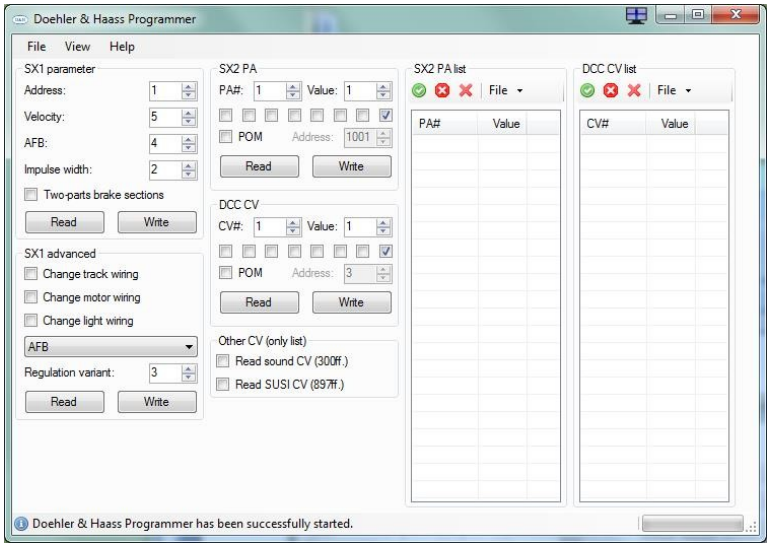
Actual speed level follows debit speed level by configured acceleration / deceleration and serves for simulating manual control or computer controlling (the controller of the actual speed level cannot be used, it indicates just the currently issued speed level).

All CV-values (except addresses) can be changed during operation by the so called POM (**P**rogramming **o**n the Main). In case of bidirectional communication is supported by the loco decoder and is activated accordingly, all CV-values can be read out during the operation.

Just 1 locomotive can be operated at any time! (The programmer cannot substitute a central unit.)

Loco Decoder Programming

Programming is carried out by: *View* > *Loco decoder programming*



Decoder can be programmed in system formats SX1 / SX2 / DCC.

System formats SX2 und DCC offer the option to read out all parameter / CVs in a single operation by clicking the green hook. After reading out, values can be saved under ****-List – File / open or save* and also downloaded again.

Clicking the red cross interrupts read out operation.
Please note the status display at the lower edge of the active window.

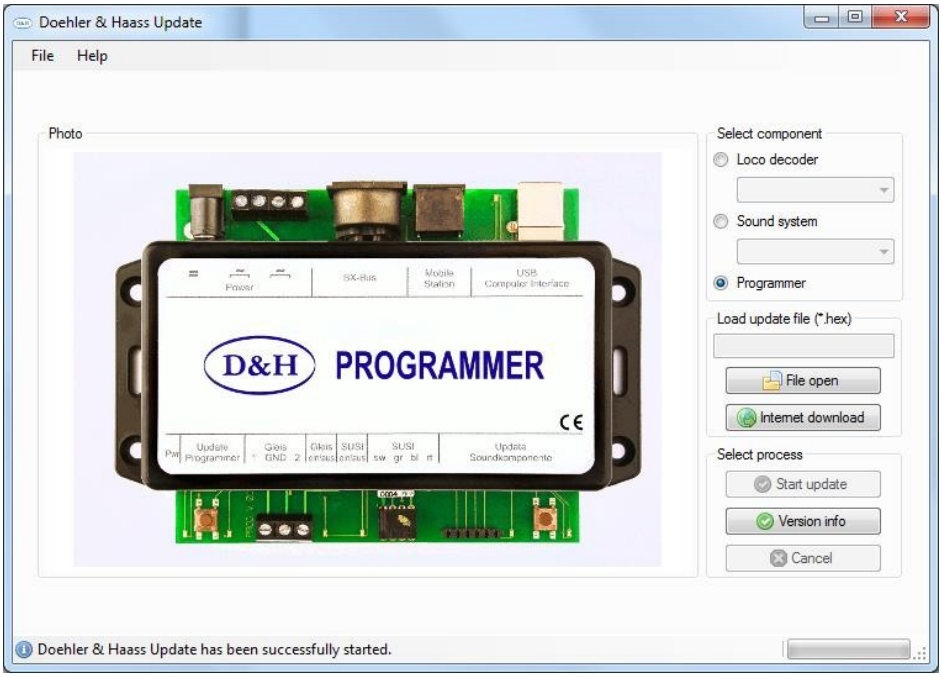
If loco decoder supports a bidirectional transfer, CV-values can be read out with this operation by clicking a hook in the “POM” section – thus speeding up reading out considerably (all CVs in about 5 sec.).

For this track power has to be switched on before at *View > Loco decoder control*.

Programmer Updating

The update-program can be downloaded under:
http://doehler-haass.de > Products > Software > Update

After extracting the zip-file selection can be made by: *Programmer*



After the file has been loaded the programmer will be switched in the „Update operation mode“ pushing button T1 for e.g. 1.5 sec. The update process will be initiated by *Starting Update* and lasts about 3 seconds.

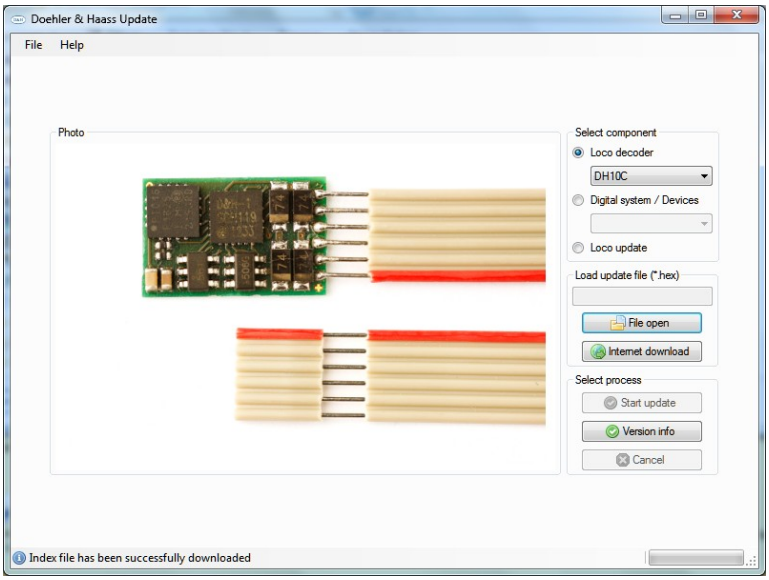
Updating locomotive decoder

Decoder capable for update: DHxx, DHPxxx und FHxx
Decoder not cable for update: DHFxxx, DHLxxx und DHSxxx

Advice:
If the decoder is equipped with a buffering, it could happen that updating does not work. That depends on the type of the decoder, on the buffering and on the connection mode. In case of doubt it is advisable to remove buffering before updating.

Updating will be initiated by:
Loco decoder > select decoder (e.g. DH10C) > Internet download > select xx.HEX > double click

The following update-process will be initiated by *Start update*



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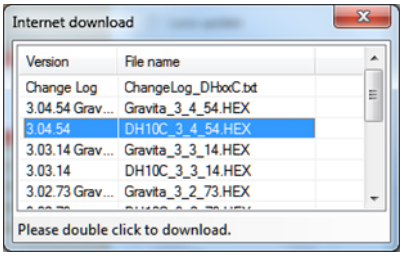

Keep operating instruction for later use!

For this item we grant two years warranty.

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RailCom® is a registered trademark of the company Lenz Elektronik GmbH, D-35398 Gießen

	This product must not be disposed at the end of its service life in normal household waste. Please use the recycling depot of your community.

CE	Nicht geeignet für Kinder unter 14 Jahren. Not suitable for children under 14 years. Ne convient pas aux enfants en dessous de 14 ans.

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