

Loco-Decoder 75 100



Digital Decoder for wire-wound Motors for the Märklin-Motorola Format

For Märklin or HAG locos.

Properties

Locos by Märklin or HAG can be operated digitally by using the 75 100 decoder. This decoder operates on both the old and the new extended Motorola data formats. It features two direction-dependent lamp outputs that are controlled by the 'function/off'-keys, two additional ancillary decoder outputs, and an alternate address.

Uhlenbrock decoders can be programmed by Intellibox or Märklin Control 80f. Decoder address, acceleration/braking rates, as well as starting and maximal motor voltage can be set and altered at every time.

Digital Operation

When running in digital mode, the loco works according to the parameters set by the user. These, as well as speed and direction settings, are permanently stored. This means that a loco will retain its settings and will continue to operate as before after the track power has been reestablished. Therefore, a loco can be run in standard automatic block systems.

When crossing over into an analog powered section, it will retain its speed and direction settings provided the track voltage is high enough. Changing of direction or speed is not possible though.

Analog Operation

In analog mode the decoder acts like a standard reverser or if selected as reverser for engines with a telex coupler. Loco will stop when entering a digital section.

Setting the Operation Mode

A decoder can be set back to digital when in analog mode and vice versa, by putting it on an analog track section and holding the transformer's control knob in overvoltage position for at least 16 secs. A headlight will flash after changeover.

Switching over from digital to analog mode is done as described in the programming instructions. A value of 01, analog code, is assigned to programming mode's function 08. Factory set code value is 02 for digital operation.

Important: Lamp state set in digital mode will be retained in analog mode, i. e. when lamps should light in analog mode, they must have been switched on in digital mode.

Momentum Control

Use 'f4' to switch momentum on or off. Important: Dip switch #2 on back of Märklin Control Unit 6021 must be set to 'ON' in order to transmit the new Motorola format.

Compatibility

The decoder is compatible to Märklin's accelerating/decelerating circuit for their C90 decoder. This circuit was published in Märklin-Magazin 4/93 and 5/93.

Technical Data

Max. motor current:	1.0 amp
Max. surge:	2.0 amp
Ancillary outputs:	4 x 1.0 amp
Total load:	max. 1.2 amp
Size:	26,5 x 15 x 5 mm (1 1/16" x 19/32" x 3/16")
Address range:	1-255, accessible by Intellibox 1-80, when employing another central unit

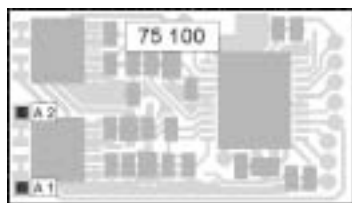
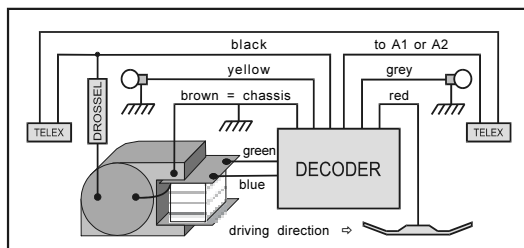
Factory set default values are: Extended Motorola format, address 01, and digital mode.

Installing the loco-decoder 75100

Motor Connections

Remove reverser. Disconnect all wires leading from brush assembly to it, chassis or pickup-shoe, and to the field-coil's tabs.

The decoder leads have to be connected as follows: The green and blue wire to the field-coil's tabs, the black wire to the brush assembly, the brown wire is attached to the chassis, and the red wire to the pickup-shoe. RF interference suppressors and capacitors should be retained.



Note: Output A2 is available in 'Gauge I'-mode (extended Motorola data format) only!

Lamp Connections

Solder the gray wire to the front light and the yellow one to the rear light. Should you want direction-independent lighting, the two wires have to be joined. The lamps' other lead has to be kept connected to the loco's chassis.

In case the lamps are lit oppositely to direction, interchange the green and blue wires.

Ancillary Outputs

Outputs A1 and A2 may switch a smoke generator or interior lighting. Their wires have to be soldered to the decoder's pcb as shown in the adjacent sketch. Common return in Märklin locos normally connects to chassis. Only smoke-generators that have an insulated housing need to be connected to the black lead as well.

Important: Employ only smoke-generators suited for digital operation!

Remote uncoupling setup (Telex)

Both telex magnets have to be wired in series. Of the remaining two cables one must be soldered to either A1 or A2, the other must be connected to the black lead.

Fixing the unit in the model

Use the supplied adhesive pad for fixing where there is room for the decoder. The pad keeps the unit insulated and fixed in its position.

In case the loco has a high current consumption, we recommend to fasten it directly to a metal chassis frame with hot glue. All common brands are suitable for this.

Check for proper wiring after installation with a wiring checker or an ohmmeter. Make sure that the shell will not touch the unit and that no wires can be caught when shell is installed.

**A short circuit from motor brushes or ancillary outputs
to pickup shoes, frame, or wheels may destroy the device!**

Programming of Uhlenbrock Decoders by Intellibox

The most comfortable way to program a decoder is offered by the Intellibox. A menu-driven programming mode in plain english is provided. Programming is carried out by selecting the menu for non-compensated decoders (750/770, 75100 or 754xx).

You find exact instructions in the Intellibox handbook.

Programming of Uhlenbrock Decoders by LOKTOOL

This computer routine is used to program Uhlenbrock decoders by applying a Märklin central unit in connection with a Märklin interface. See reverse for a brief description.

Programming of Uhlenbrock Decoders without load compensation by a Märklin Central Unit

**Follow exactly these steps when programming the decoder.
Do not push any other keys.**

1.	<p>Preparation</p> <ul style="list-style-type: none"> ▶ Connect a Märklin central unit together with a control 80/80f or a control unit to the track where the loco sits. ▶ Switch off power supply for at least ten seconds, then switch on again. <i>All digital signals that may possibly interfere have died away.</i> ▶ Key in decoder address. <i>Every new decoder is set to 01.</i> ▶ Hold knob in direction reversal position for at least 8 secs. <i>Decoder changes over to programming mode.</i> 	
2.	<p>Calling up the Programming Functions</p> <p>It does not matter whether a single function or several at a time are called up. Functions not called up remain unaltered. The loco's lamps will flash four times in acknowledgement of a properly programmed step.</p>	Default setting
	<p>2.1 Main Address</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 01 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Key in 01- 80 and shortly push knob to reverse - <i>a lamp will flash</i> 	01
	<p>2.2 Minimal Speed (min. speed for speed step 2)</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 02 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Adjust knob to desired minimal speed. Depress 'function' and 'off' keys consecutively when loco is moving - <i>it will stop and a lamp will flash</i> 	-
	<p>2.3 Maximal Speed (max. speed for speed step 15)</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 03 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Adjust knob to desired maximal speed. Depress 'function' and 'off' keys consecutively when loco is moving - <i>it will stop and a lamp will flash</i> 	-
	<p>2.4 Data format selection for ac-motor decoders</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 05 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: extended Motorola format and normal reversing - key in 80 and shortly push knob to reverse old Motorola format and normal reversing - key in 01 and shortly push knob to reverse extended Motorola format and remote uncoupling - key in 02 and shortly push knob to reverse old Motorola format and remote uncoupling - key in 03 and shortly push knob to reverse 	80
	<p>2.5 Acceleration</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 06 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Key in 01- 32 and shortly push knob to reverse - <i>a lamp will flash</i> <i>01 = no momentum, 32 = maximal momentum; a value of 10 will render a realistic impression.</i> 	01
	<p>2.6 Deceleration</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 07 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Key in 01-32 and shortly push knob to reverse - <i>a lamp will flash</i> <i>01 = no momentum, 32 = maximal momentum; a value of 10 will render a realistic impression.</i> 	01
	<p>2.7 Operation Mode</p> <ul style="list-style-type: none"> ▶ Call up function: Key in 08 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Analog mode - key in 01 and shortly push knob to reverse - <i>a lamp will flash</i> Digital mode - key in 02 and shortly push knob to reverse - <i>a lamp will flash</i> 	02
	<p>2.8 Reset</p> <ul style="list-style-type: none"> ▶ Call up function 10: Key in 10 and shortly push knob to reverse - <i>a lamp will flash</i> <i>Decoder is reset to factory default values: Address 01, acceleration/braking 01, digital mode.</i> 	-
	<p>2.9 Alternate address</p> <ul style="list-style-type: none"> ▶ Call up function 11: Key in 11 and shortly push knob to reverse - <i>a lamp will flash</i> ▶ Set value: Key in 01-80 and shortly push knob to reverse - <i>a lamp will flash</i> 	02
3.	<p>Leaving Programming Mode</p> <ul style="list-style-type: none"> ▶ Key in 80 and shortly push knob to reverse. <i>Decoder returns to its normal operating mode.</i> 	

Important

If a loco will not react after a programming cycle, most probably its address has been altered inadvertently. Try all address settings, or Intellibox's or Loktool's address search function. Wrong settings may be corrected by resetting the decoder using programming function 10.

Please note

Control by Intellibox or Märklin 6021

A central unit using the extended Motorola data format, such as Intellibox or Märklin 6021, will call up A1 by pushing the F1 key, and A2 by pushing the F2 key.

The code value of function #05 must be set to 80 in order to use the extended data format. This is the factory-preset value.

Control by an old Märklin Central Unit

Only A1 is toggled on/off with each push of the 'off' key.

The code value of function #05 must be set to 01 in order to use the old data format.

Remote uncoupling (telex) in analog mode

When the code value of function #05 is set to 02 or 03, the decoder will work as a normal reverser plus telex if set to analog operation.

Loktool 2.0 for Windows (TM)

contains these features:

Programming of decoders - comfortable input of all parameters, store in decoder profile database.

Address search function - for all decoders using the Märklin-Motorola data format.

Controller screen - six controllers are shown on a screen display.

Hardware requirements: A Märklin central unit and 6050/6051 interface connected to a PC. Programm will run on all PCs from 386-25 on under Win 3.x, 95/98 and NT.

www.uhlenbrock.de

Be it most recent information about Intellibox, a pricelist or a listing of authorized dealers, plus various publications to download, our website warrants your visit in every case.

Warranty Statement

Every item is fully tested for functioning before shipment. If a defect occurs within two years after purchase, the item will be repaired free of charge against presentation of purchase proof.

Damages caused by overload or improper treatment are not covered by this warranty.

For EU only

Please note that decoders may only be used in models carrying the EC conformance label.

Uhlenbrock Elektronik

These are your advantages:

Two years' warranty

from date of purchase

Service

In case of an eventual failure please return the defective item to us for repair. Please include purchase proof and a short description of defect, as well as stating the decoder's address setting.

Hotline

In case of questions, we are ready to answer them for you!

Directly contact our technician: **(49) 2045 858327**

Mo - Fr except Wed 14:00-16:00 hrs CET, Wed 16:00 - 18:00 hrs CET



Uhlenbrock Elektronik GmbH
Mercatorstr.6
D-46244 Bottrop
Made in Germany



The figure 2 at the end of the item no. means that this article is delivered with an english discription.

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