Uhlenbrock Elektronik

Function Decoder 75900

DIGITAL 2

for the Märklin-Motorola Format

Switches ancillary functions like horn, whistle, lights, and smoke.

Properties

These decoders are suited for both the old and the extended Motorola data format. They feature a pair of direction-dependent outputs that are governed by the "function" und "off" keys plus 4 extra outputs accessible via the "f1" to "f4" keys. All outputs may be assigned to two individually adjustable flash generators.

Programming is possible with Intellibox or Control 80/f. Motor-rpm, flash rate, or dimming can be adjusted and changed as desired.

What can be connected to it?

Motors

DC-motors with a current consumption of max. 0.9 amp.

Lights

Each output accepts several lamps in parallel to a max. load of 0.9 amp.

Telex remote uncoupler

Both magnets wired in series can be connected to any output.

Smoke generators

Use only generators suited for digital operation.

Shuttle trains

The extended Motorola format (Gauge I format) allows for direction-dependent headlights of shuttle trains.

Technical Data

Ancillary outputs:	6 x 0.9 amp capacity
Total load:	0.9 amp
Size:	19 x 16 x 5 mm (3/4" x 5/8" x 3/16")
Address range:	1-255, accessible by Intellibox
	1-80, when employing another central unit

The decoder is factory preset to address 01 and digital operation.

Fitting the 75 900

Cable connections

In a vehicle, the red lead is connected to the pickup, the brown one to the chassis/frame.

When used as a stationary decoder, the red and brown leads have to be connected to the respective output tabs of the Central Unit.

All other outputs are used for effects.

Each device has to be connected to an output, and the return either to the brown or the black cable as shown in the sketch.
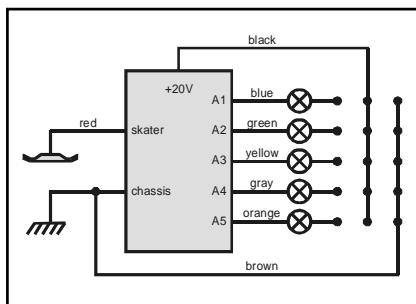
Fixing the unit in the vehicle

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 attached device has a high current consumption, we recommend to fasten the decoder directly to a metal chassis frame or heat sink with hot glue. All common brands are suitable for this.

Setting into operation

Check for proper wiring after installation with a wiring checker or an ohmmmeter. Make sure that nothing conductive is touching the unit.

> **A short circuit from decoder parts to input or chassis
> or at the motor / lamp outputs may destroy the device!**

Important

The coding switch #2 on the back of Control Unit Märklin 6021 must be "on" to issue the extended Motorola data (Gauge I) format.

The 'function' outputs are only accessible when in extended data format mode.

A Märklin Control Unit 6020 can be used with this decoder only if function #02 is programmed to value 02 (old data format).

Programming of Uhlenbrock Decoders by Intellibox

The most comfortable way to program a decoder is offerd by the Intellibox. A menu-driven programming mode in plain english is provided. Programming is carried out by selecting the menu for function decoders (760 or 75900).

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 Function Decoders
by a Märklin Central Unit

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

1. Preparation

▶ Connect a Märklin central unit together with a control 80/80f or a control unit
   to the track.
▶ Switch off power supply for at least ten seconds, then switch on again.
   All digital signals that may possibly interfere have died away.
▶ Key in decoder address.
   Every new decoder is set to 01.
▶ Hold knob in direction reversal position for at least 8 secs.
   Decoder changes over to programming mode.

2. Programming of individual functions — *Default setting*

It does not matter whether functions are programmed individually or consecutively.
Functions not called up remain unaltered.
A lamp connected to the "f1" output will flash four times to acknowledge a programming step.

2.1 Address — 01

▶ Call up function: Key in 01 and shortly push knob to reverse - *a lamp will flash*
▶ Set value: Key in 01- 80 and shortly push knob to reverse - *a lamp will flash*

2.2 Selection of Data Format — 01

▶ Call up function: Key in 02 and shortly push knob to reverse - *a lamp will flash*
▶ Set value: Key in 01 for the extended format (Gauge I format) and shortly push knob to reverse - *the lamp will flash*
   Key in 02 for the old data format (double frequency) and shortly push knob to reverse - *the lamp will flash*
   The old format renders functions "f1" to "f4", the extended Motorola format will also utilize the direction info.

2.3 Output dimming — 04

▶ Call up function: for "f1" and "f2" - key in 03 and shortly push knob to reverse - *the lamp will flash*
   for "f3", "f4", and "function" - key in 04 and shortly push knob to reverse - *the lamp will flash*
▶ To set the duty cycle: 25% - key in 01 and shortly push knob to reverse - *the lamp will flash*
   50% - key in 02 and shortly push knob to reverse - *the lamp will flash*
   75% - key in 03 and shortly push knob to reverse - *the lamp will flash*
   100% - key in 04 and shortly push knob to reverse - *the lamp will flash*

2.4 Defining of Flasher Outputs — 32

▶ Call up function: To assign frequency#1- key in 06 and shortly push knob to reverse - *the lamp will flash*
   To assign frequency#2 key in 08 and shortly push knob to reverse - *the lamp will flash*
▶ Set value: Flashing outputs-key in 01-31and shortly push knob to reverse - *the lamp will flash*
   No flashing at all-key in 32 and shortly push knob to reverse - *the lamp will flash*
   The code value is derived from an addition of the output 'weights': f1 = 1, f2 = 2, f3 = 4, f4 = 8, function = 16.
   When e.g. f1 and f3 are set to flashing, the code value must be 05 (1 + 4).

2.5 Setting the frequency — 08

▶ Call up function: To call frequency#1 - key in 07 and shortly push knob to reverse - *the lamp will flash*
   To call frequency#2 - key in 09 and shortly push knob to reverse - *the lamp will flash*
▶ Set value: Rate 8 times per sec - key in 01 and shortly push knob to reverse - *the lamp will flash*
   Rate 1 time per sec - key in 08 and shortly push knob to reverse - *the lamp will flash*
   Rate 1 time per 8 sec - key in 64 and shortly push knob to reverse - *the lamp will flash*
   The allowed values range from 01 -79. In analogy to 2.4 the actual flash period is determined by adding the rate weights.

2.6 Reset — -

▶ Key in 10 and shortly push knob to reverse - *the lamp will flash*
   The decoder will be set to the preset values: Address 01, extended Motorola data format,
   no flashing, frequency rates set to 1 time per sec, and 100% duty cycle.

3. Leaving Programming Mode

▶ Key in 80 and shortly push knob to reverse.
   Decoder returns to its normal operating mode.

Important

If a decoder will not react after a programming cycle, most probably its address has been altered inadvertently. To resolve this situation, either 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.

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 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