TECHNOLOGY FOR
MODEL TRAINS 1999

ᗺ Uhlenbrock
digital

INTELLIBOX THE MULTI-PROTOCOL DIGITAL SYSTEM

OPERATION OF DIFFERENT DIGITAL FORMATS SIMULTANEOUSLY ON ONE TRACK

With the Intellibox, locomotive, function and switch decoders with different digital formats can be operated together at the same time on one layout: Motorola (Uhlenbrock, Marklin, Roco, Viesmann), extended Motorola – Gauge I (Uhlenbrock, Marklin), DCC (Roco, Arnold, LGB, Lenz, Marklin=, Digitrax, etc.) and Selectrix.

THE WHOLE SYSTEM IN ONE BOX

The CENTRAL UNIT provides the system's power supply, handles the coordination of the individual components, processes the incoming data and generates the different digital signals.

The BOOSTER is powerful and short-circuit resistant. It has an output current of 3.5 A. The output voltage for N gauge can be limited to 18 V.

The KEYBOARD operates 320 Märklin as well as 2040 DCC magnetic parts. The switch location or signal status is shown in the display.

With TWO CONTROLLERS two locomotives can be operated independently of one another simultaneously by two large rotary controls.

The INTERFACE is a quick connection to a PC or Mac with data-transfer rate at a maximum of 19200 baud. It uses an input buffer and an extended command protocol. All software which is compatible with the Märklin interface can be used.

The PROGRAMER programs Uhlenbrock, Selectrix and DCC compatible decoders without a problem through menu-directed user guides.

ALMOST ALL EXISTING DIGITAL COMPONENTS CAN BE USED

Booster in Motorola format (Märklin, Arnold), Booster in DCC format (Lenz, LGB), Arnold Booster (86015), Modeltreno Booster (66007), s88 feedback module (Märklin, Viessmann), Control 80, 80f, IR (Märklin, Arnold), Control Unit (as controller and booster for magnetic parts), Central Unit (only as a booster for magnetic parts), Keyboard, Memory (Märklin, Arnold), Switchboard (s.e.s.), Roco and LGB Lokmaus (locomotive mouse), all devices that are hooked up to the LocoNet™, PC and Mac through the serial interface.

128 OPERATING LEVELS AND 9999 DECODER ADDRESSES

The Intellibox supports basically all speed levels and all decoder addresses of the known decoder types. The number of available speed levels and addresses depends on the particular decoder manufacturer.

VIRTUAL LOCOMOTIVE (TRAIN) ADDRESSES

Any address (maximum of 4-digit) can be used as an alias and can be assigned to a permanent locomotive address. So, trains can be called up under the classification number or serial number, for example.

MULTI-UNIT TRAINS

8 combinations with up to 4 locomotives per consist can be conducted by the Intellibox. The entire consist is operated with one controller under the address of the first locomotive.

EXTENDED EXTRA FUNCTIONS

The Intellibox supports up to 8 extra functions. "f1 to f8", "off and function" are available to switch light, sound, steam, etc.

INFORMATIVE LCD DISPLAY

The large LCD display with background lighting has a clearly organized user interface. German, English, French, Italian, Spanish, Portuguese, Dutch or Swedish can be selected as the language for the displays on the operating screen.

LONG-TERM MEMORY

All settings made on the Intellibox remain saved in its long-term memory.

UPDATE CAPABILITY

The system software can be exchanged for the newest version off the Internet at any time through the built-in serial interface.

TECHNICAL DATA

Maximal current load 3.5 A, on the I²C bus to 1 A, on the LocoNet™ output to 0.5 A

Item 650

COMPUBOX

THE INTELLIBOX FOR COMPUTER FANS

The Compubox is technically an Intellibox, whose operation is handled exclusively through a computer. It is clearly cheaper than the Intellibox because it needs no operating controllers.

All Intellibox and Märklin compatible programs can be used to operate the model train set.

Connections and technical data are the same as the Intellibox.

Comes with PC interface cable.

Attention: This unit will only be manufactured when incoming orders are sufficient.

Item 652

IB-CONTROL

STATIONARY DOUBLE CONTROLLER FOR THE INTELLIBOX

IB-Control extends the functions of the Intellibox by two operating controllers and a keyboard.

All Intellibox functions that are necessary for the loco operation and accessory operation are also accessible through IB-Control.

Connection and power supply take place through the LocoNet™ jack of the Intellibox. IB-Control can be set up at the place of your choice on the layout. There can be up to a maximum of 6 devices attached.

Comes with 3 meter connection cable.

Item 654

MULTI-PROTOCOL BOOSTER

3.5 A BOOSTER, REVERSE LOOP MODULE AND DCC BRAKE GENERATOR INCLUDED

Powerful multi-protocol booster with 3.5 A output current to be connected with an Intellibox, Compubox, Märklin Central Unit, Märklin Control Unit and DCC Central Units with Lenz compatible outlets (Arnold, Lenz). Usable in 2-rail and 3-rail operation for Motorola, DCC and Selectrix. All inputs and outputs are protected against short-circuit.

The output voltage for N gauge can be limited to 18 V.

Built-in reverse loop module for 2-rail operation (DCC and Märklin Gauge I) with separate outlets. Several reverse loops can be attached.

Has an integrated DCC brake generator. The outlet of the booster is adjustable via DIP switch to normal or brake generator operation.

Voltage supply via 64 V A transformer.

Item 656

FRED

THE SIMPLE ROTARY CONTROLLER NOW AT UHLENBROCK

The small, light hand controller, which originates from the idea work station of the Fremo members, can operate a digital locomotive and can control three extra functions.

FRED can be connected to the LocoNet™ by a 2 meter long coiled cord (included with the unit) and offers a maximum of mobility to the user. The address of the locomotive is stored on the digital central unit (Intellibox) and can be taken over by FRED with one touch of a button. The locomotive address is saved and allows FRED to be disconnected from the LocoNet™ and to be plugged in at another location.

Item 660

DIGITAL DECODER

FOR THE ALTERNATING CURRENT DIGITAL SYSTEM

MÄRKLIN COMPATIBLE
In the basic and expanded (Gauge I) Motorola format. Operates in analog and digital mode, on 3-rail Märklin or 2-rail track.

UP TO 255 DIFFERENT ADDRESSES
All 255 addresses of the decoder can be used together with the Intellibox; with the Märklin digital devices 80 addresses are accessible.

2 DIFFERENT DECODER ADDRESSES
Speed control in double consists are possible without a problem through the two independently adjustable addresses per decoder.

PROGRAMABLE THROUGH INTELLIBOX OR CONTROL 80
Through the Intellibox, Control 80 or 80f plus central unit or through the control unit you can program locomotive address, minimum speed, acceleration, top speed and deceleration to the locomotive decoders, and dimming and flashing to the function decoders.

WITH A GOOD MEMORY
All inputs and current operating conditions such as speed and direction are saved through the memory function.

DECODER WITH CONSTANT SPEED CAPABILITIES
The speed of the locomotive remains constant through EMF feedback regardless of the incline of the track, the number of train cars attached or the operating voltage on the track.
Every decoder has three independent addresses, two outlets for the lights which change over with the direction of travel and, in the new Märklin-Motorola-data format, two more outlets for extra functions such as f.i. smoke, additional lighting and Telex coupling.
Pressing the F3 key you can set the decoder to a special mode, which provides excellent speed control at the layouts slow speed sections.

CURRENT CAPACITY
Locomotive decoder can take up to 1.2 A (according to type), the function outputs up to 300 mA.

Item 750   Item 751   Item 770

DECODER WITHOUT SPEED CONTROL

DAL - DECODER FOR AC-DC MOTORS

For locomotives with alternating current (AC-DC) motors like Märklin and HAG.

With two direction-dependent function outlets for the lighting and with a function outlet for Telex or smoke. Load capacity up to 900 mA. Size 19 x 16 x 5 mm.

Item 770 with 175 mm long connection wires

DGL - DECODER FOR DC MOTORS

For locomotives with direct current (DC) motors like Fleischmann, Gützold, Piko, Roco, Trix.

With two direction-dependent function outlets for the lighting. Load capacity up to 700 mA. Size 19 x 16 x 5 mm. Not for "can" motors!

Item 750 with 175 mm long, colored connection wires
Item 751 with NEM-interface plug

DECODER WITH CONSTANT SPEED CONTROL

DGR - DECODER WITH REGULATOR FOR DC MOTORS

For direct current motors, like Fleischmann, Gützold, Piko, Roco, Trix.

With regulator, three programable addresses per decoder, two direction-dependent function outlets, two other outlets for special (extra) functions such as smoke, additional lighting, telex coupling and the like. Load capacity up to 1.2 A. Size 26.5 x 15 x 4.5 mm.

Item 755 with NEM-interface plug

DGF - DECODER WITH REGULATOR
FOR BELL ARMATURE MOTORS

For "can" motors such as Faulhaber, Maxon or Escap.

With regulator, three programable addresses per decoder, two direction-dependent function outlets, two other outlets for special (extra) functions such as smoke, additional lighting, Telex coupling and the like, slow speed. Load capacity up to 1.2A. Size 26.5 x 15 x 4.5 mm.

Item 756 with colored connection wires

Item 755   Item 756   Item 760

FUNCTION DECODER

DFU - EXTRA FUNCTIONS

Controls functions like horn, whistle, light and smoke. 3 function outlets up to 300 mA, two high load outlets up to 700 mA, short-term up to 1.5 A. 2 outlets can flash or be dimmed through 2 flash generators. Address, flash frequency and dimming can be freely selected.

Item 760 with colored connection wires

DECODER ADDITION

DSU - DIGITAL SLIDER SWITCH

Used in connection with our digital decoders for automatic switching current to the front pick-up shoe with rail cars and reversing trains.
Size only 18 x 14 x 7.5 mm.

Item 775

SOLENOID DRIVEN ACCESSORY DECODERS

- Can be used in Märklin-Motorola and DCC digital systems
- Simply press a button on the decoder to set the desired address
- Dimensions: 38 x 32 x 15 mm

MD2 - DOUBLE SOLENOID ACCESSORY DECODERS

For the switching of two solenoid driven accessories (switch or signal) or an accessory with two solenoids, (3-way switch, double slipswitch, signal with distance signal). Protected against short-circuit. Outlet load capacity up to 2 A.
Item 762

SD1 - SWITCH DECODER WITH 2 SWITCH-OVER CONTACTS

Universal switch decoder with 2 switch-over contacts. One contact can serve a light signal for example and the second can switch the operating voltage. The relay contacts have potential-free outputs and can be attached at will. Outlet load capacity up to 1 A.
Item 765

SD2 - DOUBLE SWITCH DECODER

Universal double switch decoder with switch-over contacts as outputs. To switch on motors, lamps or motor-operated switches. The relay contacts have potential-free outlets and can be attached at will.
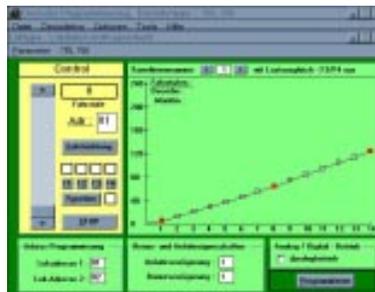
Item 766

LOKTOOL FOR WINDOWS

TO GIVE DECODERS OPTIMAL PERFORMANCE

DECODER PROGRAMING

- Type in address, acceleration and braking rate instead of cumbersome keyboard input.
- The speed curve is graphically displayed in the window and can easily and conveniently be set according to your own needs.
- Comfortable setting of all 14 speed levels.
- Preset operating profiles can be saved in the built-in database and be called up again when needed.
- The new operating properties can be immediately tested out with the controller on the program screen.

OPERATION CONTROL PROGRAM

The program has a screen with 6 digital operating controllers for operating up to six different trains simultaneously through the computer without having to enter repeatedly locomotive addresses. In its function every controller is equivalent to Control 80.

LOCOMOTIVE ADDRESS SEARCH FUNCTION

Whenever the locomotive address is unknown, there is usually only one thing to do: test all 80 locomotive addresses one after the other and see when the locomotive reacts.

This program saves you from this tiresome typing job.

It even works with digital decoders from different manufacturers.

REQUIREMENTS

Ready-to-run on PC's from 386 – 25 MHz, with Windows 3.1, 3.11 or 95 with a connected Intellibox or Märklin interface 6050 or 6051.

Item 780

ELECTRONIC MODULES

- Constructed on printed circuit
- Designed for easy construction
- Connections by mounted solderless
- Complete instructions included

START/STOP UNIT ABBS

FOR REALISTIC STOPS AT SIGNALS
The train facing the signal will smoothly stop and accelerate.

Item 412 for AC/DC locos N-HO
With one section for stop in both directions. Compatible with all DCC.

Item 413 for DC locos N-HO
To handle a slowdown and a stop section, so that trains at different speeds will stop short of the signal. It will pass through in opposite direction.

Item 471 for DC locos O-IIm

Will handle a stop section for big trains. A train will pass the red signal in backwards direction. Using a rectifier, the unit will act in either direction.

STOP UNIT AHS

TO BUILD UP A STOPOVER
This device comprises a start/stop and a delay module, so that a train will slow down to a stop and sit there for an adjustable time, then accelerate back to its former speed again after the stopover time has elapsed. The stretch where the train speed will decrease/increase can be set from 20 to 100 cm, and the stopover time can be set up to 2 minutes.

Item 414 for AC/DC locos scale N-HO
Stop in both directions. Compatible with all DCC (Lenz, Arnold, Märklin).

Item 473 for DC locos scale O-IIm
A train will pass the red signal in reverse direction.

DELAY MODULE SVB

THE TIME MACHINE
A delayed-action relay that will pass on a momentary or continuous in-coming signal from reed contacts, relays or switches, only after an adjustable delay of 2 - 60 secs.

Will control all kinds of relays, point motors, signals. Apply f.i. to reset signal aspects or for offset starting of trains.
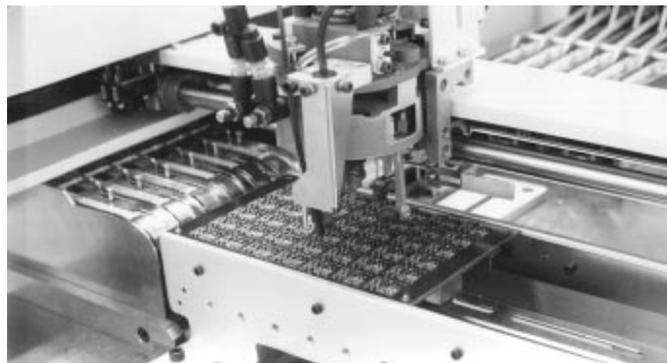
Item 427 Max. switching current 1 A

BLOCK OCCUPANCY DETECTOR

MAY ALSO BE USED AS A SWITCHING CONTACT
Detects any loco or lighted car on the track regardless of supply that is used. The output can be used to indicate occupancy or to drive other items. The maximal switching current is 1.5 Amps, the minimal detector current 0.5 Amps. Compatible with all supply systems incl. DCC, and all other electronic units.

Item 433 Will handle all kinds of lamps, LEDs, relays, point motors and signals with auto switch-off. Two units per module with a maximal current capacity of 1 Amp. each.

Item 434 With an integrated relay as a voltage-free changeover contact for all applications. Maximal current capacity 1 A

Our „Robby" places the small surface mounted components fast and with very high accuracy.

WAC

WALK AROUND CONTROL

For all kinds of motors • Modern driving qualities and excellent technics • Renders possible speeds of some cm/sec. • Extremely fine regulation possible, even when driving extremely slowly • Variable electronic mass simulation effects slowly starts and breaks, even when direction of movement is changed abruptly • Driving current, driving direction, emergency brake and overload are indicated by LED's • Emergency brake stops the train immediately • Locos' max. speed is retained • Handy enclosure • The 7 feet long cable gives wide radius of action • Easily connected between transformer's AC outlets and track • Current capacity 2 Amps

Item 268 for AC

REPA LOCO-STOP

SWITCH ON/OFF YOUR LOCO AT ANY POINT ON A LAYOUT. SIMPLY BY PRESSING A BUTTON.

REPA Loco-Stop will operate with any AC or DC speed controller and with any type of motor without any effects on running characteristics. Any loco can still be used on other layouts, even if no REPA Loco-Stop is in use.

The system consists of a control unit by means of which up to 99 addresses can be called up; the coupling module which connects each track circuit to the control unit, and the receiver modules which are fitted into the locomotives and act as decoders. The receivers are also available as decoders with double function which can switch other devices, f.i. as there are internal train lighting or smoke units.

Item 700 Start set: control unit, coupling module gauge N-HO and Loco-Decoder #701
Item 710 Control Unit - all gauges
Item 711 Coupling module - gauge N-HO
Item 712 Coupling module - gauge O-II
Item 701 Loco-Decoder 4A - 31.2 x 14.8 x 8 mm
Item 702 Mini Loco-Decoder 2A - 22 x 11.5 x 6.8 mm
Item 703 Loco-Decoder with double function 4A - 29.5 x 22.5 x 8 mm

IR-CONTROL

WIRELESS INFRARED REMOTE CONTROL

For simultaneous operation of up to 32 locos • For indoor and outdoor use • Covers a distance up to 70 feet in bright sunlight • No blocks are necessary

The IR-Control system consists of a battery-driven transmitter and a receiver inside the loco. There are pushbuttons to control speed and driving direction and one for emergency stop. Four ancillary output buttons may be freely assigned to any additional function of the loco such as sound unit triggering or relay operation of light and smoke.

Technical Data
Supply voltage: 14-18V AC or DC
Motor voltage: 6-24V adjustable
Max. current: 2 A continuous
Intermitted: 4 A

Item 730 Set: control unit and two sensors
Item 731 Single sensor

RELAY MODULES FOR IR-CONTROL

To connect directly any additional function.

Item 735 Monostable relay to connect f.i. whistles and horns
Item 736 Bistable relay to connect f.i. light and smoke

LED-MASTER

SMALL - EFFICIENT - EASY TO USE

No more difficulties when converting Marklin locos with LED head-
lights to DC operation. LED-Master provides correct operation of the
LEDs and guarantees for simple conversion. Just
solder the wires coming from the headlights to the
module - finish!

Item 150

NEM-CONNECTION PLUG

OPTIMIZE YOUR SERVICING NEEDS

The first do-it-yourself digital plug makes the digitizing of locomotives
child's play. A future repair job or the conversion to digital is no longer
a problem and is accomplished literally in seconds.
Item 155 Plug, 5 pack with 170 mm long connection cables
Item 156 Socket, 5 pack with 170 mm long connection cables

DIRECTION CHANGEOVER SWITCH FRU

TO CONVERT DC-LOCOS TO AC-OPERATION

- Minimal voltage drop across the device, decreases heat build-up
- Reliable jolt-free switching by power transistors
- No influence on running properties
- No wear, no battery, therefore unlimited lifetime
- Works on any track-voltage waveform
- Direction-dependent switching of headlights
- Simple installation, no additional parts needed
- Dim: 18 x 4 x 7.5 mm

Item 550 with cables
Item 555 with NEM-connector

FRU-S with skate switchover
To use for DC rail-motors or shuttle trains
Dim: 28 x 14 x 7.5 mm

Item 560

FRU-M for AC locos
To replace the mechanical relay
With integrated electronic gearbox
Dim: 29 x 20 x 7.5 mm

Item 570

ELECTRONIC GEARBOX EGB

REDUCE MAXIMUM SPEED

- Adjustable maximal speed
- Adjustable acceleration
- Smooth deceleration
- More power and smoothness during low speed operation
- Simple connection
- Max. output current: 1.5 A
- Gauge N-HO
- Dim: 18 x 12.5 x 5 mm

Item 520 Standard
Item 521 Specially for "can" motors

UNCOUPLER FROM REPA

- For subsequent mounting
- Almost invisible and silent in operation
- Needs only 43 mm under the baseboard
- For 12-18V
- With drilling template

Item 801 for HO/OO two rail layouts.
         For couplings made by Fleischmann, Lima, Roco,
         Powerline, Hornby and any Märklin type coupling.
Item 802 for HO 3-rail-track. With a conducting bar.
Item 803 for HOe/HOm (Bemo, Liliput, etc.)
Item 804 for all N gauge

Between the tracks
the bar of the uncoupler
is almost invisible.

LOLI LOCO-WORKING-BED FROM REPA

UNIVERSAL FOR PRESENTATION AND MAINTENANCE

- Keeps all vehicles in a solid position
- Made from a very special kind of foam rubber
- Nothing will slip away, no more damages

Item 821 Scale HO
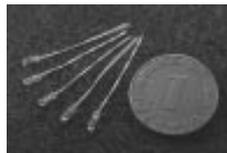Item 822 Scale N
Item 824 Big scales

MICRO-BULBS

- ■ Very high luminosity
- ■ For 2.4V DC (Faller Car System) and 12-18V AC
- ■ For boreholes Ø 1.5 mm
- ■ Dimensions of the bulbs 1.3 x 3.5mm

SUBMINIATURE BULBS

For many applications in modelbuilding: Use for model car and loco lights, building illumination and as spares for our blinkers and flashers.

Item 900 5 off 3V/10 mAmps, incl. dropping resistors for 14V
Item 910 5 off 1.5V/10 mAmps for "Car System" etc.

MICRO-FLASHER

Dimensions of the PCB only 10.5 x 7.5 x 3mm
Electric current consumption 3 mA

Items 14V   901 white, 902 blue, 903 orange, 904 red
Items 2.4V 911 white, 912 blue, 913 orange, 914 red

MICRO-ALTERNATING FLASHER

Dimensions of the PCB only 11.5 x 11 x 2.5 mm
Electric current consumption 10 mA

Items 14V   906 white, 907 blue, 908 orange, 909 red
Items 2.4V 916 white, 917 blue, 918 orange, 919 red

EASY-TO-INSTALL LIGHTING FOR HO SCALE CAR MODELS

Can be used as is together with "Faller Car System" (2.4V DC), or by using the resistor provided, for stationary models on 14V AC supply.

Complete kit contains two miniature bulbs of Ø 1.3 mm for headlights and two subminiature LED's of Ø 1 mm for taillights, appropriate resistors, leads and complete set of instructions.

Item 920
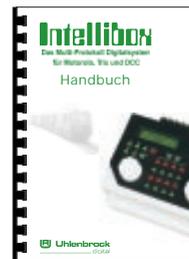
BOOKS ABOUT DIGITAL

THE DECODER MANUAL

Use this book to take advantage of all the possibilities of our digital decoders and to obtain optimal operating properties with all motors.

Item 785   Written in German

INTELLIBOX MANUAL

Comes with a demo program on diskette. Try it out on the computer, see how easy the operation of a complex digital system can be. Find out whether the Intellibox is right for you.

Item 685 Written in English

MODEL RAILROAD ELECTRONICS

Item 1001 Vol. 1 - Basic projects for beginners
Item 1002 Vol. 2 - The book about Digital Trains
Item 1003 Vol. 3 - More than 50 new projects
Item 1004 Vol. 4 - A new selection of MR projects
Item 1005 Vol. 5 - A selection of MR projects
All written in English.

DIGITAL COMMAND CONTROL

In cooperation with Ed Loizeaux and Stan Ames, Rutger Friberg compiled an extensive guide which takes you through the world of digital model train control with the DCC system. Interesting for every model train operator; an absolute must for beginners.

Item 1006 Written in English

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OUR PRODUCTS

150	LED-Master	7.67
155	5 NEM-connection plug	9.71
156	5 NEM-connection socket	4.86
268	Walk Around Control WAC	85.90
412	Start/stop unit ABBS	14.83
413	Start/stop unit ABBS	19.94
414	Start/stop unit AHS	16.87
427	Delay module SVB	18.92
433	Block occupancy detector GBM	14.83
434	GBM with relay	14.83
471	Start/stop unit ABBS for big trains	20.40
473	Start/stop unit AHS for big trains	22.45
520	Electronic gearbox EGB standard	20.40
521	Electronic gearbox for Faulhaber	22.96
550	Direction changeover switch FRU	25.51
555	FRU with NEM-connection plug	27.10
560	FRU-S with skate switchover	40.85
570	FRU-M for AC-locos	30.63
650	Intellibox	355.35
652	Compubox	235.20
654	IB-Control	194.29
656	Booster	140.61
660	FRED, incl. 2 meter cable	69.03
685	Intellibox manual and demo prg.	9.97
691	PC interface cable	7.41
692	Adapter for control unit	9.97
693	Adapter for Märklin= booster	14.83
694	3 and 6 pronged add. plug	7.41
700	Loco-stop start set	152.37
701	Loco-stop decoder	22.50
702	Loco-stop mini-decoder	27.61
703	Loco-stop dec. with double function	37.84
710	Loco-stop Control Unit	121.69
711	Loco-stop Coupling module N-HO	25.05
712	Loco-stop Coupling module O-II	45.76
730	IR-Control set	152.37
731	IR-Control, single receiver	80.79
735	IR-Control, monostable relay	14.83
736	IR-Control, bistable relay	19.94
739	IR-Control, single sensor	6.08
750	DGL loco decoder for DC motors	47.55
751	DGL with interface outlet	50.11
755	DGR regulator decoder	65.96
756	DGF regulator dec. for Faulhaber	65.96
760	DFU function decoder	33.23

762	MD2 solenoid 2-fold	19.94
765	SD1 switch decoder	19.94
766	SD2 switch decoder 2-fold	25.05
770	DAL loco dec. for AC-DC motors	42.44
775	DSU digital slider switch	14.83
780	Loktool, software	50.11
785	Decoder manual	5.11
801	REPA Uncoupler - HO/OO 2- rail	11.20
802	REPA Uncoupler - HO 3-rail-track	11.20
803	REPA Uncoupler - HOe/HOm	11.20
804	REPA Uncoupler - all N gauge	11.20
821	Loco-working bed, scale HO	7.62
822	Loco-working bed, scale Z, N, TT	6.08
824	Loco-working bed, big scales	9.71
900	Micro-bulbs, 5 off 3V/10 mA	6.14
901	Micro-Flasher 14V, white	7.62
902	Micro-Flasher 14V, blue	7.62
903	Micro-Flasher 14V, orange	7.62
904	Micro-Flasher 14V, red	7.62
906	Micro-Altern. Flasher 14V, white	8.64
907	Micro-Altern. Flasher 14V, blue	8.64
908	Micro-Altern. Flasher 14V, orange	8.64
909	Micro-Altern. Flasher 14V, red	8.64
910	Micro-bulbs, 5 off 1,5V/10 mA	6.14
911	Micro-Flasher 2,4V, white	9.15
912	Micro-Flasher 2,4V, blue	9.15
913	Micro-Flasher 2,4V, orange	9.15
914	Micro-Flasher 2,4V, red	9.15
916	Micro-Altern. Flasher 2,4V, white	10.17
917	Micro-Altern. Flasher 2,4V, blue	10.17
918	Micro-Altern. Flasher 2,4V, orange	10.17
919	Micro-Altern. Flasher 2,4V, red	10.17
920	Lighting for HO-Car Models	6.14
1001	Model Railroad Electronics 1	15.19
1002	Model Railroad Electronics 2	15.19
1003	Model Railroad Electronics 3	15.19
1004	Model Railroad Electronics 4	15.19
1005	Model Railroad Electronics 5	15.19
1006	Digital Command Control	15.19
1606	Locomotive network cable 6 m with two plugs	4.60
1622	Locomotive network coupling with 2 sockets	3.07
Kat	Catalog	3.58

The prices are our suggested reseller prices for Germany in Euro.
All prices are subject to change without notice.

We give a two-year guarantee on all our products.
We reserve the right to vary design or specification without notice.
No products in this catalog are suitable for children under 3 years.

More detailed information at www.uhlenbrock.de.
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