Uhlenbrock Elektronik

Track-Control Joystick-Segment 69 270

For Controlling Working Models

Characteristics

- Segment for inserting into the TrackControl panel
- Occupies only a single desk field position
- Replaces several key segments
- Produces instructions for locomotive or solenoid decoders

Description

The segment makes a Joystick available for controlling working models such as the Uhlenbrock Gantry crane or Roco Breakdown crane. Each Joystick movement upward, down, to the right or left - can be freely assigned to a movement of the working model. The Module controls four different kinds of control commands to be able operate different Working model decoders.

If the Joystick is pressed down, then either an additional switching function can be activated (Lighting, magnet etc.) or if the model has more than two movement directions, the Joystick can be switched to a second control level, with which two alternative movements can be controlled.

The segment has two LEDs for red/yellow track illumination and can illuminate neighbouring passive fields (Cross connection plate 69 210 or connecting plate 69 214).

Note: *The module does not work with virtual locomotive addresses!*

The Operating Modes

The Joystick segment can control working models with four different operating modes. In each mode the model is moved by moving the Joystick movement upward, down, right or left. If the Joystick is pressed, either a special function is switched on and off, a solenoid address “green” or “red“ or “control” is switched to the 2nd level, to control two further movements. For example one can turn the crane and raise and lower the rope in one level and in the second control level raise and lower the crane boom.

The segment can control the working models with either locomotive or solenoid instructions. The kind used depends on the working model and is specified in LNCV 50. If the LNCV has a value other than 0, locomotive instructions are used and the value is the locomotive address which is to be controlled. If the value is equal to 0 solenoid instructions are used. LNCVs 70 to 83 contain the solenoid address and their status (red or green). If LNCV 59 (locomotive instructions) or the LNCV 89 (solenoid instructions) have the value 65535, then pressing on the Joystick switches between the control levels 1 and 2. In this way four kinds of movements can be controlled. Other values in LNCV 59 give the code for the special function which can be switched and/or in LNCV 89 the solenoid switching function.

Locomotive Operating Modes

If the Joystick segment is used for locomotive instructions then three different operating modes are available.

Selection of the operating mode and their configuration is done in LNCV 60. Numerical values for each option whose addition is to be programmed into LNCV 60 are shown in the LNCV table, (see also example below).

Locomotive operating mode 1 (e.g. for Märklin cranes or working model decoder 67 900)

The model is controlled with locomotive instructions. Each motion direction is activated by a special function. If this motion direction assigned motor is activated by a special function it is controlled by speed and driving direction controls.

If the Joystick is moved in a direction the appropriate special function, in accordance with LNCV 51-54 (control level 1) or 61-64 (control level 2) for this direction is switched on, before the driving direction and the speed for this direction is sent.

Special functions 0 to 32768 can be used.

Locomotive operating mode 2 (Factory setting, e.g. for Uhlenbrock Gantry Crane 80 000)

The model is steered with locomotive instructions. Two motion directions are differentiated by the state of a special function. If the special function is switched off then the motor is controlled by Speed and driving direction. If the special function is switched on, however, the other motor is controlled.

If the Joystick is moved in a direction, then the special function in accordance with LNCV51-54 (Control level 1) or 61-64 (control level 2) for this direction is switched on, before the driving direction and the speed instructions are sent.

If the state of the special function related to the Joysticks motion direction is to be changed, the appropriate values in LNCV 60 are changed in accordance with the LNCV table. Special functions 0 to 28 can be used.

Locomotive operating mode 3 (e.g. for the Roco Breakdown Crane)

The model is controlled with locomotive instructions. Each motion direction is differentiated by the state of several Special functions. If the combination of special functions is sent, the motor which is assigned to this combination is controlled by speed and driving direction.

LNCVs 51-54 (control level 1) or 61-64 (control level 2) are programmed according to following table. The registered value corresponds to a special function being switched on. For each direction, several special functions can be switched on and/or off, by entering the appropriately added values from the following table into the respective LNCV.

The special functions 0 to 8 can be used.

Example Roco Breakdown Crane old, with DCC decoder

Special Function	Control Level 1				Control Level 2			
	LNCV 51 Up	LNCV 52 Down	LNCV 53 Left	LNCV 54 Right	LNCV 61 Up	LNCV 62 Down	LNCV 63 Left	LNCV 64 Right
F0	1	1	**1**	**1**	1	1	**1**	**1**
F1	2	2	2	2	**2**	**2**	**2**	**2**
F2	4	4	4	4	4	4	4	4
F3	8	8	8	8	8	8	8	8
F4	16	16	16	16	16	16	16	16
F5	32	32	32	32	32	32	32	32
F6	64	64	64	64	64	64	64	64
F7	128	128	128	128	128	128	128	128
F8	256	256	256	256	256	256	256	256
Value	**0**	**0**	**1**	**1**	**2**	**2**	**3**	**3**

Swapping Driving direction in Locomotive Operating mode 1-3

If, when first started, the driving direction of the model engine does not agree with the desired movement the Joysticks, the driving direction can be swapped for all three locomotive operating modes. This is done by changing the respective values in LNCV 60.

Calculation of Configuration Variable

The value which to be entered is calculated by adding the values of the desired Functions from the LNCV table.

For example, in the factory default setting for LNCV 60, the following options are selected:

Swap driving direction for left/right in control level 1 value = 2
Select Locomotive operating mode 2 value = 16
Swap special function state in control level 1 (locomotive mode operating 2) value = 32
The sum of all selected values is 50 and is entered into LNCV 60.

Solenoid operating Mode (e.g. for Märklin sheet metal crane 7051)

In the solenoid mode the model is controlled with solenoid decoders. If the Joystick moves in one Direction, the appropriate solenoid is switched on until the Joystick is set back to the idle position. If the center switches the solenoid off due to an internal switching time limit, the Joystick element automatically switches the solenoid back on, as long as the Joystick is held in the appropriate direction.

LNCVs 70-73 (control level 1) and 80-83 (control level 2) contain the solenoid addresses and the solenoid switching directions according to the template AAAAC.

First is the address of the solenoid to be switched is entered for value for the LNCV (AAAA = 1-2000).

Note: *Leading zeros are not entered.*

The attached command C determines the action to be implemented:

0 = the solenoid is set to position “red”.

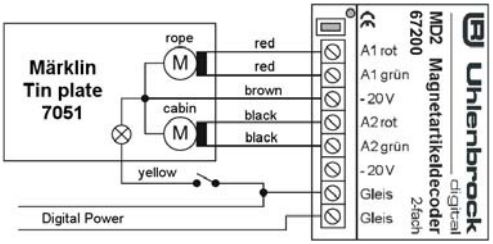
1 = the solenoid is set to position “green”.

Example

A value of 10 is the instruction to set solenoid 1 to “red”.

A value 20001 is the instruction to set solenoid 2000 to “green”.

Example for connecting Märklin sheet metal crane 7051



Motion Speed

LNCVs 55-58 (control level 1) and 65-68 (control level 2) can specify an individual speed for each motion direction.

Programming

Module programming can be accomplished either with the TC-Edit program or LocoNet LNCV programming from the digital center.

In TC-Edit, the program for the TrackControl, starting from the version 1.2.0, the Joystick Segment has its own symbol and configuration window.

Note: *When programming with TC-Edit it should be noted that to initialize the segment the Joystick must be pressed briefly.*

LNCV Table

LNCV	Description	Value Range	Default
0	**Module Address**	1-4095	1
1	**Version**	-	varies
2	**Brightness**	1-10	10
3	**Module Configuration** (0 = off/no, 1 = on/yes) Value Brightness adjustment 1 Key lock 2 CD line directly use 4 Reboot in the case of LN-error in Start-up 64* Direct mode 128	0-255	64
4	**Start up time** In 0.5 second increments	0-255	0
5	**Waiting time** for the programming mode by key in 0.5 second increments	0-255	0
21 23 25 27	**Yellow route illumination** (0 = off, 1 = on) Solenoid address for neighbouring element left Solenoid address for neighbouring element right Solenoid address for the Joystick module left Solenoid address for the Joystick module right	1-1997	0
22 24 26 28	**Red illumination** (2 = vacant, 3 = occupied) Feedback address for neighbouring element left Feedback address for neighbouring element right Feedback address for the Joystick module left Feedback address for the Joystick module right	1-4095	0
50	**Locomotive address** 1-9999 = value of the locomotive address to be controlled 0 = the solenoid instructions from the LNCVs 70-83 are used	1-9999	3
51 52 53 54	**The special function number for Joystick movement in control level 1** upward downward left right	0-32768 (depending on the operating mode)	 0 0 0 0

LNCV	Description	Value Range	Default
	Speeds for Joystick movement in control level 1	1-127	
55	upward		80
56	downward		80
57	left		80
58	right		80
59	**Special function for "Joystick pressed"** 0-32768 = value of the special function 65535 = switch between control level 1 and 2	0-32768, 65535	1
60	**Configuration of the operating mode** Value Swap driving direction for up/down control level 1 1 Swap driving direction for left/on the right of control level 1 2* Swap driving direction for up/down control level 2 4 Swap driving direction for left/on the right of control level 2 8 Locomotive operating mode 1 0 Locomotive operating mode 2 16* Swap special function in control level 1 (loco. operating mode 2) 32* Swap special function in control level 2 (loco. operating mode 2) 64 Locomotive operating mode 3 128 *Note: Unselected options always have the value 0*.	0-255	50
	The special function number for Joystick movement in control level 2	0-32768	
61	upward	(depending on	0
62	downward	the operating	0
63	left	mode)	0
64	right		0
	Speeds for Joystick movement in control level 2	1-127	
65	upward		0
66	downward		0
67	left		0
68	right		0
	Solenoid addresses and instructions for Joystick movement (0 = red, 1 = green) **in control level 1**	10-20001	
70	upward		0
71	downward		0
72	left		0
73	right		0
	Solenoid addresses and instructions for Joystick movement (0 = red, 1 = green) **in control level 2**	10-20001	
80	upward		0
81	downward		0
82	left		0
83	right		0
89	**Solenoid address for "Joystick pressed"** 1-2000 = value of the solenoid address 65535 = switching between control level 1 and 2	1-2000, 65535	0

*The asterisk * indicates the factory default setting.*

Guarantee declaration

Each component is tested for its complete functionality before distribution. If a fault should arise within the guarantee period of 2 years, we will repair the component free of charge upon production of proof of purchase. The warranty claim is void if the damage was caused by inappropriate treatment.

Uhlenbrock Elektronik

Our contact Details:

Service

In the event of a defect or failure send the unit together with the invoice and a short description of the fault back to us for repair.

Hotline

We are available if you have any questions!

Your direct line to a technician: **0 20 45 - 85 83 27**

Mon - Tue - Thu – Fri, 14:00~16:00 and Wed 16:00~18:00

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Made in Germany

Electronic devices do not belong in household rubbish

Part No. 69 270