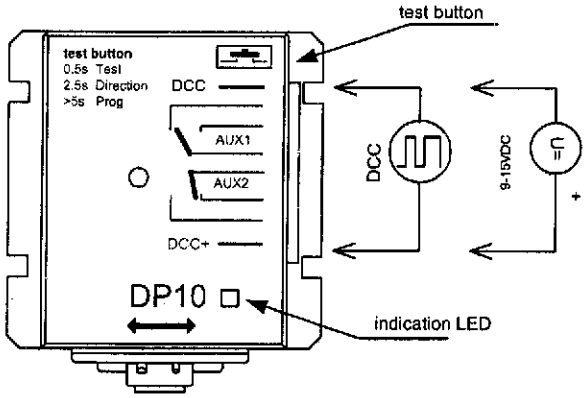
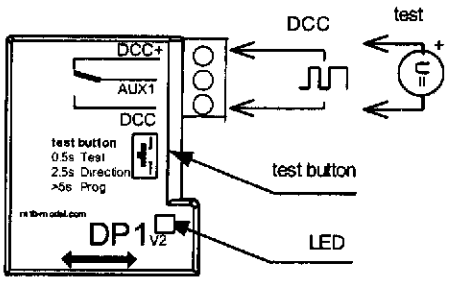
Function and setting of DP1/ DP4 / DP10 switches

Switch DP4/DP10 are equipped with DCC interface receiving command from master station and power for motion. They have two independent auxiliary switches AUX1, AUX2 (DP1 has one AUX contact used for frog supply only) .
When the DCC signal is turned on, the LED flash to indicate correct function.

DP4/ DP10 connections in the picture below.



DP1 connection



For the purposes of DP switch function testing, a DC power supply of 9-16V, with marked polarity, can also be used. Only for functional test of DPx, by push button.

LED indicator function:
1 short flash
- when turning on the power or DCC signal (verification that DP it is alive)
- reception of the DCC command for switching position (or the versatile DCC command RESET)
- during pressing the button for >2.5sec, signaling the interval for polarity change

fast flashing (when buton pressed >5sec) – entry of configuration mode

button function:
short press (0.1- 1 sec) run test, the switch changes position. This also works with DC power

medium time press (2.5-max 4 sec) - change of command polarity, the switch will respond to DCC commands in the opposite direction. The new polarity is immediately permanently stored in memory.

long time press >5 sec- learning new DCC command address, reset to original addres. The LED will flash and DCC address is set to the default value (ex LENZ ADR=9). As soon as it receives the first accessory decoder command via DCC (sent to any switch), it store the address of this command and accept it as its permanent one. During learning mode , it only responds to accessory/turnout DCC commands, not DCC commands for loco decoders. After saving the address, the LED stops flashing and the address learning mode is finished.

Addresing of inital addres:
RocoMouse, Roco Z21 etc : addr = 9
LENZ, DigiKeys, Digitrax,Marklin : addr= 5

format of DCC pakets DCC for accessory decoders (direction of DPx movement is addresed by bit D0)

1	0	A5	A4	A3	A2	A1	A0		1	/A8	/A7	/A6	C	D2	D1	D0		
1	0	0	0	0	0	0	1		1	1	1	1	1	0	0	r/o		

C=1 start movement, C=0 –no action D0 – dir of movement
this packet is for initial reset adress 8 (internal value). In this case Eg LENZ shows adress no 5 on Handheld display