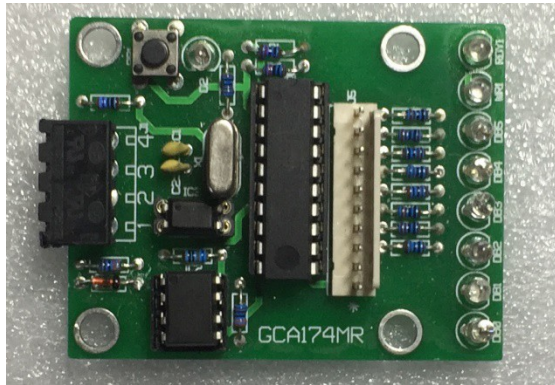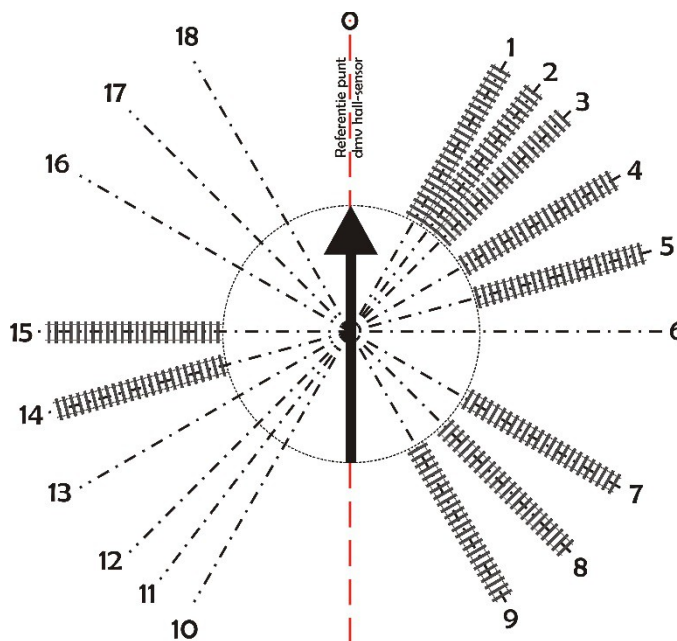# Manual for GCA174MR-interface

Jan 26, 2018

The basic starting point is to assume that GCA145 is correctly connected to turntable and alle used tracks are precise adjusted.

As an example the situation below is used.
To be able to use all connected positions with GCA145, we set the total rails connected to 18.

Train controller software should be set in a way that turntable is defined as Märklin Turntable. This implies that rail positions 1..9 are used. Positions 10..18 are assumed to be 'the opposite side'.

Depending on the software defined direction en chosen position de GCA174MR will translate that to pos 1..9 or 10..18.

The signal for chosen position will be in the accesory range of 209 to 224 (digital Signal plate 14 / mode 14) or 225 to 240 (digital signal plate 15 / mode 15), and could be either DCC or Motorola, depending on order firmware in the processor. Using Lenz protocol (Xpressnet) the Lenz version firmware should be ordered.

The 10-pin connector On GCA174MR must be connected to 'pos cmd' connector of GCA145.

The 5V supply for GCA174MR will be feeded with this connection

GCA174MR Interface is connected to track signal. Polarity is not important for DCC, for Motorola the brown wire should be connected to point 1 (untimate right) of J1, the red wire should be at J1 point 2.

GCA174MR will be delivered with preset (turnout) addresses 225..240.

This means that position 1..9 are selectable from train control program.

If there is no action, check if correct addresses are set in your program.

GCA174MR is now able to select half of the total amount of positions (9 in this example).

Press small button on GCA174MR and led D2 is flashing.

Now use train control program to select position 9 (N.B. NOT the GCA146!).

D2 is off for ca 1 sec, en will then flash n-times , where n is the chosen position.
Now GCA145 will respond to turn towards position 9. During this programming it is not only that the half of total positions is recorded, but also the range of addressing (14 or 15) .

During normal procedure GCA174MR Led d2 has following function:

- OFF   ready for next computer command..

- ON   turntable is moving.

The led is also connectable via small connector, so it can be on a remote postition

When turntable is moving Pin3 and 4 are sending a busy signal, informing the train control program that turntable is not ready. New commands should not be sent out.

Connection of rdy signal is done with point 3 to ground and point 4 to Input connection. It will inform the train program that turntable is not in position yet, and that new commands should NOT be sent.

Turnout command's (mode-15):

Asdress	direction	Action of TT
226	straight	turn 180°
228	round	turn right
228	straight	turn left
229	round	position 1
229	straight	position 2
230	round	position3
230	straight	position 4

Etc.
Turn 180° (226 straight) is a single command. So first a position has to be selected (via =>229) and then turn command (128 *) is sent.

This turn 180° command is remembered by GCA174Mr but does not execute a turning command by itself.