

# RoboCarts

## Robots run in a course race to find out which is the fastest

### 1. Contest description

Group of robots starts for a race. Their task is to make several rounds on a track as fast as possible. The robots receive points based on their order at the finish line. Best robots in the qualifying phase will compete in the finales. Standard collisions with other robots or track walls are allowed, however excessive roughing or intentional damaging of the track or other robots is prohibited.

### 2. Robot

The robot is fully autonomous and must not be dangerous or excessively annoying.

Throughout the race (including the start) no external connection is allowed. Since the robot is prepared for start, it must not be touched or interfered with in any way except starting until the referee allows so. On its top side, an emergency switch must be located. By pressing it all actuation must be switched off. The switch must be big enough and well distinct so that it can be easily recognized, reached and used.

A 5x5 cm space for sticker marking must be reserved on the robot's top side.

Maximum size of the robot is 20(l)x10(w)x10(h) cm.

**Beginner Category:** The robot is controlled via wireless remote control. No objections concerning the connection, its quality, or drop-outs are allowed. It is not allowed to use any kind of jamming or signal disturbing technologies even if they were law and regulation compliant.

**Advanced Category:** The robot is fully autonomous. Throughout the game (including the start) no external connection is allowed. From the moment the robot is prepared for start, it must not be touched or interfered with in any way except starting until the referee allows so.

### 3. Racing circuit

Race circuit ground is white. The track is bordered and contains inner walls creating a racing circuit. All walls are at least approx. 10 cm high and the robots are not allowed to cross them. Inner walls are red, outer walls are green. Finish line is black, approx. 1.5-2 cm wide.

The playing field may be composed of more pieces with slight level differences. The finish line may be for example painted or sticker-based (more pieces).

### 4. Start and finish

Every robot starts from a pit assigned by the referee. Pit size is approx. 22(l)x12(w) cm. Before the race, participants place their robots one after one into the pits during maximum 30 sec each. Since then, no intervention is allowed. The referee starts the race by fully opening front side of the pits. All pits are opened simultaneously; height of the gate will be at least 12 cm. In front of and below the pits, a mat may be placed; both will be removed after the race start. The race runs anticlockwise.

The robot successfully passes the finish line if it fully crosses it. The race ends when all robots finish the ordered number of rounds or when the time exceeds specified time limit. Number of rounds and time limit will be announced before starting individual competition phases. It is recommended that robots stop after the end of the race (the participants will have to capture their robots on their own). All robots which finish the specified number of rounds will receive ranking points.

During the race, non-moving or otherwise non-working robots are not removed from the playing field except of the start pits removal if the robot does not leave the starting area.

