

Robot's Intellect 2023

Folkrace

1. The task

The aim of the event is to simulate the immersive nature of the rally cross. At one time there may be up to five robots on the track. The goal for the robot is to complete as many laps as possible in the given time. The robot that completes the most laps wins.

2. General rules

1. It is strictly forbidden for robots to injure any participants or viewers.
2. It is forbidden for robots to damage the course, obstacles or any other items of organizer's inventory, unless it is explicitly a part of competition.
3. Robots must be autonomous. During the match human input isn't allowed, unless it's specifically allowed by competition.
4. It is forbidden to intentionally cause any harm to other participants or robots.
5. Robots must be registered until organizer's specified date.
6. Robots must pass qualification before participation. Robots that are late for qualification must get competition coordinator's permission to pass qualification after official qualification time.
7. During qualification, each robot will be assigned a unique number, which must be put on the robot, in a clearly visible location.
8. Competition coordinator has final say on all questions and problems during the competition.
9. The organizers keep the right to alter/edit the rules, accordingly informing the participants about it.
10. Violation of the rules above will result in disqualification or criminal liability.

3. Requirements for robot

1. Weight must not exceed 1 kg.
2. Maximum robot size: 0.2x0.15x0.25 m (length, width, height).
3. The robot is prohibited from: change size; emit gasses, liquids or dust; knock on other robots; use the movement of other robots.
4. The robot must have a START/STOP button or the ability to start/stop the robot remotely.

4. Team

1. Team can not contain more than 5 members.
2. The number of robots presented by a team is unlimited.

5. Competition field

1. The field's surface color is black and the barriers are white.

2. The track barrier height is 0.1 ± 0.01 m
3. Track varies from 0.9 to 1.5 m in width.
4. The tracks can be on two levels, e.g. the track may have a bridge-tunnel. (fig. 1)
5. The track may have hindering walls (fig. 2), which are installed in a way that a robot, which moves along the edges of the wall would not be capable to pass the track.

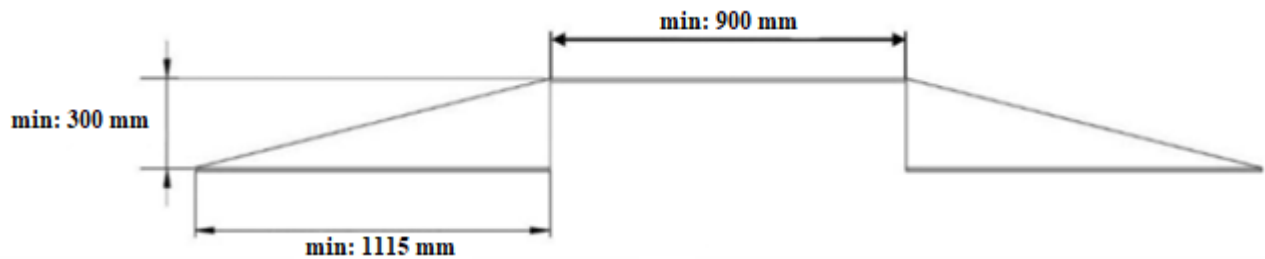


Figure 1 Bridge – tunnel

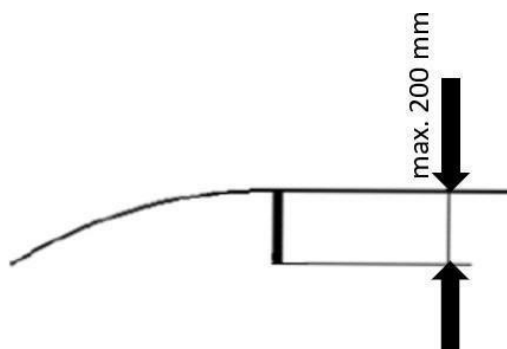


Figure 2 Obstacle wall

6. Competition progress

6.1. General rules

1. Robots will compete in groups of up to 5 robots.
2. Each group will have 3 races.
3. A single race is 5 minutes long.
4. Recurring violations of rules will result in the robot being disqualified immediately.

6.2. The start

1. Before the race, the direction in which the robots are going to go is told by the referee and the robots are placed at the start.
2. The starting positions will be drawn at random for every robot.
3. The start signal will be given once all of the competitors are ready.

6.3. Points

1. Every lap completed in the right direction is awarded for +1 point.
2. Every lap completed in the wrong direction is awarded for -1 point.
3. If a robot starts moving before start signal, it will be returned to the start line and be given -2 points.

7. Deciding the winner

1. After all of the three races, one robot which scored the most in its sub-group, goes to the final where it will compete for the podium places and the victory of the event.
2. The winner of the event is the robot, which scores the most points in the final race.
3. If the number of points is equal at the end of the races (and after the final race), the ranking will be announced on the basis of an additional race.
4. The winner of the additional race is the robot which manages to cover one lap in the designated direction first. An additional race is only carried out if the robots have earned an equal amount of points. The starting positions of the additional race will be chosen at random.

8. Comments

5. If a robot is stationary for at least 10 seconds, referee can tell the robot's team representative to move the robot out of the track or to move it back to the start line after 10 additional seconds.
6. If the robot stumbles during the competition and does not prevent other robots from moving, then the representative of the team has the right to decide, whether the robot is left down in the same place or is returned to the starting line. If the robot returns to the starting line, then -1 point is given.