



## Index of MR-Series Robot Competition

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### Game Category

No.	Category	Division
2	Robot Combat MR. Series (Manual wire control)	Junior / Senior
3	Sumo ESP32 Wireless Control MR. Series (500g)	Junior / Senior

### Sumo Ring (Dohyo)

Field structure				Shikiri Lines			Border Line
Category	high	diameter	material	Width	Length	Separation	
Sumo 500 g	2.5 cm	77 cm	Wood	1 cm	10 cm	10 cm	1.5 cm

\* Robot Combat MR. Series (Manual wire control) The field is a rectangle size 120 cm. x 120 cm.

### General specifications of the robot

#### 1. Prohibited Actions in Robot Construction

- 1.1. It is prohibited to perform any action that interferes with the operation of an opponent's sensors. For example, emitting infrared light to disrupt the functionality of the opponent's infrared detection module, or installing components with white, light-colored, or reflective surfaces that could cause the opponent's sensors to malfunction.
- 1.2. It is prohibited to use any parts or equipment that, once installed, could cause damage to the sumo ring (Dohyo ring), including the use of wheels coated or treated with oil or lubricating fluids.
- 1.3. It is prohibited to install or use any equipment containing liquid, powder, dust, or compressed air that could be released toward the opponent's robot by any means.
- 1.4. It is prohibited to use any equipment that generates flames or combustion during normal operation.
- 1.5. It is prohibited to use any equipment that can shoot, throw, or launch parts from the robot toward the opponent.
- 1.6. It is prohibited to install or use any tools or devices that can anchor the robot to the field surface or the sumo ring, such as glue, adhesive rubber pads, sticky tapes, stickers, or any special devices designed to support or create resistance against the field surface, such as jet systems.



## Robot Competition Field

All actions must comply with the above requirements.

### Specific Features of Each Robot Version/Model

#### MR Serie -Battle Legs wire control

##### Primary / Secondary School Level

###### Robot Specifications

Only the MR Series - Battle Legs (wire control) robot set is allowed.

For inquiries or to obtain the robot set, please contact: <https://web.facebook.com/pal.manawisut>

#### MR Serie -Sumobot : ESP32 RC 500G

##### Primary / Secondary School Level

###### Robot Specifications

Only the MR Serie -Sumobot model ESP32 RC 500G robot set is allowed.

For inquiries or to obtain the robot set, please contact: <https://web.facebook.com/pal.manawisut>

#### 1. Competition Rules

##### 1.1. Competition Format

1.1.1. Each match consists of 3 rounds, each lasting 2 minutes.

1.1.2. The winner of the match is the team that scores the most points across the 3 rounds. For example, winning 2 out of 3 rounds results in a win. A team that wins a round earns 1 Yuko. If neither team scores before time runs out, the round is considered a draw. If after 3 rounds no team has earned 2 Yukos, the referee will decide the winner based on the following criteria:

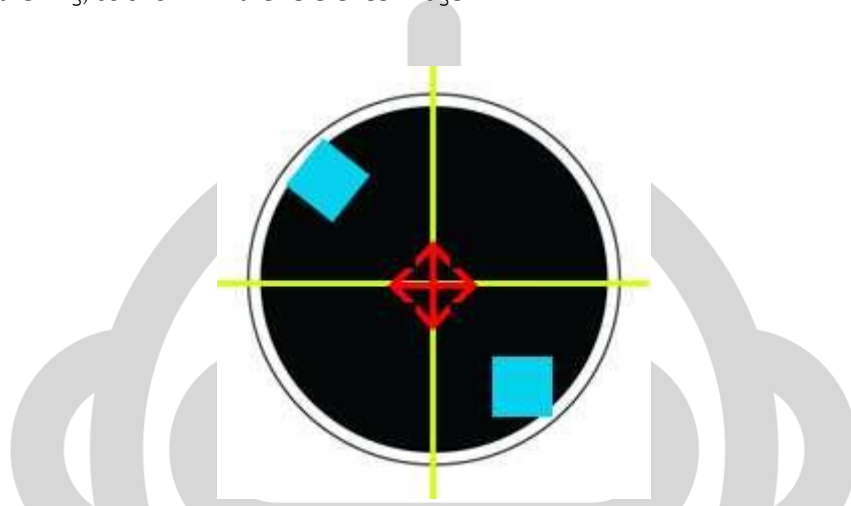
- If both teams have won 1 round each (1 Yuko per team), and the remaining round is a draw, the team with the lighter weight will be declared the winner.
- If all 3 rounds are draws, the team with the lighter weight will be declared the winner.
- If two rounds are drawn and one team wins the remaining round, that team will be declared the winner.
- If neither team has won 2 Yukos after the first 2 rounds, a third round must be played.
  - Example: If Team A wins Round 1 and Round 2 is a draw, a third round is required.
  - If Team B wins Round 3, the winner will be decided by weighing both robots — the team with the lighter robot will be declared the winner.
  - *Exception: In the final round, a tie will be resolved by playing an extra round (overtime round).*

1.1.3. The competition will follow a double elimination format. A team will be eliminated after two losses. Winning teams advance to the next round. The tournament continues in knockout format until a Champion, 1st Runner-up, and 2nd Runner-up are determined.

## 1.2. Start / Restart / End of Match

1.2.1. When the referee gives the signal, both competitors must be ready at the competition field.

1.2.2. The referee will place boundary markers onto the field. These markers divide the field into four sections. Robots will be positioned in opposite zones as designated, and at least part of each robot must touch the white boundary line of the ring, as shown in the reference image.



1.1.1. In the first round, a coin toss will be conducted. The team that loses the toss must place their robot on the field according to Rule 3.2.2, facing any direction towards the opponent. Then, the team that wins the toss will place their robot afterward. Once placed, robots may not be moved.

1.1.2. For autonomous robot matches, the referee will give the start signal. Once signaled, competitors may press the start button only once. After that, the robot must remain stationary for at least 5 seconds.

1.1.3. From the second round onward, the team that won the previous round will place their robot first behind the Shikiri line, facing any direction toward the opponent. The team that lost the previous round will place their robot afterward.

1.1.4. The match may only be paused or restarted upon the referee's declaration.

1.1.5. The match officially ends when the head referee announces it and instructs the competitors to remove their robots from the field.

## 1.2 Yuko Points

1.2.1. A team earns 1 Yuko point when:

- A part of the opponent's robot is forced to touch the floor outside the sumo ring (the outer field). The team that causes this first earns 1 Yuko.
- The opponent's robot touches the floor outside the ring on its own.
- A robot becomes non-functional or shows no movement for 5 seconds.
- A robot moves before the 5-second waiting time after the referee's start signal. The opposing team will be awarded 1 Yuko.

1.2.2. If the robot is still on the ring boundary line, no point is awarded, and the match continues.



1.2.3. The match will be paused if:

- Both robots are locked together without movement for 5 seconds.
- Both robots perform repetitive actions such as forward–backward movement, continuous spinning, or circular movement for 5 seconds with no significant progress. The referee may extend this evaluation period to 30 seconds.
- If such movement occurs due to one team, the other team will be awarded 1 Yuko. The referee may also extend the time to 30 seconds in this case.
- If both robots touch the floor outside the ring at the same time and the order cannot be determined, the match will be restarted.

### 1.3 Rule Violations

1.3.1. Any competitor who insults or disrespects the opponent — verbally, through actions, or by having the robot produce sounds, messages, or gestures that are offensive — will be disqualified immediately.

1.3.2. Entering the ring area during the match or using any tools is prohibited, except when retrieving the robot upon the referee's announcement of a Yuko or during an official match pause.

1.3.3. Throwing or placing any object or equipment into the ring is prohibited.

1.3.4. Any competitor violating Section 1 rules will be penalized.

### 1.4 Penalties

1.4.1. Any competitor violating the rules or provisions under Section 3.4 will be immediately disqualified, and the opposing team will receive 2 Yukos. The disqualified party cannot appeal.

1.4.2. If a team supervisor is found involved in any violation, all teams under their supervision will be disqualified from the competition.

### 1.5 Accidents During the Match

1.5.1. A competitor may request a match pause if their robot experiences an accident and cannot continue competing.

1.5.2. If an accident makes it impossible to continue, the referee will determine which team caused it. The responsible team will be considered the loser. If no team can be clearly identified, the team unable to continue will be considered the loser.

1.5.3. The referees will determine the evaluation time for such cases, but it must not exceed 5 minutes.

1.5.4. If a team cannot continue due to an accident (per Rule 3.6.2), and it is not the cause of the accident, that team will receive 2 Yukos and be declared the winner. If the team already had 1 Yuko, they will receive 1 additional Yuko to secure the win.

### 1.6 Final Decision

All decisions made by the referees and organizing committee are final and cannot be appealed.



\* These rules are not final and may be updated up until the day before the competition.

