2025

UIM E1 REGULATIONS

UIM

UNION INTERNATIONALE MOTONAUTIQUE

UIM
UNION INTERNATIONALE MOTONAUTIQUE

2024
WORLD CHAMPIONS

E1

Team Brady
Emma KIMILÄINEN

Team Brady
Sam COLEMAN

E1 REGULATIONS 2025

PUBLISHED ON 22/01/25

THE RACING RULES OF
UIM E1 WORLD CHAMPIONSHIP
TABLE OF CONTENTS

INTRODUCTION

These racing rules and regulations (hereinafter, the "**Rules**") will be reviewed by the UIM and if needed, revised and published annually by the UIM.

Changes to the Rules during the Season are prohibited, unless for important safety reasons and subject to UIM Council approval. If applicable, they will be announced by the UIM through the National Authorities, posted on the UIM Website www.uim.sport and via the UIM E1 Class Promoter posted on Championship website www.e1series.com, and posted on the Official Notice Board at the start of any Event.

Any changes to the Rules in between the Seasons shall be communicated to the Teams by the UIM via the UIM E1 Class Promoter.

All capitalised words used in the Rules shall have the meaning assigned to them in the Definitions section in Appendix 1.

PART 1 - FUNDAMENTAL RULES

1.01 FAIR RACING

The Pilots shall compete on behalf of the Teams in compliance with the recognized principles of sportsmanship and fair play. A Pilot may be penalized under this rule if it is established that these principles have been violated. A Pilot's disqualification under this rule shall be applied to the overall Team Championship score.

1.02 ACCEPTANCE OF THE RULES

By participating in an Event conducted under these Rules, each Pilot and Team agrees:

a) To be governed by these Rules;
b) To accept any penalties imposed and any other actions taken by authorised officials in accordance with these Rules. Penalties may be applied following the procedures and grading of sporting justice outlined in these Rules; and
c) With respect to such determination, not to resort to any court or other tribunal not provided for in these Rules governing the activities of the sport and the Championship.

1.03 DECISION TO RACE

Each Pilot and Team shall independently decide, under their own responsibility, whether to participate and / or to continue each Session of an Event.

1.04 ENVIRONMENT RESPONSIBILITY

The Championship is committed to sustainability through initiatives such as reducing emissions, adopting renewable energy sources, and promoting responsible resource use. The Championship aligns with international standards, including ISO 20121 for sustainable event management, to set a benchmark for environmental leadership in marine sports.

All participants in the Events are encouraged to minimize any adverse environmental impact associated with the sport of powerboating. All participants are expected to support these objectives by adhering to guidelines that promote energy efficiency, waste reduction, and the protection of aquatic ecosystems, ensuring the sport leaves a positive legacy both on and off the water.

PART 2 - GENERAL APPLICATION

2.01 GENERAL APPLICATION TO ALL EVENTS

Unless otherwise specified, the following general racing rules shall apply to all UIM E1 World Championship Events.

An Event commences from the start of registration on Day 1 and concludes with the closure of the Race Administration on the final day, unless otherwise specified in the Advance Programme and/or Race Instructions.

All specified timeframes for post-Event correspondence shall be calculated based on Greenwich Mean Time (GMT) and not the Event's local time.

The UIM E1 Class Promoter shall ensure a copy of the Event insurance policy is available on the Official Notice Board for access by all Event participants.

2.02 COMPLIANCE WITH UIM RULES AND REGULATIONS

The Teams must comply with these Rules and all regulations applicable to each Event as issued or approved by the UIM, including, but not limited to the Race Instructions and the Bulletin.

2.03 INTERPRETATION OF THE RULES

Interpretation of the Rules will be made by the Race Director. In matters of sports justice, including protests, appeals, and arbitration, decisions shall be made by the designated judges within their respective jurisdictions.

2.04 PAYMENT OF FINES

All fines must be paid to the UIM E1 Race Management Team Office by the end of the Race. If a fine is issued alongside penalties that qualify for a protest, a protest must be submitted according to these Rules and the applicable procedures. A summary of the fines issued will be added to the Digital Logbook within 24h of the Event.

Fines that remain unpaid after 14 days shall result in the non-eligibility for a Team to race at the next Event. Post-Event issued fines must be paid within 14 days of notice being issued or shall result in a non-eligibility for the Team to participate at the next Event.

The UIM E1 Committee will meet annually to determine the allocation of funds collected from fines and will update the Digital Logbook accordingly with their decision.

2.05 CONSUMPTION OF ALCOHOL

No Team Member, Pilot or official may enter the Event site(s), Paddock or Pits while under the influence of alcohol.

No participant, competitor may attempt to work on, maintain or operate the Boat or support vessels or machinery while under the influence of alcohol.

No Pilot may participate, in any capacity, in any Sessions, while under the influence of alcohol.

The consumption of alcohol for Pilots and team managers is prohibited from 1 hour before registration for an Event until the podium of the last Race of the Event.

The UIM E1 Class Promoter and/or the UIM may carry out spot checks and/or establish a schedule of general checks on Teams. The tests are carried out using machines and procedures suitable for the purpose. This does not exclude any further checks that may be requested by the competent authorities.

The test must be conducted by the Medical Delegate. No Pilot or official participating at an Event may circumvent this rule by withdrawing their entry or by resigning from their duties while at the Event. Refusal or failure to do so may be taken as a positive alcohol test and dealt with accordingly.

Any Pilot found to have more than 0.00 micrograms of alcohol in 100 millilitres of blood (0.00 on the breath analyser machine) shall be penalised. The penalty for a first offence is disqualification from the Event for the Pilot or the offending person. The penalty for a second offence is suspension from all Events for a period of six (6) months. The Race Director shall penalise anyone infringing this rule.

2.06 ANTI-DOPING REGULATIONS

The anti-doping regulations comply with the World Anti-Doping Code, as published in the UIM Website.

The participation of a Pilot is strictly linked to the conditions of substance use, regulated by the rules and lists issued by World Anti-Doping Agency (WADA).

Smoking and vaping of electronic cigarettes are permitted only in designated areas at the Event.

2.07 INDIVIDUAL REQUIREMENTS FOR PARTICIPATION IN AN EVENT

Liability Release. All Team Members and Pilots in each Event must complete and submit a liability release to UIM prior to racing. No owner, Pilot, contestant, their representatives, or any Race Official shall hold any other owner, Pilot, their representatives, any Race Official, the UIM E1 Class Promoter, UIM, or Local Organiser liable for personal injuries or damage resulting from an accident occurring during a sanctioned Race, except in cases of deliberate collision or premeditated unsportsmanlike conduct. The interpretation of this rule shall be at the discretion of the Race Director.

Suspension and Expulsion. No individual who has been expelled from the UIM or its Events, or who is currently

under suspension by the UIM, shall be permitted to officiate, serve as a Race committee member, act in any assisting capacity, or participate as Pilot or Team Member in any sanctioned racing event. The UIM further reserves the right to deny future membership to anyone who has previously been expelled or suspended from any racing category of the UIM.

Medical and Rescue, Tow and Patrol Boat Coverage – Life Jackets/PFD. All Event personnel working or operating in the water are required to wear PFD at all times.

During all official racing times, all assistance, safety, rescue boat teams as well as all teams in support boats, must wear life jackets or PFDs in accordance with the safety regulations or special prescriptions set forth by the Local Organiser or National Authority.

2.08 RISK STATEMENT

Racing is by its nature a dangerous sport and therefore inherently involves an element of risk. By participating in or becoming involved with fully electric powerboat racing organised by the UIM E1 Class Promoter, whether as a Pilot, a Team Member or any other capacity, individuals agree and acknowledge that:

i. they are aware of the inherent risks associated with water motorsport and accept responsibility for exposing themselves to such inherent risks, including risks to their person and property, drowning, hypothermia, collision injuries, burns and other physical injuries as well as the possibility of death.
ii. they confirm that they have the necessary skills and knowledge to participate in the Event and handle any conditions that may arise during a Race.
iii. they will not participate in an Event while under the influence of alcohol, drugs or in any other condition that renders them unfit to participate.
iv. they are responsible for the safety of themselves, their Team, their Boat and their property whether on water or ashore.
v. the management of their Boat is solely their responsibility.
vi. technical scrutineering does not constitute a condition survey of the Boat and it is solely their responsibility to decide whether to start or to continue in any Race.
vii. it is solely their responsibility to ensure the efficiency and suitability of their helmets and Safety Equipment.
viii. the presence of the UIM E1 Race Management Team, patrol boats and other volunteers provided by the Championship or Local Organisers does not relieve them of their responsibilities.
ix. to be bound by the conditions of the Race Instructions and these Rules.
x. they will accept the decisions of the Race Management Team, the organising committee and/or the National Authorities.

PART 3 - EVENT RULES

EVENT RULES

The following general racing rules apply to all the UIM-sanctioned UIM E1 Championship Events.

The rules and/or regulations set forth herein are designed to provide for the orderly conduct of the Events and to establish the minimum acceptable requirements for an Event to be held. These Rules shall govern the condition and regulation of all the Events and by participating in the Events, all UIM members agree to abide by these Rules. No express or implied warranty of safety shall result from the publication of, or compliance with these Rules, including any such supplementary regulations that may be published by the UIM from time to time. They are intended as a guide for the conduct of the sport.

All Race and Event rules, criteria and requirements may be subject to modifications at any time based on specific venue, National Authority, geographical, local legal, or safety-related considerations. Such changes shall only be made when necessary to comply with local legal requirements or to ensure the safety of the Event. Any such changes will be communicated to all the Teams and Pilots through the Race Instructions, the Bulletin posted on the Official Notice Board, and any other means deemed necessary.

It is strictly prohibited for anyone not affiliated with a particular Team to: (i) approach, (ii) make physical contact with mechanical components of a Boat, (iii) take photographs, or (iv) engage in any other similar actions directed at or involving another Team or its Boat.

To enforce this rule, a minimum distance of two (2) metres must be maintained from any item belonging to another Team. Breaching this rule will result in the immediate disqualification of the entire Team from the Event, along with the issuance of two (2) Blue Cards to the offending individual. The issuance of two Blue Cards leads to the immediate expulsion of the individual from the Paddock, and they will not be permitted re-entry, even as a guest, for the entire duration of the Event.

3.01 RACE ORGANISATION AND SANCTION

3.01.01 ELIGIBILITY

Only the UIM E1 Class Promoter is authorised to organise and run UIM E1 World Championship Events.

3.01.02 RACE DATES

Event dates will be agreed between the UIM and the UIM E1 Class Promoter and must be included in the annual calendar in accordance with a timeline established by the UIM.

Final approval for official Event Calendar for the relevant Season must be obtained from the UIM after submission and approval by the UIM E1 Class Promoter.

3.02 TITLE

The title of the Championship shall be known as the "UIM E1 World Championship".

In case of a Championship title sponsor, the complete title will be: "Year - UIM E1 "Sponsor Name" World Championship".

3.03 WORLD CHAMPIONSHIP

The UIM E1 World Championship is a Team Championship. The points for the UIM E1 World Championship will be awarded to the Teams.

The champion's title will be awarded to the Team that has accumulated the most points across all the Events in the relevant Seasons.

All Events carry points, and every Event's points will count towards the final score. No Event results may be excluded from the total Season score.

3.04 CHAMPIONSHIP POINTS & SCORING SYSTEM

Unless otherwise specified, points for each Team will be awarded at each Event according to the following scale:

12 Teams	
1st	38
2nd	30
3rd	25
4th	21
5th	17
6th	14
7th	11
8th	9
9th	7
10th	5
11th	3
12th	1

11 Teams	
1st	38
2nd	30
3rd	25
4th	21
5th	17
6th	14
7th	11
8th	8
9th	5
10th	3
11th	1

10 Teams	
1st	38
2nd	30
3rd	24
4th	19
5th	15
6th	12
7th	9
8th	7
9th	5
10th	3

9 Teams	
1st	38
2nd	31
3rd	25
4th	20
5th	16
6th	12
7th	9
8th	6
9th	3

Bonus points: additional Championship points will be awarded for (i) the top three ranked qualifying Teams (3, 2 and 1 points) in the qualifying Session and (ii) fastest recorded lap (1 point) in all of the Races of an Event, meaning a point will be awarded for the one (1) fastest lap at each Event:

Qualification Session eliminator race winner	**3**
Qualification Session eliminator race runner up	2
Qualification Session eliminator third place	1
Fastest lap from Race Day	1

3.04.01 CHAMPIONSHIP TIES

In the case of a tie in the overall Championship, the Champion's title will be awarded to the Team that finishes in the highest position in the Final Race of the final Event of the Championship .

3.04.02 INCOMPLETE RACING SERIES

If Races are not run:
- If the 2nd Final Race cannot be run, the result from the first Final Race will be valid.
- If there is no Place Race, the ranking of the Teams who would have participated in the Place Race will be based on the final standings from a qualifying Race .

If a Finals Session does not take place:
- If there is no Final Race, the rankings of the finalists will be based on final standings from a qualifying Race.
- If only a qualifying Session has taken place, the qualifying positions will determine the standings.
- If the qualifying Session has been completed but no other Races can be run, the bonus Championship point for the fastest qualifier will not be awarded.

3.05 REGISTERING CREW/ BOAT COMBINATION

Points for the Championship will be awarded to the Teams. Sporting penalties will be imposed on the Pilots registered for a given Race, with the corresponding impact to their Team.

Clarifications:

- An eligible participating Team is composed of a combination of (i) a registered Team, (ii) a Boat number and (iii) Pilots for any given Race.

- This Team set up shall compete under the management of the Team Principal.

- The Team Principal is responsible for registering their Team, Boat number and the Pilots, and the Reserve Pilots, if applicable, at the beginning of the Season. Each Team must consist of a minimum of two (2) Pilots, with an option to register up to four (4) pilots in total, where the two (2) additional pilots will serve as Reserve Pilots).

- If the Team Principal does not register the maximum number of permitted Pilots at the start of a Season, the Team may add the Pilot(s) up to this maximum number during the Season. Any Pilots added in-Season may not be registered as part of the entries for other Teams within the same Season. To clarify, any Reserve Pilot contracted by a Team for the Season but has not competed or participated in any way for that Team during the Season may, at the discretion of the releasing Team, be released to race for another Team.

In the event of a modification to the registered Team list of Pilots for the Season, the Team will retain its accrued points, and the Pilot(s) will maintain their individual classifications.

If a modification involves an external Pilot, meaning someone not listed on the registered Team for the current Season, the change cannot be executed if any of the Pilot(s) involved have already participated in any Events during the current Season.

In order to participate at an Event, it is mandatory that each Team is composed of a minimum of:

- One (1) male Pilot
- One (1) female Pilot
- Two (2) mechanics
- One (1) performance engineer

The additional Team Members may be:

- Team Principal
- Operational team members
- Up to two (2) Reserve Pilots

Of the two (2) pilots participating in a Session after Pilot and Reserve Pilot registration on behalf of the Team (comprising

either two (2) Pilots or two (2) Reserve Pilots or a combination of one (1) Pilot and one (1) Reserve Pilot), only one (1) Pilot may possess previous experience in powerboat piloting, specifically, a Pilot who had a valid powerboat license outside of the E1 class for Circuit, Offshore or Pleasure Navigation disciplines issued by a National Authority ,

A Team will each be permitted up to two (2) exemptions per Team per Season, permitting two (2) pilots with prior powerboat piloting experience to represent the Team at the Event (this may involve a combination of one (1) Pilot and one (1) Reserve Pilot or two (2) Reserve Pilots). These exemptions are to be used only in cases of (a) a scheduling conflict with another professional race, or (b) for Force Majeure reasons, which include unavoidable, unforeseen events such as illness that prevents travel or fitness to race, flight cancellations, strikes the prevent the Pilot from reaching the Event or other similar situations outside of the Pilot's control. A Pilot accumulating one or more Yellow Cards will not be considered a Force Majeure reason.

The Team (or a radio operator within a Team) must communicate in English with the Race Control. All communications on the official radio channels shall take place in English.

3.06 EVENT INSURANCE

Relevant insurance policies must be in effect to cover all activities, both racing and non-racing, conducted by Teams, Pilots, Local Organisers, the UIM E1 Class Promoter, and the UIM.

Every Team is required to maintain marine liability insurance for on-water racing activities and third-party liability insurance for non-racing activities on the ground. This includes coverage for any damage arising from the towing or launching of the Boats, along with comprehensive third-party cover for all Race Officials and associated Race helpers. Furthermore, Teams must have general insurance policies in accordance with legal requirements, including product liability insurance and employer's liability insurance.

The insurance policies of the Local Organiser and/or the UIM E1 Class Promoter must be provided to the Race Administration.

The indemnity limits of the insurance must meet or exceed the requirements stipulated by the local laws of the countries hosting the Events.

All relevant insurance policies must provide coverage for the entire duration of the Event, including the setup and the dismantling of all areas, as well as all activities on land and water. This coverage must extend to both, preparation periods and the Sessions.

3.07 RACE REQUIREMENTS

The UIM Safety Procedures and Guidelines outlined in Appendix 2, as updated from time to time, must be strictly adhered to.

Failure of Pilots to comply with these Safety Procedures and Guidelines may result in non-eligibility at the next Event.

3.08 PADDOCK REQUIREMENTS

3.08.01 OPERATIONAL AREAS

These Rules shall be adhered to when setting up and operating in the following operational areas: Paddock, Launch Zone and Dry Pits.

These operational areas must be separated from the general public by fencing or similar means at all times. The public may be admitted to the Paddock and the Pit areas during designated times only. All staff will be required to hold the relevant accreditation permitting access to the relevant areas only.

Consumption of alcohol within any of the designated operational areas is strictly prohibited. Violation of this rule will result in penalties, including disqualification, as determined by the Race Director or the UIM E1 Class Promoter via the Event Control. For further information see rule 2.05.

3.08.02 THE PADDOCK

The Paddock is a restricted area housing heavy machinery, HV (High Voltage) charging and ongoing Boat repair and maintenance programs.

Public access is limited to those with Paddock accreditation.
Guests must be accompanied by a staff host at all times.

Access to Team technical areas within the Paddock requires approval from the respective Team. Pre-approval may be arranged for media (including social media) and broadcast staff.

Approaching or touching a Boat is strictly prohibited without onsite induction covering warnings and error indicators.

Detailed safety procedures for Boat charging are outlined in the Race Instructions.

A designated area, approximately the size of two Boats (10x10m), must be allocated as the Parc Fermé. Access to this area is strictly limited to members of the UIM E1 Race Management Team. Additionally, with approval from UIM E1 Race Management Team, access may be granted to the Championship's technicians performing specific inspections.

Parc Fermé requires the installation of additional fencing to establish a secure perimeter, ensuring that officials can inspect the Boats without interference from Teams, guests, other official staff, media, or the public.

Access to the Crane Area in the Dry Pits must accommodate the Boats and their trolleys, and it must remain free of any obstructions at all times.

Teams and technical partners are required to use the recycling facility appropriately. Disposal of waste products, including but not limited to oil and other hazardous materials, must follow approved methods in accordance with the UIM Environmental Code and local regulations. Specific details on disposal procedures are outlined in the Advance Programme.

Appropriate signs and notices must be strategically placed around the Paddock to inform individuals of the smoke and vape-free environment.

The Race Director holds the authority to remove a Team from the Paddock area in the event of disruptive conduct. Furthermore, a Team may be subject to further disciplinary actions as deemed necessary.

3.08.03 CRANE AREA (CRANING AND LAUNCHING)

In consideration of operational risks associated with craning and launching, access to the Crane Area in the Dry Pits is restricted to personnel with specific operational roles, including (i) Team Members during their allocated Team hoist period, (ii) necessary E1 and Technical teams, (iii) Pilots, (iv) Race Officials, (v) crane operator(s), (vi) broadcast team (with prior notice required), and (vii) emergency and medical teams.

All individuals within the Crane Area must adhere to the UIM E1 Class Promoter's health and safety policy regarding Personal Protective Equipment (PPE). This includes wearing protective helmets, Team Member identifying vests and protective footwear, as further detailed in the Advance Programme.

Any Team Member shall be permitted to move the Boat to / from the Launch Zone and to / from the Crane Area, provided they (i) hold a boating licence, and (ii) adhere to the Rules and limitations set by the Race Director. This Team Member counts towards the maximum number of people allowed in the Crane Area and Launch Zone, as specified in rule 3.08.04 or in the Race Instructions.

3.08.04 LAUNCH ZONE

All Team Members, officials, UIM staff, and the UIM E1 Class Promoter's staff are required to adhere to the Personal Flotation Device (PFD) requirements.

Access to Launch Zone will be restricted through accreditation, and additional limitations may be necessary based on the capacity of the area.

The safety procedures for charging are outlined in detail in the electric safety standard manual in the Race Instructions.

Access to the Launch Zone is restricted solely to Pilots, Team Members, Race Officials, approved Event staff, or current members of the UIM or the UIM E1 Class Promoter. Entry to the Launch Zone is contingent upon the execution of a liability waiver. Admission will be denied to anyone who has not completed a waiver.

Exclusive entry to the Crane Area and Launch Zone is granted solely to UIM Officials or the UIM E1 Class Promoter staff. In cases of emergency, this restriction may be overridden. Additionally, the maximum number of Team Members permitted in both the Crane Area and the Launch Zone is limited to six (6), except under emergency circumstances.

Team Members present in the Crane Area and Launch Zone must wear a protective helmet, Team Member identifying

vest and protective footwear.

The Charging Area, along with its associated operations and procedures, will be specified periodically by the Advance Programme and/or Race Instructions.

It is mandatory to use the Event official charging infrastructure and/or the official charging supplier, as specified in the Advance Programme / Race Instructions.

All Teams are required to dispose of waste oil responsibly in accordance with the UIM Environmental Code and local regulations.

Signs explicitly prohibiting smoking or consuming alcoholic beverages shall be prominently displayed throughout all operational Paddock Areas.

The Crane Area will be rigorously restricted and enclosed by fencing, strictly prohibiting access to any individuals except those expressly authorized.

Except in cases of emergency, the Launch Zone allows a maximum number of six (6) Team Members. Team guests are prohibited from entering the Launch Zone. Access depends on pontoon capability and may require a controlled admission pass.

Ensuring safety around high-voltage areas in the Paddock and Pits is paramount.

3.09 ADVANCE PROGRAMME

The UIM E1 Class Promoter finalizes the Advance Programme, submits it to the UIM E1 Committee for approval, and then returns it for distribution to the UIM for distribution at least thirty (30) days before the Event.

The Advance Programme shall contain the following information:

- Provisional Event timetable.
- Provisional Event format for qualifying and Race(s).
- Provisional local requirements and regulations, details on insurance, information about social event(s).
- Venue map showcasing the Paddock Areas.

3.10 RACE INSTRUCTIONS

The content provided in the Race Instructions is intended as either clarifications of these Rules or additional instructions to accommodate specific conditions.

The Race Instructions are finalised by the UIM E1 Class Promoter and submitted for approval to the UIM E1 Committee, 30 days prior the Event.

These Race Instructions shall encompass the following information:

- Official timetable and locations.
- Official Race Courses and details.
- Local conditions, including any special instructions and/or information relevant to the Race (e.g., special radio channels, GPS coordinates, tides, and venue-specific authorities' instructions)
- Include terms and conditions for insurance covering personal and material damage to third parties, including competitor Pilots, if available.
- Specify the types of risks covered by the insurance and the minimum required coverage limit.

The publication of a Race Course, timetable, or Event format requires direct approval from the UIM E1 Class Promoter, following approval by UIM.

3.11 UIM E1 RACE OFFICIALS

The UIM E1 Class Promoter in consultation with the UIM E1 Committee appoints the Race Director**.** The UIM Secretary General communicates the appointment of the Race Director. Additionally, each Event includes a UIM Commissioner and a UIM Protest Judge.

3.11.01 UIM COMMISSIONER

The Championship requires the mandatory nomination and appointment of a UIM Commissioner, who is selected by the UIM Secretary General in consultation with the Chairman of the UIM E1 Committee.

The UIM Commissioner serves as the independent official UIM representative at the Event, responsible for observing and reporting on the consistent application of these Rules.

The UIM Commissioner refrains from participating in any decisions regarding the conduct of the Event. The UIM Commissioner in collaboration with the Race Director has the authority to take action with the Local Organiser if safety conditions are not met.

Following the Event, the UIM Commissioner submits a report to the UIM, including the official Event results, entry list, and accident report.

The report from the UIM Commissioner is confidential and may only be used for the UIM purposes. It may not be communicated to the press or disclosed for any other purpose.

3.11.02 PROTEST JUDGE

In consultation with the UIM E1 Class Promoter, the UIM Secretary General appoints a UIM Protest Judge, whose role is to adjudicate any protests filed at the Events.

3.11.03 RACE DIRECTOR

The Race Director is responsible for nominating the UIM E1 Race Management Team. Upon the Race Director's decision, each member receives an appointment letter from the UIM Secretary General.

The UIM E1 Race Management Team, present at all Events, comprises the following roles:

- Assistant Race Director
- Medical Delegate
- Rescue & Safety Director
- Technical Officer
- Start Marshall
- Race Administrator

The Race Director oversees the on-water management of the Sessions, in coordination with the Assistant Race Director, the Medical Delegate and the Rescue & Safety Director. If deemed appropriate, the Race Director may appoint assistants to support the UIM E1 Race Management Team.

The Race Director retains an overarching responsibility for the Race and holds ultimate authority over an Event's overall conduct. This includes assessing weather conditions to determine their suitability for racing, as well as direct oversight of the Race proceedings. Furthermore, the Race Director manages all onshore aspects of Race operations.

The Race Director is responsible for overseeing the Race and ensuring the correct application of the Rules and relevant local regulations. Additional duties may be assigned by the UIM and/or the UIM E1 Class Promoter. The Race Director is integral to the Race and Event approval process, working in collaboration with the UIM E1 Race Management Team to approve the Race Course details, the Advance Programme, and the specifics of the Race Instructions.

Each UIM sanctioned racing event requires the presence of a Race Director. If the designated Race Director, or any other member of the UIM E1 Race Management Team, is unable to attend an Event, the UIM Secretary General will appoint substitute(s) for that Event.

DUTIES AND RESPONSIBILITES

Pilots' briefings are conducted by the Race Director, who ensures that all questions regarding the Rules are addressed and oversees compliance with the Rules throughout the Race .

Enforcement of Rules

Purpose. The Race Director is responsible for enforcing all the Rules during the Event. Any potential Rules infractions are reported to the Race Director by the relevant officer. The Race Director is solely responsible for communicating with Team Members or other individuals charged with Rule violations and for outlining the proposed actions by the UIM and/or the UIM E1 Class Promoter.

Multiple Roles. The Race Director may not serve in any other official capacity (e.g., official time-keeper, Technical Officer), during any Event, unless there is prior agreement and approval by the UIM E1 Committee.

Interpretation of Rules. The Race Director oversees all sporting matters and penalties related to the Championship and/or a Race. They also lead and coordinate Event meetings among Race Officials, Event Control, and representatives of the local authorities. The Race Director has the final authority in the interpretation of these Rules.

Other. The Race Director of a sanctioned Event must also ensure that:

- All on-duty officials adhere to the relevant UIM E1 standards.
- The approved Race Course is in place.
- UIM E1 safety and rescue requirements at Race sites are met.
- They sign the Race Bulletins, results and official Race documentation.

Post-Race Reports. The Race Director is required to submit a written report to the UIM, outlining all occurrences at the Event, including Race conduct, accidents, incidents, disciplinary actions, technical disqualifications, weather conditions during Races and tests, course infractions, penalties, and witnesses to infractions, among other relevant matters.

3.11.04 ASSISTANT RACE DIRECTOR(S)

The Assistant Race Director assists and acts as a replacement for the Race Director in their absence.

Post-Race Reports. The Assistant Race Director is responsible for reporting all accidents to the UIM, even when no injuries occur. Local authorities can still independently report accidents as required by their regulations. Race Officials will aid local authorities in completing their reports if necessary.

3.11.05 MEDICAL DELEGATE

The Medical Delegate holds primary authority on medical policy, procedure, and organization for the Championship. This encompasses Event planning, where they approve all aspects related to the medical component. The Medical Delegate is required to be present at all racing Sessions of the Event (i.e. qualifying and Races) to oversee medical services and may have a seat in Race Control next to the Rescue & Safety Director, easily accessible to the Race Director. The Medical Delegate shall carry the responsibilities of Rescue Doctor at the Events (two roles adopted by one person).

3.11.06 RESCUE & SAFETY DIRECTOR

The Rescue & Safety Director oversees all safety and rescue operations, requiring familiarity with the Race venue, characteristics of the competing Boats, and relevant governmental rules related to rescue and safety.

The Rescue & Safety Director is responsible for developing the on-water rescue plan prior to the Event and ensuring the Event operations are in alignment with this plan. Reporting directly to the Race Director, they work in close collaboration with the Event Control.

3.11.07 TECHNICAL OFFICER

The Technical Officer will officiate at each Event and is responsible for developing and implementing the Technical and Safety Inspection plans, procedures, and protocols specific to each Event.

The Technical Officer is responsible for researching future technical rules and requirements, and is authorised to collaborate with the Boat manufacturer to support future technical developments.

DUTIES AND RESPONSIBILITIES

Compliance with Technical Rules and Safety Rules. The main responsibility of the Technical Officer and assistants (if applicable) is to carry out pre-race safety inspections, inspecting the Teams' and the Pilots' racing equipment, ensuring compliance with relevant technical, equipment, and safety rules. They document their findings on each inspected piece of equipment at an Event.

Unsafe Equipment. The Technical Officer has the authority to reject any entry at any time before the start if, in their opinion, the entry is not designed, built, and equipped to meet the standards of seaworthiness and safety required for adverse weather and water conditions during the Race.

Further Technical Responsibilities. The Technical Officer is responsible for overseeing all activities related to technical areas, such as craning and charging, and reporting their findings to the Race Director.

Reporting Infringements. The Technical Officer examines racing equipment for adherence to technical and safety rules. If they identify a potential violation, they document and report it directly to the Race Director. The Technical Officer refrains from discussing their findings with anyone, including the Team Members, until the matter is reported to the Race Director and a decision is made.

In case of an accident, the Technical Officer is responsible to note any damage of the boats in the Digital Logbook and must assess the seaworthiness of all the Boats involved and report their findings to both the Race Director and the relevant Local Authorities if necessary.

3.11.08 START MARSHALL

The Start Marshall is a member of the UIM E1 Race Management Team. In the preparation phase, they assist the Race Director in authorizing Race Courses and starting procedures.

During the Event, the Start Marshal aids the Race Director in the operations associated with the start and any restarts. They communicate any start infringements detected to the Race Director.

3.11.09 RACE ADMINISTRATION & SECRETARIAT

The Race Administration Officer oversees general sports-related administration and organization matters related to the Event, performing additional duties as requested by the Race Director. They are also responsible for managing any administration assistant.

DUTIES AND RESPONSIBILITIES

Membership, Registration at the Event. The Race Administration Officer is tasked with collecting and accounting for all registration details, including the respective forms.

Insurance Disclaimer. The Race Administration Officer is responsible for ensuring that all insurance disclaimer forms are signed at each Event site.

General documents and Race Bulletins. The Race Administration Officer oversees the Local Event Secretary in organizing and drafting all necessary general racing documents and bulletins. Additionally, they organize any required briefings or daily meetings.

Signature and Posting of Results. The Race Administration Officer is tasked with posting the arrival order in a predetermined location and communicating those results to the designated media representative after the final Race of the day. The Race Administration Officer is also responsible for ensuring the final results are signed by the Race Director and posted on the Official Notice Board.

3.11.10 OFFICIAL RACE TIMING

The UIM E1 Class Promoter will adopt and provide an official timekeeping system approved by the UIM. Timing will be provided at each Event and will include both lap timing and sector timing.

3.12 RACE REGISTRATION (ON-SITE)

Race registration occurs at the UIM Race Administration Office at each Event. Team Principals must register their Team, Pilots, and Reserve Pilots for each specific Event before the Pilots' Briefing.

Race registration times are specified in the Advance Programme. Registration must be completed before the specified closing time of the UIM Race Administration Office. Failure to register will result in disqualification from participation in the Event.

The registration form for each Event must include the names of the Team Principal, Pilots, and Reserve Pilots as well as the Team name and Boat number. A copy of the valid measurement certificate along with its registration number must also be provided. Additionally, full contact details for the next of kin for both Pilots and Reserve Pilots are required.

Official Race information will be posted exclusively on the Official Notice Board.

Pilots will be issued identification tags/wristbands, if necessary, which must be worn at all times during practice, qualifying, and Races (i.e. all the Sessions).

Non-racing crew members seeking to embark on the Boat for practice must be authorised, provided they are a UIM-licensed Reserve Pilot or a test pilot and are registered as such with the UIM Race Administration Office or as otherwise approved by the Race Director. Full contact details for such Pilot's next of kin must be provided.

Changes to registered Pilots and Reserve Pilots, following the Race registration procedure, must be reported to Race Control at least one (1) hour before any Session. Non-compliance will incur a penalty of EUR 600, payable to the UIM.

Pilots must possess all valid documents required by the UIM and the UIM E1 Class Promoter.

Race Bulletins will be issued, and their content must be acknowledged by the Team/Pilots by signature at handover.

3.12.01 RACE NUMBERS

Race numbers from 2 to 99 are available for allocation to serve as both Team and Boat numbers.

Upon approval by the UIM E1 Class Promoter, Teams may request a specific race number. The UIM E1 Class Promoter will either accept the request or propose an alternative number. Once confirmed, the allocated race number cannot be changed during the Season. Existing Teams have priority to retain their number for the following Season.

Upon achieving World Champion status, a Team may choose to replace their allocated race number with the number '1'. The original number of the World Champion's Boat will be reserved and reinstated once the Team is no longer the World Champion.

If a Team fails to renew or maintain their team participation agreement with the UIM E1 Class Promoter, their allocated race number will be made available for other Teams.

3.13 PRE-RACE SAFETY INSPECTIONS

3.13.01 REQUIREMENTS

Upon completion of Race registration, a technical inspection document will be issued to the Team Principal or made available for collection via the digital system. This document permits the Team to present its Boat for pre-race inspection, to be conducted by the Technical Officer with support from technicians of the UIM E1 Class Promoter.

All Boats participating in a sanctioned event must undergo a pre-Event inspection.

Pre-Race safety inspections will be conducted each day prior to any on-water Boat activity by the UIM E1 Technical Officer or Rescue Director.

After the registration, inspections will be conducted in the Paddock before the Boats are launched.

Please note:

- The Pre-Race safety inspection does not constitute a full condition survey of the Boat.
- The safety inspection sheet may not cover every item that the Safety Officer may wish to inspect on a Boat.

Any Boat not meeting the safety equipment requirement will not be eligible to participate in any Session.

In addition to the Pre-Race safety inspection, the Technical Officer may conduct random inspections and testing of Team equipment for the Rule compliance at any time before practice, qualifying, and/or the Final Race during the Event. The time and place of such inspections will be published in the Advance Programme for the Event.

A Boat is not considered a *bona fide* entrant at an Event until the Technical Officer has approved and signed an official pre-race technical inspection form for such Boat.

The Team Principal is responsible for presenting their Team's equipment to the Technical Officer for inspection. If, based on a reasonable decision by the Technical Officer, a Boat or any Safety Equipment is deemed unseaworthy, unsafe, or unmanageable, the non-compliance must be documented and reported to the Race Director. If the Race Director determines that a condition cannot be rectified before the start of a Race, the Race Director have the authority to prohibit the Boat from competing.

The Technical Officer or their assistant will inspect each entry for compliance with safety requirements and visually inspect the hull, propulsion, and engine of the Boat to ensure conformity with the Technical Rules.

3.14 PRE-RACE TECHNICAL RULES VIOLATIONS

3.14.01 NOTICE TO TEAM PRINCIPAL

If a pre-Race inspection reveals a technical rule violation, the Race Director must inform the Team Principal of the

specific nature of the alleged violation no later than the main Pilot Briefing. Depending on the nature of the violation and whether it is a first or repeated offense, the Race Director may issue a notice with penalties ranging from fines to immediate disqualification from the Event.

3.14.02 CORRECTION OF VIOLATIONS

Once notified of a technical rule violation, the Team Principal has until one (1) hour before the qualifying Session to correct the violation, unless they have been disqualified. If the Team opts to address the violation, it is their responsibility to have the Boat re-inspected and cleared for competition.

3.15 PILOTS' REPRESENTATIVE

The Pilots must elect a Pilots' representative in the presence of the UIM Commissioner. Candidates must be actively participating Pilots in the Championship.

The Pilots' representative is elected at the first Race of the Season (during the initial Pilot Briefing) for a one-year term. They must be available to attend annual meetings called by the UIM E1 Class Promoter, where they will report and advise on consensus recommendations and safety requests from the Pilots. The Pilots' representative will be invited to attend UIM E1 Committee meetings and is entitled to receive all UIM communications about racing as related to the Championship.

3.16 TEAM PRINCIPAL

Each Team may appoint one (1) Team Principal per Event as a point of contact in the event of an accident or Force Majeure. This representative must be present on-site and registered at the Race Administration.

Each Boat must have its representative, Team Principal or his/her delegate, present at mission control for all official Sessions and official communications. Mission control is the operational space allocated to the Teams during Sessions. A penalty of EUR 500 applies for non-compliance.

It is mandatory to maintain an efficiently working radio system and remain in constant radio contact with Race Control during on-water activities. A penalty of EUR 500 applies for non-compliance.

Team Principals' briefings (if scheduled as per the Race Instructions) must be attended by the Team Principal. It is their responsibility to inform all Team Members about local authority requirements on land and water. Additionally, they must ensure that Pilots are fully familiar with on-water activities, Race Course areas, and all relevant safety requirements.

3.17 PILOT BRIEFINGS

3.17.01 ATTENDANCE

Pilot Briefings are restricted to Pilots, Team Principals (or a delegate), and relevant officials only.

3.17.02 PILOTS BRIEFING TIMES

Team Principals and Pilots are required to attend both the main briefing and the weather briefing (if conducted).

Signing-in will commence fifteen (15) minutes before the scheduled Pilots Briefing time. It is mandatory for all competing Pilots to attend and sign-in at the briefing. All sign-ins must be completed before the Pilots Briefing start time. The penalty for non-attendance are: First offence EUR 700 fine plus having additional briefing with Race Director. The penalty for a second offence during a Season is disqualification. Pilots who are late for a briefing face a EUR 350 penalty.

Pilots are accountable for reading and comprehending the Race Instructions and any issued Bulletins before attending the Pilots Briefing.

3.17.03 UNIFORMS

All Team Members must wear official Team uniforms at the Pilot Briefings, Race and Event functions, and on the Final Race day, unless other requirements are specified in the Race Instructions.

3.17.04 DISCUSSIONS

Pilots are expected to participate fully in the Pilot Briefings and any discussions. Team Principals or delegates may only speak if directly involved by the UIM or Pilots in the discussion of a specific item.

3.18 UIM SUPER LICENCE

To partake in the Championship, each Boat's Pilot must possess a UIM E1 Superlicence. Such UIM licences are valid from the date of issue until 31st of December of the same year.

If an individual is unable to participate in racing due to an accident due to medically related accident, whether within or outside the powerboating sport, a new post-injury medical certificate must be provided before their license can be re-issued.

3.18.01 ISSUE OF LICENCE

The UIM E1 Superlicence can be acquired by applying through the Pilot's National Authority to the UIM.

The first UIM E1 Superlicence issued to a Pilot will have a provisional status.

The provisional UIM E1 Superlicence will automatically convert to a full Superlicence once a Pilot has participated in at least four (4) UIM E1 Events.

During the provisional period, the UIM E1 Race Director may, at any time, withdraw the Pilot's Superlicence for dangerous or improper driving, including unethical or unsportsmanlike behaviour.

The Race Director may also extend the duration of the provisional status beyond four (4) Events if deemed appropriate.

The application for a UIM E1 Superlicence must be submitted to the UIM no later than three (3) weeks before the first Event in which the Pilot intends to participate. The application form is available on the UIM official website and is attached under Appendix 3 to these Rules.

The Superlicence fee will be doubled for applications received after the expiry of the three (3) week deadline. No application will be considered within one hour from the start of the official Pilot Briefing for that Event.

The Superlicence fee is set at EUR 500 and must be paid to the UIM Secretariat.

All documents required for obtaining a UIM E1 Superlicence must be uploaded by the Pilot's National Authority in the private area of the UIM Website:

- Level 3 Certificate issued by the UIM E1 Pilot Academy
- The International UIM E1 Superlicence issued by the National Authority of the applicant.
- Medical Certificate, including the completed evaluation sheet with the results or reports of any medical examinations and an Anti-doping consent form duly signed by the Pilot.
- UIM E1 Immersion certificate
- Pilot's picture
- Payment confirmation of Superlicence fee (EUR 500)

The UIM may grant the Superlicence based on information provided by the Pilot's National Authority and/or the UIM E1 Pilot Academy. The UIM reserves the right to withdraw a Pilot's qualification upon the recommendation of the Pilot's National Authority.

The minimum age for a Pilot to qualify, hold a Pilot qualification and to compete in an Event is 18 years.

3.18.02 COCKPIT EVACUATION / IMMERSION TRAINING

To be eligible for obtaining the UIM E1 Superlicence, applicants must successfully complete immersion and cockpit evacuation training.

The UIM E1 Immersion training certificate, confirming the successful completion of the training and indicating the date of issue, must be issued by experts recognized by UIM.

3.19 TEAM PARTICIPATION RULES

The UIM E1 Class Promoter reserves the right to approve or reject a Team's eligibility based on selection criteria or any breach of contractual obligations between the Team and the UIM E1 Class Promoter. The UIM E1 Class Promoter shares the list of Team entries with the UIM each Season.

The UIM will notify the UIM E1 Class Promoter about the sporting status of each registered Pilot to assess their eligibility.

In the event of an accident that causes damage to a Boat, the Team Principal can request dispensation from competing in the next Race until the Boat damage is repaired by applying to the UIM. The Technical Officer must

verify and certify the damage, reporting to the UIM and note in the Digital Logbook.

Late Team entries received after the first round of the Season will qualify for points and podium access based on results. The UIM E1 Class Promoter has sole discretion in accepting such entries.

Points will not be forfeited if a Boat is replaced under the following conditions: if the registered hull is entirely lost, destroyed, or deemed irreparably damaged (as certified in writing by Technical Officer(s) or approved marine surveyors, at the expense of the Team), it may be replaced with a similar hull to complete the Season and/or Event. Alternatively, in the case of significant damage, the hull may be temporarily replaced until the original hull is restored. The replacement hull assumes the status of the registered hull for its period of use and must then be returned to the UIM E1 Class Promoter.

A team must submit their Championship entry to the UIM E1 Class Promoter, including Pilot names and the Team's preferred Race number allocation request.

Race numbers are assigned in accordance with Rule 3.12.01.

3.20 REQUIRED SAFETY FACILITIES

The UIM E1 Class Promoter will ensure the provision of all required safety facilities in accordance with these Rules.

3.20.01 MEDICAL, RESCUE, TOW AND PATROL BOAT COVERAGE

For the detailed safety and medical cover requirements, refer to Appendix 2.

3.20.02 ON-WATER SAFETY

Safety equipment & on-water safety. Whenever a registered Boat displaying Race numbers or branding is utilised at the Event or during testing, or whenever the craft is foiling under its own power, and within the outside of the Race Box, Pilots must wear UIM approved and tested personal Safety Equipment of at least a helmet, head and neck restraint system, and life jacket/cell suit.

This rule is applicable at the Event site from arrival until one (1) hour after the chequered flag of the Event. Use of the Boat and any registered Safety Equipment outside of Events must adhere to local rules and regulations for safety to avoid endangering life or property and to maintain the integrity of powerboat racing.

Violation of this rule shall lead to a fine or disqualification from the current or subsequent Events, as determined by the Race Director.

Pilots must wear complete personal Safety Equipment during all on-water official Sessions according to the official Event timetable.

The Team Principal is solely responsible for ensuring the overall compliance and integrity of their Boat. After completing official registration and technical scrutineering, the decision to start or continue in the Race rests solely with the Pilot. The UIM E1 Class Promoter will notify Pilots that safety and patrol boats prioritize saving human life in any incident, with assistance given to the recovery of damaged or broken Boats.

In the event of an incident or accident on the Race Course, an official UIM E1 boat will display a yellow flag. The Boats are required to maintain a distance of at least ten (10) meters from any official UIM E1 boat displaying this flag, be prepared to take evasive action and comply with the rule. Violation of this rule will result in a minimum penalty of a Yellow Card pursuant to rule 6.02.03.

Harbour restrictions. All the Boats must adhere to local rules regarding maximum speed in the harbour and designated areas. Violation of this rule may result in a penalty of EUR 500. Team Member may also be subject to local authority conditions and potential legal actions.

During an Event, if necessary, as determined by the Race Director, Pilots must be reapproved by the Medical Delegate to participate in any Session on or off the water. The decision will be made in accordance with all related medical reports and documentation obtained from local medical services. This re-approval of a Pilot must also be entered into the Digital Logbook. The decision must be communicated to the Race Director who will enforce it accordingly.

If a Pilot is injured and unable to continue participating in an Event, a new sports medical examination must be conducted and submitted to the UIM before entering the next Event. The new medical examination must be submitted at least seven (7) days before the start of the next Event. The Medical Delegate determines and prescribes the type of medical examination required.

All medical documents must be completed and submitted along with the Race documents.

Any medications administered or prescribed to a Pilot as a result of an accident or incident must be clearly described in the medical documents.

3.21 RACE OVERALLS AND PERSONAL SAFETY WEAR

3.21.01 RACING VESTS

Racing vests must be worn at all times during the Sessions. The choice and effectiveness of the racing vest are the sole responsibility of the wearer.

Inflatable vests are not allowed, and racing vests must have grab 'lapels' for emergency assistance.

3.21.02 RACING HELMETS

All Pilots participating in Races must wear a helmet that complies with the standards listed on the UIM Website.

STILO type helmets with a fixed boom for the microphone or Chin Guard type are prohibited.

At least the upper area (50%) of a helmet must be of a single bright or fluorescent red/yellow/orange or green colour.

Each Pilot must display their race number on the top surface of the helmet, ensuring it is readable from the rear. The numbers should be at least 7.5 cm in height, painted with waterproof black paint, or made of black-coloured self-adhesive material of sufficient strength.

Pilots are not allowed to attach any image recording device, regardless of size, to their helmets. The wearer is solely responsible for the efficiency and fitting of their helmet. Event organisers are required to emphasize this rule in all relevant issued documents, both written and verbal.

If a helmet is damaged in an incident, it cannot be reused and must be replaced.

3.21.03 RACING SUITS

All Pilots must wear a fire-retardant racing suit at all times when afloat. The protective clothing must have the Pilot's name clearly visible on the front chest section or waistband.

Similar rated fire-retardant gloves and racing boots must be worn, with fire-retardant underwear recommended. If a suit is exposed to flame, it must be discarded and replaced.

Violations of any of the above clothing rules will result in temporary exclusion from the Race and a minimum fine of EUR 500 payable to the UIM.

3.21.04 HEAD AND NECK RESTRAINT SYSTEM

All Pilots in canopied or partially canopied boats must always wear a head and neck restraint system. The wearer is solely responsible for ensuring that the head and neck restraint device used is suitable for their specific application.

Pilots must wear a head and neck restraint device during cockpit evacuation and immersion training.

3.22 COMMUNICATION AT EVENTS

3.22.01 RADIO COMMUNICATION SYSTEM

The UIM E1 Class Promoter will supply a compulsory Event-wide radio communications system. Teams are prohibited from installing or operating any third-party radio communications equipment, as well as from obtaining licensing and frequency allocation.

The Team or its respective operations department will be charged for any supplied equipment that is lost, damaged, or not returned at the end of an Event, to cover the costs of repair or replacement.

Operational details and channel allocation for the radio communication system will be provided in the Race Instructions, the Bulletins, or Briefings.

Pilots must be thoroughly familiar and consistently adhere to the International Regulations for the Prevention of Collisions at Sea, as posted on the Official Notice Board for each Event, along with other safety measures specified for the Event.

No communication methods beyond the official tools provided by the UIM E1 Class Promoter are allowed.

3.22.02 RADIO COMMUNICATION FUNDAMENTALS

Official radio communications to the Race Control and among Team Members must be conducted in English.

The use of swearing and derogatory or offensive discriminating language over the radio is not acceptable. the Race Director will take a firm stance on this matter (a Blue Card may be issued).

Team must use their Team Name or Boat number as their call sign at all times.

3.22.03 OPERATIONAL RADIO COMMUNICATION

- No boat is authorised to leave the Launch Zone for any Session prior to performing a satisfactory Radio check with Race Control and their Team radio operator or systems engineer.
- Teams are required to ask permission from the Race Control before entering and leaving the Sessions.
- A Team member must monitor Boat radio communications at all times.
- The Team is responsible for the supplied equipment and must inform Race Control of any issues and faults at the earliest opportunity.
- The Team, under the responsibility of its Team Principal, must ensure that their Pilots have received and understood all communications directed to the Boat.
- Teams and Pilots may be required to carry out pre- and post-race reaction interviews over the radio with the E1 broadcast production partner and/or broadcasters.
- Refer to the Race Bulletins for information on the availability of the Radio Channels for other purposes than Race-specific communication.

3.22.04 PROCEDURE FOR LOSS OF COMMUNICATION

In the event of a complete loss of communication between the Pilot and Race Control (i.e. Race Director, Team Principal, and Performance Engineer), the Pilot should end his/her Session, and return to the Launch Zone with caution following the exit procedure.

3.22.05 OTHER COMMUNICATION

The specific procedure for other Event communications will be provided in the Race Instructions.

3.22.06 COMMUNICATION WITH UIM RACE DIRECTOR

Teams are prohibited from approaching the Race Director or any members of his team during Sessions.

Entering Race Control (the Race Director's station) or Operational Race Control (the area immediately surrounding the Race Director, wherever the Race Director is), during a Session is strictly forbidden for any Team Member. All communications, requests, or messages must be made exclusively via radio and must related directly to the ongoing Session. Alternatively, Teams may follow the other communication (WhatsApp) procedure outlined in the Race Instructions.

Any breach of this rule will result in a fine of EUR 500 and the issuance of a Blue Card.

PART 4 – GENERAL REQUIREMENTS, PRACTICES AND PROCEDURES FOR CONDUCTING RACES ON WATER, EVENT FORMAT

4.01 EVENT FORMAT

Each Event's on-water format may consist of:

- Official E1 shakedown
- Official E1 Free Practice
- Official E1 Qualifying
- Official E1 Speed Run
- Official E1 Match Race
- Official E1 Heats
- Official E1 Knockout Series
- Official E1 Race(s)

The Event format for each Event will be detailed in the respective Race Instructions. Approval or modification of the Event timetable and the Session format is at the discretion of the UIM E1 Class Promoter, in coordination with the Race Director.

4.02 BOAT PARADE

All Boats are required to participate in the Boat parade, unless prior approval for exemption has been granted by the Race Director.

4.03 TESTING / PRACTICE

4.03.01 FREE PRACTICE

Free practice Sessions will only commence after a successful completion of the Race Registration procedures and technical and safety inspection.

Teams must complete a minimum of one (1) free practice Session to be eligible to start in the Race, subject to the Race Director's discretion.

Free practice Sessions must always occur within the designated Race Box.

Boats intending to practise during official practice periods must adhere to the communication protocols.

Boats are prohibited from crossing the Race Course except with prior permission from Race Control. Failure to comply will result in disqualification, and yellow card may be issued.

4.03.02 TESTING

Testing at the Events will only be authorised at the discretion of the Race Director, in consultation with the Technical Officer, and it will be allowed for technical reasons only.

4.04 QUALIFYING

Qualifying will take place on the qualifying course. The format and procedures will be detailed in the Race Instructions.

4.05 RACE COURSE

4.05.01 RACE COURSE

The UIM E1 Class Promoter must submit all Event Race Courses for approval to the UIM at least thirty (30) days prior to the Event. All the Race Courses must receive UIM approval.

The minimum depth on the Race Course must be three and a half (3.5) meters.

Race Courses can be designed to run clockwise or anti-clockwise and the race lap must be of a minimum length of 1'200 metres.

The intended number of laps is six (6), but this may be adjusted at the discretion of the Race Director.

The start and finish lines may be configured as follows:

- As the same line or separate, independent lines, or
- Located on the main Race Course lap, or
- Positioned on an extension of the main Race Course lap, with a designated start and/or finish leg.

Long laps and short laps may be incorporated into the Race Course.

Features such as boost zones, split zones, penalty zones, among others, may be included in the Race Course.

To meet cockpit homologation requirements, the Race Course must be designed to accommodate speeds up to 50 knots +2%. If speeds exceed this limit during any Session (even by a single Boat), the Race Director must promptly modify the Race Course design or adjust the Boats' performance parameters to ensure that the specified speed limit is not surpassed in the next official Session of the same Event.

4.05.02 RACE BOX

The Race Box is a virtual enclosure marking a designated safety area where all the on-water activities are conducted. Teams are required to be familiar with the Race Box, including its boundaries and the Session times.

Teams are strictly prohibited from practicing outside the Race Box or any designated area outlined in the Race Instructions.

The Race Director has direct control over all activities within the Race Box. Outside the Race Box, control of the water space will be under the jurisdiction of local authorities, such as the coast guard or similar.

The Race Director, local authorities, and Event Control will conduct a pre-Event briefing on on-water operations and safety plans.

Boats must transit through open water to and from the Race Box at low speed, adhering to local regulations and not exceeding 10 knots. These transits should follow a predetermined route at times specified by the Race Director, as outlined in the Race Instructions and/or Race Bulletins.

4.05.03 RACE COURSE SELECTION

The Race Director will provide a map of the Race Course in the Race Instructions and/or in the Official Notice Board and during the Pilot Briefing.

The Race Course selection can vary across the Session(s) during the Event weekend.

The Race Director will be able to issue updates to the Race Course for each Session if required to appear on the Official Notice Board.

4.05.04 SESSION PROCEDURE

The Event Session program and expected start times for each Session, including Races, will be issued in the Race Instructions, and confirmed or modified via the Official Notice board and at the Pilot Briefing or in the Bulletins.

The Race Director will open each Session at the specified time or advise if a Session needs to be delayed or cancelled.

A Session may be halted at the discretion of the Race Director, a Red Flag will be issued to suspend the Session, and the Red Flag protocol must be followed.

A Session may or may not be resumed at the discretion of the Race Director.

Each Session will be allocated as, but not limited to, free practice, qualification practice, qualifying and/or Race Session. Session descriptions will be available in the Race Instructions and/or the Pilot Briefing, and/or Bulletins.

4.05.05 BAD WEATHER

A Race Course may be modified due to bad weather at the discretion of the Race Director.

If the Race Director decides to run the updated bad weather Race Course and/or bring the Race start time forward, full points will be awarded provided that:

- The length of the Race Course must be a minimum of 50% of the originally programmed number of laps.
- A notification period of at least 30 minutes must be provided before the start time.
- The Race Director, in consultation with the UIM E1 Class Promoter's representative, must reach an agreement on the bad weather Race Course and the number of laps.

4.05.05.01 Adverse weather condition to run an on-water Session:

The Race Director can decide to cancel any Session based on the following:

- Bad visibility: minimum 500 meters.
- Wind speed exceeding 24m/s on flat water conditions.
- Additional guidance from the Rescue Director and/or Technical Officer will also be taken into consideration.

4.05.06 RACE DURATION

Races are expected to last between two (2) to thirty (30) minutes, depending on the type of a Race.

4.05.07 RACE START

Start time. The Official start time will be displayed in local time.

The starting procedure will be determined on a per-Event basis and described in the Race Instructions or posted on the Official Notice Board.

Start Type. The starting procedure for the Races may include, but is not limited to, the following:

- Rolling Start
- Pontoon Start
- Gate Start

4.05.08 RACE MARKS

All Race Marks on the Race Course will be published in the Race Instructions.

It is recommended that where Race Marks are positioned near permanent navigation marks, the Race Marks should be placed on the outside of the permanent mark at a minimum distance of ten (10) meters.

Each turn on the Race Course must be marked by a Race Marks.

Different colours must be used to indicate whether the Boat should pass inside or outside the Race Marks. The specific colours and corresponding actions required for each colour Race Mark are detailed in the Race Instructions.

Penalties will be imposed for actions such as hitting or dislodging the Race Marks, passing on the incorrect side of Race Marks, or missing Race Marks. Penalties may include along penalty lap, a time penalty, and/or a yellow card). UIM E1 Class Promoter reserves the right to seek cost reimbursement from a Team for damage to a Race Mark.

4.05.08 FLAGGED VESSELS AND SPECTATOR AREA

Public spectator areas will be situated outside the Race Box.

Organisers must designate and mark spectator areas. If a Boat enters a spectator area, it must promptly reduce speed to less than ten (10) knots and proceed with caution until it returns to the Race Course.

In the Race Box, the UIM E1 Class Promoter has the authority to permit additional E1 flagged vessels.

4.06 RACING RULES

4.06.01 RACING FLAGS AND MESSAGES

The Race Director can issue flags to the Boats, visually, electronically and via radio. All flags will be visually hoisted and displayed on the start boat. The timing and data system will also indicate an electronic flag in the Boat dashboard and on the Race viewer software available for all the Teams.

YELLOW FLAG

A Yellow flag is raised by the Race Director in case of danger in a specific sector of the Race Course. During Qualifying any related instruction shall be given by radio.

YELLOW FLAG PROCEDURE:

If a yellow flag is raised, there is a hazard on the Race Course and Pilots must reduce speed and proceed around the Race Course with caution. Overtaking is strictly prohibited.

RED FLAG

In the event of a red flag, the Race Director will assign a DNF status to the Pilot/Boat that initiated the red flag in a Session. The other Pilots may have the opportunity to re-run. A red flag alerts that a Session is stopped and finished. Qualification results will be based on the last lap result.

RED FLAG PROCEDURE

In the event of a red flag, a Pilot should slow down and await instructions from the Race Control. Overtaking is strictly prohibited.

WHITE FLAG

Indicates last lap. White flag will be raised when the first Boat starts the last lap of the Race.

CHEQUERED FLAG

Is raised at the finish line to indicate the conclusion of the Race.

E1 FLAG

A flag is raised to advise Pilots that the start sequence has commenced.

RED/WHITE CHEQUERED FLAG

A flag is shown electronically with the Race Boat number to indicate that a Boat has received a penalty.

BLACK FLAG

A flag is shown electronically with the Race Boat Number to indicate that a Boat has been disqualified.

GREEN FLAG

A flag is raised to indicate the start of a Session.

4.06.02 RACING RULES

Overtaking. Boats are moving in the same or similar direction on the Race Course.

1. Fundamental rule: for Boats on the same lap, the overtaking Boat keeps clear, and overtakes on the outside. The overtaking Boat can retake the racing line once it is clear ahead of overtaken Boat.
    a. Exception: it is mandatory that the Boat holds its lane after the start until the point(s) or the Race Marks detailed in the Race Instructions have been passed. There can be overtaking, but lane discipline must be maintained in this zone.
    b. Exception: a Boat being lapped by a faster Boat must keep clear of the overtaking Boat, by moving to the outside and proceeding off the racing line, and not impeding the overtaking Boat.

Passing a Race Mark. If Boats are overlapped upon entering the zone around a Race Mark, the outside Boat must give room to the inside Boat. If a Boat is ‘clear ahead’ upon entering the zone, the Boat ‘clear astern’ must give room to the Boat ‘clear ahead’ and may not block the racing line of the Boat that is ‘clear ahead’.

a. The zone around a Race Mark is three (3) Boat lengths or as determined in the Race Instructions. Reasonable room should be provided, taking into consideration the entry speed and corner turn/radius.

Jump Starter. A Boat will be considered a ‘Jump Starter’ if, as determined by the Race Director, any part of the Boat is on the Race Course side of the start line before the start time. Any Boat that jumps the start of any Race or qualifying Session by more than five (5) seconds will be disqualified.

The Pilot’s line of sight will be considered in all reviews of non-adherence to these Rules.

4.07 LAUNCHING AND CRANING

Launching and craning facilities for moving Boats into and out of the water are available to Teams during the Event, with operational hours specified in the Race timetable. However, Teams must complete Race registration and technical inspection before accessing these facilities.

The Technical Officer(s) will be responsible for overseeing all Boat movements, launching and craning instructions. Once registered for the Race, no Boat is allowed to leave the compound for any reason without approval from the Race Director.

At the conclusion of the final Session each day of the Event, unless instructed otherwise by the Technical Officer(s), Boats must return to the Launch Zone.

4.07.01 LAUNCHING

The sequence of launching, as well as the selection of the crane and launch time, will be determined by the Technical Officer.

If the Boat is not ready to be launched at its designated time:

- The Team may incur a fine of EUR 500
- The Boat will be launched at a time determined solely by the Technical Officer(s)

4.07.02 CRANING

Once launching has commenced, no Boat will be recovered from the water without the permission of the Technical Officer(s). Craning time is limited to a maximum of ten (10) minutes per Boat. In case craning is not completed within this timeframe, a Boat must vacate the craning area. A Boat can enter the craning area only when it is ready to be hoisted. It is strictly forbidden for any person to be on or in the Boat while it is being lifted by the crane. Non-compliance with this rule will result in a EUR 1,000 fine and/or disqualification from the Event.

A Boat that has already been launched can use the crane only after all other Boats have been launched and with the explicit permission of the Technical Officer(s). The timing for crane usage begins when the Boat is secured to the crane with its straps and concludes when the straps are released from the crane.

Boats that exceed the allotted craning time (as stipulated in the Race Instructions) during a qualifying Session or a Race will not be allowed to continue in that qualifying Session or Race. A penalty of EUR 500 will be imposed for any time infringement during a practice Session.

Each Team is responsible for adhering to the safety regulations related to craning operations as outlined in the Race Instructions.

4.08 ON-WATER PROCEDURES

Dock Out

Teams are required to ask for permission from the Race Control via Radio communication before leaving the Launch Zone. Prior to departing:

- Teams are required as per the Rule 3.22 to have their Radio Operator on headset and have tested communications between Pilot, shore, Race Control and broadcast.
- Teams are required to have completed the system and safety checks.

Pilots must have support crew to ensure a safe release from the Launch Zone.

Pilots to Proceed to designated muster zone as instructed by Race Control and await instructions.

Dock In

Teams must request for permission from Race Control via Radio communication before returning to the Launch Zone.

Pilots are required to navigate with caution when approaching the Launch zone.

4.09 FINISHING PROCEDURE

4.09.01 STOPPING THE RACE

Procedure for Emergency Race Stoppage and Race Restart (Force Majeure). The procedure is outlined in the Race Instructions**.**

The stopping of a Race is the sole decision of the Race Director. However, if there is overturned Boat or rescue personnel in the water, the Rescue and Safety Director may immediately initiate a "Race stop" by deploying a red flag.

If the Race is stopped after seventy percent (70%) of the laps have been completed, the Boat classification will be determined based on their positions at the previous lap timing line. In such instances, the Race will not be restarted.

4.09.02 CURTAILING THE RACE

In the event of Force Majeure or an accident, the Race Director has the authority to shorten the Race by displaying the finishing (chequered) flag. Boats will be classified according to their positions at the finish line upon completion of their current lap.

4.09.03 FINISHING PROCEDURE

White Flag. When the leading Boat crosses the finish/timing line and begins the last lap, a white flag will be raised on the UIM E1 Start Marshal Boat.

The announcement of the white flag will also be made through radio and digital communication.

Chequered Flag. When the leading Boat completed the Race and crosses the finish line, the chequered flag will be displayed from the UIM E1 Start Marshal Boat. This signals the designation of the 'winning Boat' for the Race.

The announcement of the chequered flag will also be made through radio and digital communication.

Upon crossing the finish line, a Boat must avoid any interference with other Boats still competing in the Race to prevent impacting their finishing times or endangering their Team Members.

The official Race results will be posted on the Official Notice Board and on the UIM and E1 website. Timing for a Boat is recorded when the Boat transducer crosses the finishing line.

A Boat completing a Race must adhere to the procedure outlined in the Race Instructions and/or the Bulletins and/or the Pilot Briefing. Failure to comply will result in a penalty of EUR 1,000 and a yellow card.

Team Members are strictly prohibited from opening any engine, cockpit, or other hatches on the Boat without obtaining permission from the Technical Officer(s). Violation of this rule will result in disqualification.

Once officially confirmed by the Race Director, the official final results are promptly posted. These results remain provisional until the Technical Officer completes any post-Race inspections and/or Boat engine inspections.

4.09.04 70% RULE

CALCULATIONS (PERCENTAGE/FRACTION)

In all instances where a percentage or fraction requires rounding to a whole number, the result will be rounded up or down to the nearest whole number. If the percentage or fraction results in .5 (1/2) or less, the number will be rounded down, unless otherwise specified in the rule.

For example:

- 70 % of seven (7) laps is 4.9, five (5) laps would count.
- 70 % of five (5) laps is 3.5, three (3) laps would count.

The minimum number of laps required to qualify as a finisher may be communicated during the Pilot Briefing and/or through a Bulletin. Any Boat crossing the finish line after the 'winning Boat' will be classified according to the number of laps completed and its time, provided it has covered the minimum required laps.

Any Boat that fails to cross the finish line after the ‘winning Boat’, will be classified based on the number of laps completed and its time, provided it has covered the minimum required laps.

The Race Course will close within a maximum of five (5) minutes after the 'winning Boat' has finished, unless otherwise specified in the Race Instructions, Pilot Briefing, and/or the Bulletin. Any lap completed after this time will not be considered in the final results. After this time, Race Control will instruct the Teams and Boats to promptly cease racing and return immediately to the Launch Zone at a non-race speed, guided by Race Control.

4.09.05 NON-FINISHERS

If no Boats finish the Race, each Boat will be classified based on the number of laps completed and its time, provided that it has covered the minimum required laps according to the 70% rule, as announced during the relevant Pilot Briefing and/or the Bulletin.

4.09.06 RETIREMENTS

Retired Boats are required to report to Race Control on the designated radio channel specified in the Race Instructions. Once a Boat announces its retirement to Race Control, the timing will be stopped at the moment of the announcement. Retired Boats are prohibited from continuing on the Race Course and must comply with instructions from Race Control.

4.09.07 RACE PENALTIES AND NO RESULT SITUATIONS

A Team that does not start will be classified as DNS.

A Team that does not complete 70% of the Race laps will receive a DNF.

Long Lap penalties must be taken within the next two (2) laps after the Team has been notified of the penalty. Failure to do so will result in additional Long Lap Penalty.

If a penalty is received on the last lap, then either Stop/Go penalty will be applied or additional time will be added to the result.

The complete range of penalties available for issuance by the UIM is specified under rule 6.02.

4.09.08 RETURNING TO THE CRANE AREA

When a Boat retires, it must safely move out of the Race Course, and the strobe light must remain on until reaching the Launch Zone . A penalty of EUR 500 may be imposed for violating this rule.

4.10 POST RACE TECHNICAL SCRUTINEERING

4.10.01 TECHNICAL SCRUTINEERING

All Boats may need to undergo a post-Race technical scrutineering conducted by the Technical Officer(s).

4.10.02 TECHNICAL OFFICER (S) DISCRETION

The Technical Officer(s) has the authority to develop and implement a technical scrutineering plan for each Event, with the flexibility to adjust the items and Boats subject to inspection as needed. The Race Director may also instruct the Technical Officer(s) to conduct an inspection of any participating Boat. The results of the scrutineering will be documented in a report.

4.10.03 POWER TRAIN INSPECTIONS

The Race Director or Technical Officer(s) may, at their discretion, choose to disassemble any power train for inspection.

4.10.04 REFUSAL OF INSPECTION

A Team which refuses to allow their Boat and/or motor to be inspected after a Race, will be disqualified.

4.11 POSTPONEMENTS

In the event a Race cannot proceed due to inclement weather or unforeseen circumstances, postponements will be allowed if there is a reasonable expectation of improved conditions. Under no circumstances should a Race commence if it would position the Boats on the Race Course within one (1) hour before sunset.

The Race Director has the authority to make decisions regarding the postponement of the Race.

Race postponements will be communicated through a Race Bulletin. The Race Director will follow the schedule outlined in the Race Instructions unless an emergency necessitates a deviation.

In the event of Force Majeure, a red flag will be raised indicating that the Race Course is closed and the scheduled Event may be rescheduled or completely cancelled and a Bulletin will be issued by the Race Director.

4.12 PRIZE GIVING

Awards will be given for 1st, 2nd, and 3rd place finishers in the Final Race.

Additional awards may be granted at the discretion of the UIM E1 Class Promoter.

The Pilots of the top three (3) classified Boats are required to attend the prize-giving (and any subsequent press conference) at each Event, unless otherwise agreed in writing by the UIM E1 Class Promoter. The prize-giving (and press conference, if any) will take place within one (1) hour after the conclusion of the Final Race. Pilots must be in their own race overalls. A penalty of EUR 1,000 will be imposed for any non-compliance with this rule.

4.13 RESCHEDULING OF EVENTS

If it becomes impossible to conduct a scheduled Event due to Force Majeure, the UIM E1 Class Promoter, with the approval of the UIM, may reschedule the Event at a different time and location, with the Teams committed to participate remaining unaffected.

If insufficient notice is provided, the Event may not be rescheduled and could be forfeited. The UIM E1 Class Promoter, in collaboration with the UIM, will establish reserve dates and venues.

PART 5 – UIM E1 TECHNICAL RULES

5.01 GENERAL

These Technical Regulations, as released by the UIM for each Season, shall remain unchanged until the Season's conclusion, unless necessary alterations are deemed essential for safety reasons.

All the equipment installed on the Boat or utilised for racing must be made available by the UIM E1 Class Promoter. Any equipment or component not explicitly covered by these Technical Rules requires approval from the UIM before its use in the Championship.

The Championship is comprised of 'RaceBirds' one-design Boats produced by Seabird Technologies Limited, in accordance with UIM homologation B004, and equipped with a drive train from Seabird Technologies Limited, approved under UIM homologation file 00544. The wiring diagram of electric cabling is included in the Measurement Certificate within the Digital Logbook.

The Boats are provided fully prepared for racing exclusively by the UIM E1 Class Promoter to each participating Team.

Every Boat is assigned a unique identification number (HIN) alongside a Measurement Certificate and is registered in the Digital Logbook.

Teams are allowed to make minor improvements to the Boats, provided that such improvements do not affect any mechanical or electronic components of the Boat. Teams must request that the Technical Officer approves any such minor improvements before the improvement is made. UIM will issue a Bulletin to all the Teams either approving or refusing such request to be applicable for all the Teams. For example, the Teams may apply a tape to the inside or outside of the Boat, to tape the hatches under the foils. Teams can also use removable systems to compensate for the space between the foils and the hull.

No other actions shall be performed on the Boat unless they are explicitly allowed in the Rules. If a specific action is not expressly permitted in the Rules, it is inferred that such action is prohibited.

Failure to adhere to these Technical Rules, homologation files, or any deliberate modification of the drivetrain will lead to disqualification, unless an alternative penalty is specified in the Rules.

5.02 HULL MEASUREMENT

Boat hull measurements are to be conducted onshore, with the keel/base line positioned parallel to the ground. Length and width measurements must be within ±10 mm of the specifications in the provided drawings.

Hull extensions added to the bow, or any protruding components such as rubbing strakes, fenders, and outboard motor spacing brackets, are excluded from the measured length.

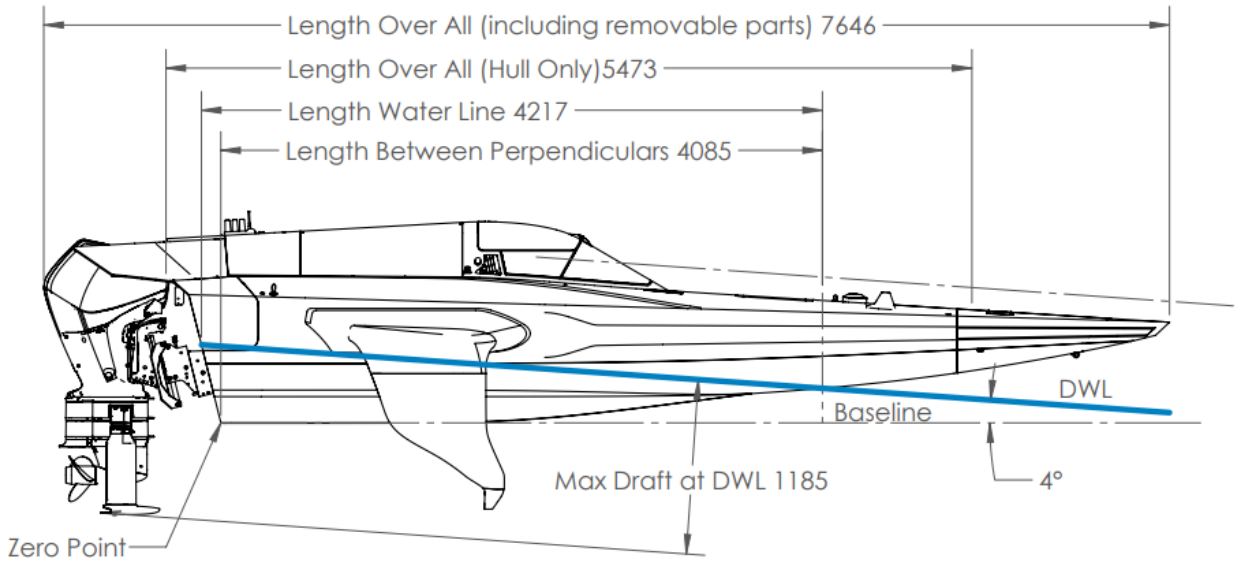


Diagram 5.1. Length measurement for the RaceBird

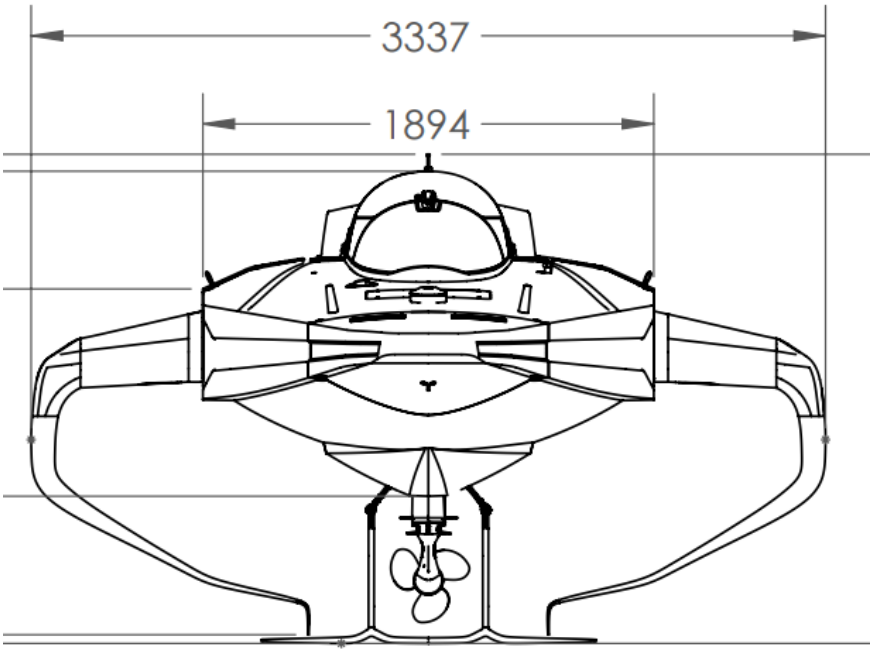


Diagram 5.2. Width measurements of the RaceBird

5.03 HULL/DECK

The hull/deck must support the weight of a standing individual (100 kg) at any location, excluding specifically designated non-walkable areas.

Installation of non-skid material on the deck surface around the cockpit is mandatory, and its satisfaction is subject to approval by the Technical Officer (clear non-skid is available).

The Boat must be equipped with three certified lifting eyes, either installed through the deck or of the topside hull cleat type, designed to withstand lifting the fully equipped Boat with an appropriate safety margin.

5.04 BOAT WEIGHT

The weight and weighing procedure will be specified in the Race Instructions.

The minimum weight of a Boat, including all safety equipment and a Pilot in full race attire - helmet, head & neck restraint system, race vest or a cockpit suit - is set at 1300 kg.

The use of balancing weights from other Teams must be agreed between the relevant Teams. The Technical Officer must be notified of such agreement, including the amount of weight to be transferred.

The minimum weight may be subject to change and shall be specified in the Race Instructions. Pilots must be weighed on day 1 of each Event.

Pilots classified 1st, 2nd, and 3rd in the qualifying Sessions, Races and all the Sessions will be weighed immediately upon reaching the shore. The Boat must be empty of water.

No additional nor removable weights can be added or removed after the green flag is waved for a qualifying Session or a Race. No loose weights can be stored in the Launch Zone area during a qualifying Session or a Race.

Any weight intended to be added or removed after craning and before the green flag, must be presented to the Technical Officer(s) for approval before installation or removal from a Boat.

Boats weighing below the minimum weight after a qualifying Session will have their times cancelled and will be placed

in the last position at the start of the corresponding Race.

Boats weighing below the minimum weight during post-Race scrutineering will incur one of the following penalties:

- Boats weighing 0.01 to 15 kg under their minimum weight will have a 20 second penalty added to their time.
- Boats weighing 15.01 to 30 kg under their minimum weight will have a 50 second penalty added to their time.
- Boats weighing 30.01 kg or more under their minimum weight will be disqualified.

The tolerance percentage of the scale in use (as certified by the scale calibration document) will be factored into the total weight of a Boat. It is mandatory to post the calibration forms of the scales used for weighing on the Official Notice Board.

Liquid ballast, whether in sealed containers or not, is strictly prohibited.

5.05 DRIVE TRAIN

The Championship exclusively uses the E1 drive train from Seabird Technologies Limited, as per the UIM Homologation file 00544, with a maximum electrical power of 150 kW.

The drive train, including the motor, converter, battery, sensors, and cables, must not undergo any modifications or be handled by a Team. The motor and converter are sealed, and these seals must not be broken.

Teams are required to use only the converter and program (VCU) provided by the UIM E1 Class Promoter. Any non-compliance, tampering, or modification of the converter, program (VCU) or signal will lead to disqualification.

If the technical inspection reveals broken seal(s) on the motor or converter, the following penalties will be applied:

- First offence during the Season: Team and Pilots will face disqualification from the Event.
- Second offence during the Season: Team and Pilots will be disqualified from the Championship.

UIM, UIM E1 Class Promoter, the Local Organisers, and the UIM E1 Race Management Team cannot be held responsible for any faults or defects in the converter and program (VCU), or connections, leading to interruptions or loss of position in the Race or for the Pilots.

Technical Officers reserve the right to request recalibration or inspection of the motor, converter, and program (VCU) at any time.

5.06 PROPELLERS

Only propellers supplied by the UIM E1 Class Promoter are permitted for use. At the start of the Season, a Technical Officer will mark the propellers. If a Team needs an additional propeller due to breakage, this process will be managed and marked by a Technical Officer.

Specification of permitted propellers.
Brand and model: Mercury Racing. Model: Spitfire XP.

Permitted propeller variants:

- 15” pitch, 13.5” diameter – part number 8M0167662
- 16” pitch, 13.0” diameter – part number 8M0167665
- 17” pitch, 13.0” diameter – part number 8M0167667
- 18” pitch, 12.7” diameter – part number 8M0167698

Propellers must not undergo any form of modification.

Only one propeller for each of the above specified sizes (four propellers in total) will be permitted at each Event for a Team, unless otherwise determined by the UIM E1 Class Promoter in the Race Instructions. The selection and declaration of propellers must be made after an official free practice of each Event.

Each Team will have the ability to declare one propeller for use in a qualifying Session and one propeller for use during the subsequent Race Sessions. Team can use the same propeller in both a qualifying Session and a Race, or different propellers in each.
Propeller changes during shakedown, free practice and in advance of qualifying are allowed. Propeller changes during other Sessions are permitted only and exclusively in the event of propeller breakage or damage, as verified by the Technical Officer.

Any propeller changes without a technical reason, such as breakage, subjects the Team to a penalty. In the case of an unjustified change during the qualifying Session, the Team will start last in the following Race, irrespective of their position in the results.

In case of a propeller change during qualifying or the Races , the Team will face disqualification.

5.07 FOILS

Foils must adhere to the one-design boat homologation and E1 drive train homologation. Modifications to foils are prohibited, with the exception of light sanding and repair on the surface, according to the foil sanding and repair procedure provided in the Race Instructions. All modifications and repairs are subject to inspection by the Technical Officer as part of checks conducted pursuant to rule 3.13.01.

5.08 ELECTRIC

5.08.01 SAFETY & PROCEDURES

Safety systems and procedures are detailed separately by the Championship technical supplier(s) and the UIM E1 Class Promoter in the Boat manual separately supplied by such relevant parties to the Teams.

Clearly marked stop buttons/kill switches, disconnecting both leads to the battery, must be installed in both the cockpit and on the exterior on both sides of the cockpit.

5.08.02 REINFORCED COCKPIT & CREW SAFETY

a. **A reinforced Cockpit** (canopy/ safety cell), constructed by a UIM registered cockpit builder to 3000 N laminate standard, is mandatory. All sides of the cockpit must have a minimum of this laminate strength. Additionally, a roll bar must be installed in front of the Pilot.
No exposed hardware inside the cockpit, which may come in contact with the Pilot in a crash, is allowed. The cockpit must not have sharp edges or protrusions anywhere inside or around the entryway of the cockpit.

b. **Repair work** must be exclusively conducted by a UIM recognized cockpit builder adhering to the registered lamination layup specified for the cockpit.

c. **Canopy** structure must provide full coverage for a Pilot's helmet and serve as an integral load-bearing component. It must possess at least the same strength as the reinforced cockpit structure and ensure a continuous load path to transmit forces effectively into the cockpit structure. The canopy must be securely latched and hinged to ensure it remains in place and functions as an integral part of the cockpit structure during an accident. A secondary quick-release mechanism, featuring a push/pull pin with a minimum diameter of 6 mm, must be included to enable rescue personnel to easily release of the hinge. The hinge design must ensure the quick-release pin can be removed without binding, even in scenarios involving an incident where its removal is necessary.

d. **Hatch** openings providing access to the cockpit or Pilot must include dedicated features to facilitate emergency access. These openings must incorporate a slot and pry bar pad designed specifically for use by rescue personnel in the event of jamming or mechanical failure.

e. **Floatation**. The cockpit structure must include securely attached flotation devices. They must be capable of supporting the combined weight of the cockpit, Pilot, motor, and any attached structure to ensure buoyancy.

f. **Cockpit light**. A waterproof light, capable of automatic activation upon contact with water and/or inversion is mandatory. The light must have its own independent power source to ensure functionality in emergency situations.

g. **Head clearance**. Each Boat must provide a minimum head clearance of 100 mm directly above, and at a 45-degree angle from, the Pilot's head in all directions.

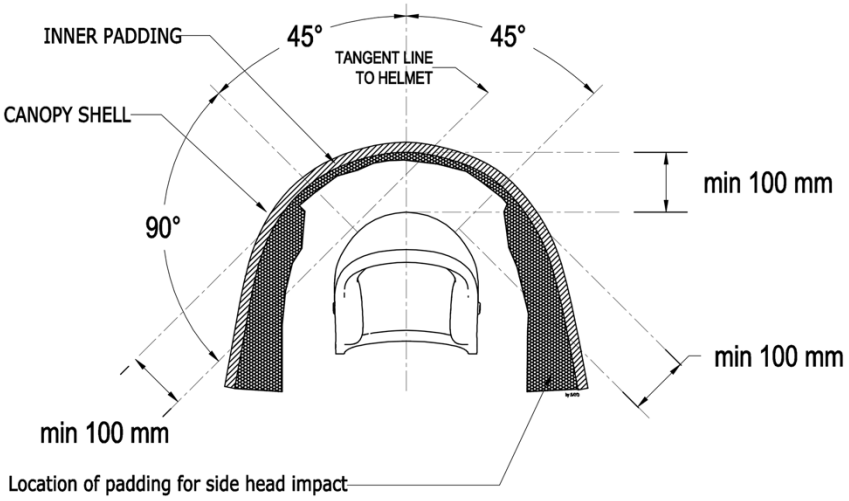


Diagram 5.3. Head clearance.

Foam support, encompassing the entire inside of the helmet area, consisting of a minimum 12 mm (1/2 in.) 4 kg (9 lbs) Ethafoam or other energy-absorbing material, is required to prevent injury from the helmet hitting the cockpit.

h. **Windscreen** material must be shatterproof polycarbonate (PC) with a minimum thickness of 8 mm. The windows must be recessed into the composite structure and bonded using a suitable elastic bonding agent.

i. **Seat** construction must be stiff and strong enough to ensure secure attachment to the cockpit, with minimal movement (less than 10 mm) between any part of the seat and cockpit during crash loading. The seat must satisfy SFI 39.2 stiffness, with homologation meeting FIA 8855-1999 or equivalent standards.

j. **The Restraint System** comprises a 6-strap harness with minimum two straps each for the hips, crotch, and shoulders, all connected in a central release system. Once activated, the release mechanism must remain open until reset. A high-strength, highly visible lanyard will be attached to the release lever of the lever/latch (NASCAR-style) system. Belting must be a minimum of 5 cm (2 in) in width, and the angles of the different belts must meet the manufacturer's specifications. In reinforced cockpits, Pilot harness attachment bolts must be a minimum of 8 mm bolts with a 1.25 thread, stainless steel. Also acceptable are 10 mm and 7/16 inch eye bolts, with strength class 8.8 or A4-70, supplied by the harness manufacturers. The attaching bolt must have a spacer and a washer, with the spacer being glued into the cockpit.

k. **Air supply**. One air cylinder (not oxygen) with a single air supply must be provided. The air supply must be securely fixed adjacent to the Pilot and should be sufficient for at least 10 minutes. Air regulators/mouthpieces must operate in any position, i.e., upside down. The air supply hose from the tank to the Pilot's mask/mouthpiece hose connection shall be of sufficient length to allow a Pilot to stand up in the cockpit without pulling tight or disconnecting. All air hoses are to be securely fastened, and mouthpieces should be placed within reach of a Pilot and mounted on retainers.

Alternatively, a Pilot's mask may be used, covering a Pilot's nose and mouth and designed to be watertight. The mask must be attached securely to prevent inadvertent dislodgment or removal. An ambient air valve is required. A female coupler fitting should be attached to the air supply hose from the tank, and the male coupler fitting must be attached to the Pilot mask/mouthpiece hose. The use of a tee block with two male coupler fittings, attached to the Pilot mask/mouthpiece hose, is allowed. The accepted design sealed coupler assembly should be Parker part number SH1-62/SH1-63 (or an equivalent from another manufacturer); stainless steel material is highly recommended, with brass being an acceptable alternative. Each Team Member in full race attire and race position must physically demonstrate to the scrutineer their ability to locate and use their Air Supply Equipment. Pilots and Team Members are responsible at all times for maintaining their Safety Equipment and ensuring its compliance with the Rules.

l. **Air bottles** must be a minimum of a 2L cylinder with a nominal 400 Liters of free air (min 360 litres at the Races). The air cylinder must have a pressure gauge for visual checking at pre-race scrutineering, filled with liquid and at least 45 mm in diameter for easy reading. Each bottle shall also have an excess flow (safety) valve (EFV) fitted. Air supply bottles shall be "Turned On" before starting any on-water session.

m. **Stop** buttons/switches must be located in the cockpit area, easily accessible to the Pilot and rescue officers. The stop button must be clearly marked as "ELECTRIC SHUT OFF SWITCH."

n. **The fire-fighting system** is located in the battery compartment and is manual, operable by the Pilot inside the cockpit and/or rescuers outside (both left and right sides).

o. **White Strobe Light** must be fitted to indicate "coming off the plane". The strobe light should be operable by the Team Members and must be activated in case of any problems, allowing following Boats to take avoiding action. This strobe light is also to be used when returning to the Launch Zone under reduced power.

p. **Steering wheel** with a quick release must be fitted on all Boats. However, all Pilots must be able to exit the cockpit without removing the steering wheel.

q. **Rear view** cameras are mandatory.

r. **Race vest** with ballistic covering, providing approximately 4.5 kg (10 lbs) of flotation and equipped with epaulette-type extraction loops on the shoulders, is mandatory. The race vest must be properly fitted to prevent accidental pulling over the head. Alternatively, flotation overalls are permitted but must conform to all race vest requirements, including buoyancy, protective plates, collar, etc. Race vests or flotation overalls must be worn at all times while on board of the Boat during practice runs, qualifications, and throughout Races.

s. **Helmets**. Helmets must be worn at all times while on board the Boats during all Sessions. The helmet must comply with a standard specified on the UIM Website.

t. **Head and neck restraint**. All Pilots must always wear a head and neck restraint system at all times. It is the sole responsibility of the wearer to ensure that the chosen head and neck restraint device is appropriate and suitable for the specific application or activity being undertaken.

u. **Maintenance**. All components of the reinforced cockpit must be properly maintained to ensure their reliable operation. This includes, but is not limited to, the canopy release mechanisms, emergency air supply, and restraint systems. Regular inspections and servicing are required to guarantee functionality in all circumstances.

v. **Canopy hatch**. It is mandatory to close the canopy hatch, and the hatch must remain closed during all the Sessions.

w. **Belt cutter**. A minimum of one (1) belt cutter is to be secured and easily accessed in the cockpit.

x. **Camera**. Teams are permitted to install one (1) camera inside the cockpit in accordance with rule 5.10, subject to approval by the UIM E1 Class Promoter and the UIM as stated in paragraph 2 of rule 5.01. Further details can be provided by the UIM E1 Class Promoter upon request.

5.09 MANDATORY EQUIPMENT

Any television equipment, telemetry equipment or related devices required by the UIM, UIM E1 Class Promoter, or its contractors must be installed and remain in place at all times. Such equipment must be properly maintained and used exclusively for its intended purpose.

It is mandatory that all Teams carry emergency harness cutters, similar in design and functionality to those used by emergency rescue services.

Other items may be required as listed in the Race Instructions.

5.10 OTHER REQUIREMENTS

Telemetry. Any telemetry, locator GPS, data devices, or TV/ video recorder(s) mandated by the UIM and/or by the UIM E1 Class Promoter must be installed to the Boats and remain in place at all times. These devices may only be removed or their content accessed with the explicit permission of the Technical Officer(s).

Teams are permitted to use telemetry to monitor live data from Boats and engines. However, the use of bidirectional telemetry by the Teams is prohibited. Only official telemetry systems provided by the UIM E1 Class Promoter are authorised for use. The Race Director reserves the right to access the data at any time.

Violation of this rule may result in sanctions, including, but not limited to, a non-eligibility to participate at the Event, fines, time penalties, disqualification, and suspensions.

Intercoms. Locking intercom plugs connecting helmets to racing craft are strictly prohibited. Intercom plugs must be designed to disconnect easily without exerting additional stress on a Pilot's neck. Inflexible metal or plastic

microphone booms for intercom systems are not permitted.

Cameras. Teams are permitted to install one (1) camera inside the cockpit. Footage from such camera (i) must be used solely for performance improvement; (ii) is inadmissible as evidence for any protest or appeal; and (iii) must not be made public under any circumstances. The camera's positioning shall be verified during the pre-race inspection by the UIM E1 Class Promoter's broadcaster and UIM, and must be promptly removed if it obstructs any broadcast cameras. The UIM E1 Class Promoter can provider further detail on request.

5.11 MEASUREMENT CERTIFICATE

A Boat is not allowed to participate in any Event without a valid digital measurement certificate as per the UIM requirements. The measurement certificate must be logged in the Digital Logbook.

The measurement certificate has no expiry date and must be updated on following occurrences:

a. Change of Team ownership of the Boat.
b. Change of Boat dimensions and/or structure.
c. Major repairs to the Boat after an accident or any other reason.
d. Rules concerning a Boat or drivetrain for the E1 racing class have changed.

PART 6 – JURISDICTION

6.01 PROTESTS AND RESULT MANAGEMENT

6.01.01 GENERAL

All sporting protests and associated penalties in the Races will be addressed during the Race, following the racing programme and format. There will be no right to protest any in-Race sporting incident or decision after conclusion of the relevant Session.

The Pilots may initiate a Protest to be considered by Race Control (the Protest Judge) as from the moment Race Rules apply, as per indication provided during the main Pilot Briefing.

Sporting Protests must be addressed to Race Control by the Team Principal via Radio communication and on-board technology if available. A protest may be initiated as described in the Race Instructions. A decision on the protest will be made within the scheduled Session.

At the end of the Session, the protesting Team must receive and sign the Protest Result Form, where it will also be determined, based on the result, whether the Protest Fee is to be paid, i.e. EUR 500. If the protest is upheld, all the fees paid will be refunded.

Payment of the Protest Fee, if due, shall be made within 14 days to the UIM following the procedures indicated in the Protest Form.

All protests will be reviewed and adjudicated within Race Control. A protest can be 'upheld' or 'not upheld'. . Penalties will be applied exclusively during the relevant Session only.

A Team shall only be entitled to make two (2) 'upheld' protests at each Event. No additional protests shall be accepted by Race Control from a Team that has already made two (2) protests which were 'not upheld'.

6.01.02 POST RACE EVALUATION OF THE OFFICIAL DATA AND OTHER EVIDENCE

The information recorded by the official data system and/or broadcast systems will be the sole official method for examining any technical infringement.

6.01.03 TECHNICAL PROTEST

Technical protests, concerning suspected technical infractions or breaches of the Rules by other Teams and/or Pilots, must be submitted in writing and delivered to the UIM E1 Race Administration Officer within one hour of the official results for the current day being posted.

Protest Fee is EUR 500. If the protest is upheld, all the fees paid will be refunded.

A Protest Form and any information and assistance can be requested at the Administration Office.

The Protest Judge will render a decision on post-race technical protests within a maximum of two (2) hours from the time the protest is submitted.

The Protest Judge may reach a decision by utilizing the data provided by the equipment onboard each Boat and/or through a hearing Session and/or with the information support of the Technical Officer(s).

6.01.04 HEARINGS AND DECISIONS

In the event of necessary redress (cancellation of a technical penalty), the Protest Judge shall strive to arrange a fair resolution for all affected Teams.

6.02 PENALTIES

6.02.01 PROHIBITED CONDUCT AND ASSOCIATED PENALTIES

Penalties for prohibited conduct at the Events may only be imposed by the Race Director and/or the UIM Commissioner.

In addition to the violations of the Rules and associated penalties detailed in the other parts of these Rules, the following provides a list of prohibited conduct and the associated penalties:

Race Course Infractions

Observed Infraction. No penalty for a Race Course infraction shall be applied to any Team or Pilot unless a Race Official has observed the infraction.

Careless Piloting and Racing. Any action considered unsafe or against the spirit of the Rules by Race Officials may lead to either a penalty or a combination of penalties as listed below.

Reckless Piloting and Racing. Recklessly endangering any craft, patrol boat, medical boat, towing boat, media/TV boat, spectator boat, a person, or property will lead to disqualification from the Event.

Helmets and Racing Vests While Foiling. Any Pilot who participates in a Race without wearing an approved racing vest and Safety Equipment as described in the Rule 3.20.02, shall be disqualified.

PENALTIES

The types of penalties that can be imposed on a Pilot and/or a Team for Rule infringements and other violations:

- Reprimand or warning
- Yellow card
- Red card
- Blue card
- Time penalty
- Sporting Race penalties
- Fines
- Deduction of points
- Disqualification from a Race or an Event
- Temporary suspension
- Prolonged suspension
- Exclusion from the Season

6.02.02 SPORTING RACE PENALTIES

The Race Director has the authority to impose various sporting race penalties, including but not limited to:

- Drive through penalty
- Boat-on-Boat penalty
- Stop and Go penalty

A Boat that crosses the finish line with an outstanding penalty will be classified as a DNF.

Comprehensive information regarding penalty procedures is outlined in the Race Instructions.

6.02.03 OTHER PENALTIES

Additional penalties may be introduced throughout the Season, and announcements will be made during the main Pilot Briefing, accompanied by official notifications posted on the Official Notice Board.

Yellow cards are cumulative for Pilots who participate in multiple UIM racing categories. If a Pilot, for instance, already holds a yellow card from another UIM racing category and receives a yellow card in the Championship, the total count of yellow cards will accumulate.

If a Pilot accumulates three yellow cards within the same Season, they will be disqualified from the Session in which the third yellow card was issued. Additionally, if a Pilot receives a yellow card after a prior disqualification, they will be automatically disqualified from the current Event and the subsequent Event as well. A reserve pilot is strictly prohibited from racing in place of a Pilot who has accumulated three yellow cards.

The Race Director or UIM Commissioner has the authority to issue a blue card for offensive, unsportsmanlike conduct, abrasive or abusive behaviour, or actions that bring the sport into disrepute during any official Event activity. A second blue card will result in the immediate removal of the offender from the Event activity. Following the incident, the Protest Judge will convene to determine if additional disciplinary action is necessary.

The Race Director or UIM Commissioner has the authority to issue a Red Card for the behaviour deemed too severe for a Yellow or Blue Card. Issuance of a Red Card results in immediate disqualification from the current Event. Following the Event, the UIM will determne any further disciplinary action. Examples of behaviour warranting a Red Card include: (a) a Pilot deliberately ramming another Boat or performing dangerous manoeuvres for personal advantage during a Session; or (b) any Team Member behaving in such manner that a Blue Card does not sufficiently discipline.

Local Authority or Government Regulations. Team Principals, Pilots, Team Members and any officials, regardless of their participation in the Championship, are required to consistently adhere to both published and unpublished laws and regulations set forth by local authorities or the government in the territory of the Event.

Foiling in Spectator Area. Boats must disengage from foiling and navigate cautiously at speeds below 10 knots when exiting a designated spectator fleet. Failure to comply with this rule will result in the issuance of a yellow card, and a fine may be imposed.

6.03 MISCONDUCT

These Rules are in place to ensure the safety and security of Pilots, officials, and the public, as well as to maintain the orderly conduct of the Events. It is mandatory for all Team Members to conduct themselves responsibly and appropriately throughout any Event. Individuals whose behaviour disrupts the smooth running of an Event or is considered detrimental to the sport's reputation, may face penalties, including but not limited to disqualification, Event suspension, reprimands, yellow, blue or red cards, expulsion, or financial penalties.

Abuse of Officials. Verbal or physical abuse directed towards any Race or Event official or Pilot will lead to penalties. These penalties may involve suspension or disqualification from an Event, exclusion from the current Season, or the reduction of points and/or financial penalties.

Any use of nationality references for Teams in a manner deemed derogatory or racist by Race Officials will not be tolerated. Penalties, as mentioned earlier, will be applied in such cases.

6.03.01 ACTION BY THE RACE OFFICIALS

When a Race Official/s, from their own observation or a report received from any source, believes that a Pilot may have committed a gross breach of a rule, good manners, sportsmanship, or may have brought the sport into disrepute, they must inform the Race Director that may call a hearing.

The Race Director shall promptly inform the Pilot in writing of the alleged misconduct and of the time and place of the hearing.

The Protest Judge shall conduct the hearing. If they determine that a Team/ Pilot committed the alleged misconduct, they may choose to:

1) issue a warning to the Pilot or
2) impose a fine on the Pilot or
3) Apply a penalty, which may involve disqualifying a Boat from a Race or all the Races, or all Events of the Championship, or taking other actions within its jurisdiction as deemed appropriate.

The Race Director will promptly report a penalty, and UIM will subsequently notify the National Authority of the venue, the Pilot, and the Team Principal of the imposed penalty.

6.03.02 ACTION BY A NATIONAL AUTHORITY

Upon receiving a report alleging a significant breach of a rule, good manners, sportsmanship, or conduct that brings the sport into disrepute, a National Authority may initiate an investigation. If deemed necessary, the National Authority shall conduct a hearing and may take disciplinary action within its jurisdiction. This action may involve suspending eligibility, either permanently or for a specified period, for the Pilot, Team Principal, or any other person involved in competing in the Events within its jurisdiction. Additionally, UIM eligibility (licences and participation in UIM Events) may also be suspended.

6.03.03 ACTION BY UIM

Upon receiving a report from the Race Director regarding misconduct by a Pilot or Team Principal, UIM will notify all the relevant National Authorities. These National Authorities may choose to suspend the individual's eligibility to participate in Events within their jurisdiction. If the National Authority does not take such action, the UIM Executive Committee will impose a suspension on the Pilot's UIM eligibility (licenses).

6.04 APPEALS

Unless stipulated differently below, the rules for the protest procedure shall apply to the appeals procedure as well**.** With reference to the appeals procedures, any time limits that conclude on a Saturday or Sunday will be extended to the following Monday. If the appellant fails to meet any specified time limit, the appeal will be deemed void and rejected.

The UIM will decide on appeals arising from international titled events according to the "UIM International Court of Appeal" rules unless differently laid out in these Rules.

6.04.01 UIM INTERNATIONAL COURT OF APPEAL (ICA)

The ICA convenes at the discretion of the Chairman, who may call a meeting as required.

6.04.02 INTERESTED PARTIES

No interested party shall be member of the ICA as set forth in the ICA rules.

6.04.03 RIGHT OF APPEAL

A decision by the Protest Judge may be appealed by the parties involved in the protest where they consider that an injustice has been made against them and/or fresh evidence has been made available that may alter the decision of the Protest Judge.

A Pilot may appeal a penalty imposed without a prior protest if lodging a protest was not possible. This may occur if the Protest Judge was dismissed before or during the protest period, or if the protest period has elapsed, preventing a Pilot from filing a protest.

6.04.04 NOTICE OF INTENTION TO APPEAL

The intention to appeal must be notified in writing to the Secretariat of the UIM by the interested party within four (4) days of the day following the Protest Judge decision or in the case of a decision against which a Pilot can appeal without the prior lodging of a protest within four (4) days of the day following the notification of this decision to the NA of the Pilot or if earlier to the Pilot concerned.

6.04.05 TIME LIMIT

All appeal documents and fees must be received within ten (10) days from the date when the notice to appeal was received by the UIM Secretariat.

6.04.06 LODGING OF AN APPEAL

The appeal must be sent by fax, letter or E-mail and it must be signed by the appellant. The reasons for the appeal must be stated.

Address, telephone, e-mail and/or fax should be clearly mentioned on the appeal, so that the UIM can send any correspondence directly to the Pilot with copy to the relevant National Authority.

6.04.07 NOTIFICATION OF THE PARTIES OF THE APPEAL

The UIM Secretariat must within two (2) days from receiving the appeal, notify the other parties that an appeal has been lodged and that they may send a rejoinder.

Such rejoinders must be received within ten days from receiving this notification.

6.04.08 TIME LIMIT FOR DECISIONS ON APPEALS

All appeals must be determined no later than forty-five (45) days after the date when the appeal documents and fees were received by the UIM Secretariat.

6.04.09 UIM INTERNATIONAL COURT OF APPEAL (ICA) DECISIONS

The ICA takes its own decision based on all the information available. The decision of the jury may be upheld, changed or not upheld. The decision of the ICA is final.

6.04.10 COSTS

The appeal fee is EUR 2,000. In addition, the appellant has to deposit EUR 2,000 to the UIM as handling costs of the ICA (IT meeting arrangements, telephone, laboratory, experts and other costs of the appeal procedure).

If the appellant requests the appeal procedure to be conducted in physical presence of the persons involved, any additional costs in excess of the deposit of EUR 2,000 shall be borne by the appellant.

If during the procedure further costs arise, the appellant must deposit the requested additional amount with UIM within 14 days of notification.

The appellant is responsible for covering the meeting costs regardless of the outcome of the appeal. If the actual costs of the appeal committee are less than the amount specified above, the difference will be refunded to the appellant. The appeal fee will be refunded if the appeal is upheld.

If a Pilot appeals because (a) the Protest Judge has been dismissed from the Event before or within the protest period (as explained in rule 6.04.03), or (b) the protest time has elapsed and a protest cannot be made, the appeal fee and deposit for handling costs shall be 50% of the standard appeal cost stipulated in the first paragraph of this rule.

If the original decision is changed by the ICA (6.04.09), it can decide to refund a percentage of the appeal fee if appropriate.

If there is an infringement of rules 6.04.04 or 6.04.05, the Chairman of the ICA can decide that the appeal is not considered valid since the deadlines were not respected. In this case 50 % of the received appeal fee will be refunded to the appellant.

Further appeal fees or deposits as foreseen in the ICA rules do not apply.

APPENDIX 1 – DEFINITIONS

The following terms used as capitalised words in the Rules shall have the following meanings:

“Advance Programme” means the UIM approved document shared with the Teams, providing essential information about the Event, including an Event timetable. Further details on the Advance Programme are elaborated in rule 3..

“Boat” means the all-electric raceboat known as the ‘RaceBird’ that is leased by the Teams from E1 as one-design boats to compete in the Championship in accordance with the Rules.

"Bulletin” means the written communication method by the Race Director to Pilots and Teams, conveying information about the Event or notifying changes and/or penalties.

“Charging Area” means the only designated area/s at the Event where the Boats will be charged by the E1 provided chargers by the designated Championship personnel. It is a restricted area, in conjunction with the Launch Zone.

“**Championship**” means the UIM E1 World Electric Raceboat Championship under the authority of the UIM, comprising a series of racing Events within a Season, culminating in the determination of a winning Team of that Season (the ‘Champion’).

“Digital Logbook” is the UIM platform where all information relating to each individual Event comes together to form the history of each individual Boat, Race, Event, etc.

“**Dry Pit**” means the delimited area within the Paddock, which houses all operations relating to the handling, reloading, craning, launching and securing the Boats.

“Event” means a Championship racing event as included in the official Championship calendar, encompassing the Sessions and the podium ceremonies for Pilots from the top three finishing Teams. The Event commences with the registration and concludes with the last scheduled podium.

“**Event Control**” means general overview of the Event, the crowds, hospitality, connected to Race Control via a radio.

“**Final Race**” means the final Race of the Event for which Championship points to the participating Teams are awarded in accordance with the Rules.

“**Launch Zone**” means the designated area in the water with pontoons, where all the Boats are positioned before and after each Session.

“**Local Organiser**” means a local organiser of an Event under an authority and licence granted to it by E1.

"**Medical Delegate**” means the principal authority responsible for overseeing the medical policies and procedures for the Championship.

“National Authority” means the national sport authority in powerboating, affiliated to the UIM, which issues national sport authorisations and licences to Pilots.

"**Official Notice Board**” means both a physical board at the Race Control/UIM on-site Office and digital information board accessible via the secure area of the official Championship website, providing the relevant information around the Event and the Races.

“**Paddock**” means the operational area on the ground, where the dedicated machining, assembly, storage, repair and maintenance areas, established by the UIM E1 Class Promoter are allocated. The Paddock also includes the Dry Pit area.

“PFD” means Personal Flotation Device.

“**Pilot**” means any UIM-licensed individual engaged by a Team to pilot and compete in the Championship as one of the Team’s two (2) primary pilots. This definition of ‘Pilot’ specifically excludes Reserve Pilots.

“**Pilot Briefing**” means the official meeting time between the Pilots and the Race Management Team and the Race Director, where the individual details of the Event are explained.

“**Race**” means the time that the Boats are in competition during any Session at the Event (including, but not limited to, quarter finals, semi-finals, Heats and the Final Race). “Race” shall exclude free practice and qualifying.

“**Race Box**” indicates the authorised area within which the various Race Courses are positioned.

“**Race Control**” means the sporting operations room at each Event.

“**Race Course**” indicates the area inside the Race Box where the Race Marks are positioned for Races.

“**Race Director**” means the UIM appointed official responsible for managing the sporting side of the Event and compliance with the Rules.

“**Race Instructions**” means the UIM approved document outlining the specific racing requirements for each Event, including the race format.

“**Race Mark**” means buoys used to mark the limits of the Race Courses.

“**Race Official**” means any UIM appointed official at the Event including Experts appointed onsite.

“**Reserve Pilot**” means any UIM-licensed individual that each Team may register and use in the event of any proven absence or impediment of one or both of the designated Pilots, as permitted by these Rules.

“**Rules**” means the present UIM E1 Championship rules and regulations covering the sporting and technical aspects of the Championship.

“**Safety Equipment**” means the safety equipment each Pilot must wear while performing at Races, i.e. a helmet, head and neck restraint system and collar, life jacket, race suit, capsule suit, fire retardant underwear, gloves and boots, as further outlined under Rule 21.02.

“**Season**” means the yearly period covering the UIM E1 official calendar (Jan 1st – Dec 31st).

"**Session**” means a session of an on-water activity of the Teams, including, but not limited to, promotional activities, the free practice, qualifying and the Races.

“**Team Member**” means all the personnel of the Team, and any other persons providing services to a Team in relation to the Championship (including Team operational staff), or otherwise taking part in any Event on behalf of the Team or as per the Team’s invitation.

“**Team Principal**” is a person that manages the Team, appointed by the Team.

“**UIM**” means the Union International Motonautique, the governing body and authority overseeing powerboat racing competitions.**“UIM E1 Class Promoter” (or “E1”)** means the entity Electric Sea Racing Limited that holds the UIM licence to organise and promoter the Championship.

“UIM E1 Committee” means a UIM committee assembled by the UIM and E1 to manage the Championship.

“**UIM E1 Start Marshal Boat**” means the boat accommodating the Start Marshal, responsible for overseeing the start and finish with the appropriate flags. It also handles the display of various official flags on different occasions, in direct communication with the Race Director.

“UIM Environmental Code” means the set of UIM regulations, suggestions and procedures related to the environment.

“UIM General Racing Rules” means the general set of rules under the UIM’s authority that can be used as reference in case of lack of info in these Rules.

“UIM Website” means the official UIM website www.uim.sport

APPENDIX 2 - SAFETY PROCEDURES AND GUIDELINES

A2.01 GENERAL REQUIREMENTS

The minimum water depth for the Race Course area is set at three and a half (3.5) meters. The Rescue & Safety Director has the authority to increase this depth in the event of adverse sea weather conditions or specific geographical local conditions.

The designated logistics point on land, housing safety boats and ambulances, should not be situated more than one (1) kilometre from the farthest point of the Race Course.

The mooring post for the rescue boats must provide space for an adjacent parking area designated for ambulances.

The Medical Delegate must be satisfied with the current medical situation and the implemented medical planning for the Event.

A2.02 RESCUE TEAM

The Official Rescue Team, recognised by the UIM, will be present at every Event.

The Rescue Team is required to consist of a minimum of four (4) qualified rescue diver operators and one (1) on water rescue doctor.

The number of Rescue Units (2 operators each) can be expanded upon the request of the Rescue & Safety Director. The final decision will be made by the Race Director.

The Rescue Team is overseen by the Rescue & Safety Director and the Medical Delegate and will operate according to the procedurals Event Guideline determined for each Event

APPENDIX 3 – RACEBIRD ELECTRIC PROPULSION

Seabird Technologies – Racebird Hazardous Voltage Propulsion Design Approach

Document history			
Date	Modification	By	Rev.
23/10/2022	Initial release	Jack Ferryman	0

Terminology

eMotor	Electric motor
MCU	Inverter providing the electric power and control to the eMotor.
RESS	Rechargeable Energy Storage System : the propulsion power circuit battery (interchangeable with HV battery)
DC/DC	DC/DC converter, converting hazardous voltage into no hazardous voltage for low voltage systems.
LV battery	The Low Voltage (14V) systems battery
Power circuit	The MCU, the eMotor and the power cables powered by the RESS
Hazardous voltage (HaV.)	A voltage exceeding 30 volts AC or 60 volts DC, but not exceeding 1000 volts AC or 1500 volts DC.
FTA	Fault Tree Analysis : The methodology used to analyse the safety of the system
HVIL	High Voltage Interlock Loop : This is a loop that, when “broken”, the RESS is isolated from the rest of the power circuit thanks to RESS contactors being open. This HVIL is “broken” when, for instance, a power connector is disconnected or in P0 or P1.
PPE	Personal Protective Equipment
P0	Pilot master-switch is in position P0 – Safety Systems only
P1	Pilot master-switch is in position P1 – All LV systems active
P2	Pilot master-switch is in position P2 – HaV. & LV Systems active
Capacitive coupling	Capacitive coupling is the transfer of energy within an electrical network or between distant networks by means of displacement current between circuits induced by the electric field generated.
BMS	Battery Management System

Referenced Documents

Name	Description
ISO 16315 « Small craft — Electric propulsion system	
NF EN 60664-1:2007, CEI / IEC 60664-1:2007 «Insulation coordination for equipment within low-voltage systems - Part 1 : principles, requirements and tests »	
ISO 20653 Road vehicles — Degrees of protection (IP code) — Protection of electrical equipment against foreign objects, water and access.	
ISO 7010:2019 Graphical symbols Safety colors and safety signs	

Objective of the document

The document aim is the following:

- Demonstrate the design approach of the Racebird electric propulsion system when fitted in the vessel, and how it cannot not expose persons to an electric shock even in presence of a single failure, and the additional safety mechanisms employed to prevent them.
- Provide the mandatory check lists to be executed by the technical staff to control the state of the vessel.

This document does not address:

- The risks associated to the maintenance procedures of the components that are not allowed during race operations. This is dictated by components suppliers where necessary.
- The required track personal safety training based on a Safety management system

Risk of electric shock

The electric propulsion system is composed of the following electrical equipment having operating voltages that may expose persons to electrical shock hazards:

- The electrical propulsion motor (eMotor)
- The DC/AC propulsion inverter (MCU)
- DC-DC converter (DCDC)
- The propulsion battery: (RESS)
- The AC and DC cables and connectors
- DC Charging System

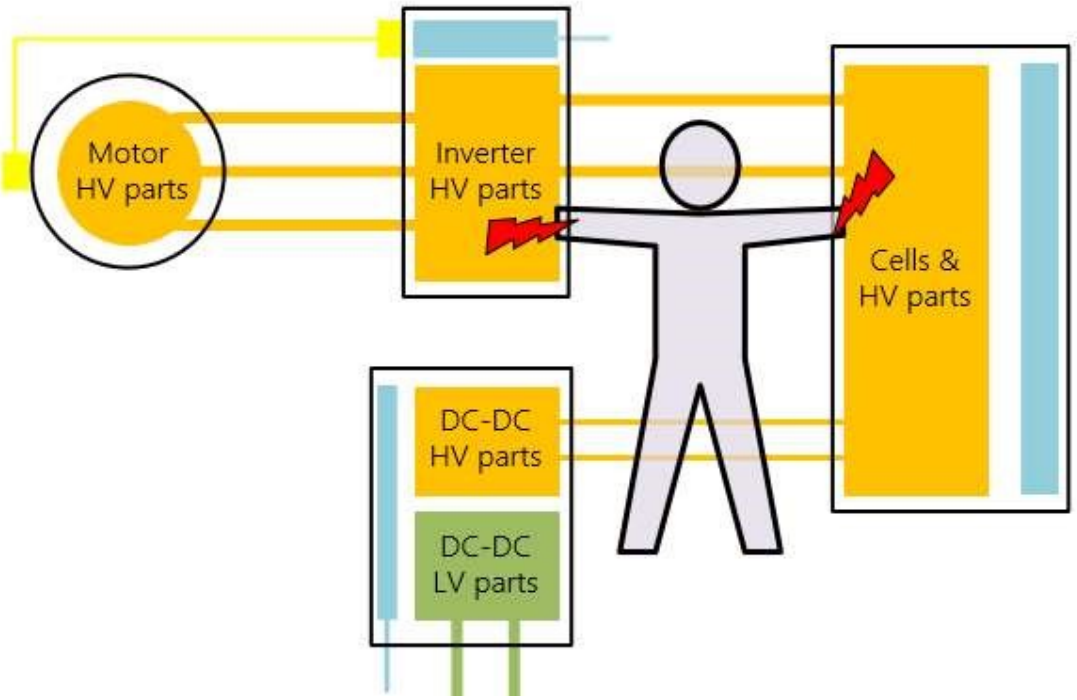
The Low voltage harness, including resolver (motor position) are not considered as possibly exposing high voltage because they are double insulated from the hazardous voltage in the power circuits.

Electric shock root cause

An electric shock can only occur when contact is possible between two live parts with different voltage potentials.

Access to live parts

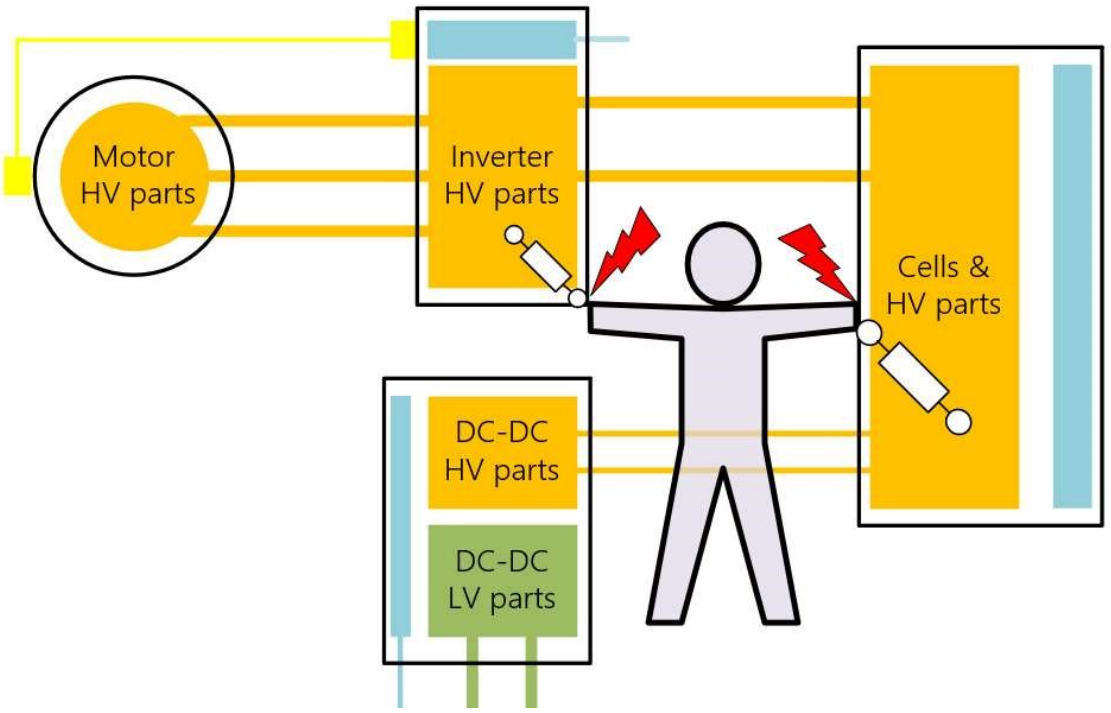
This is when “live” parts become accessible. This can be the case when enclosures are damaged or removed. The risk appears for instance when two different potential exposed parts are live and are touched by someone (see diagram below) or if it is combined with another risk described in this chapter



Insulation loss

This is when an accessible part of the system loses the nominal insulation. This can be the case for a conductive part as well as non-conductive parts. We can say that these parts are then becoming “live”.

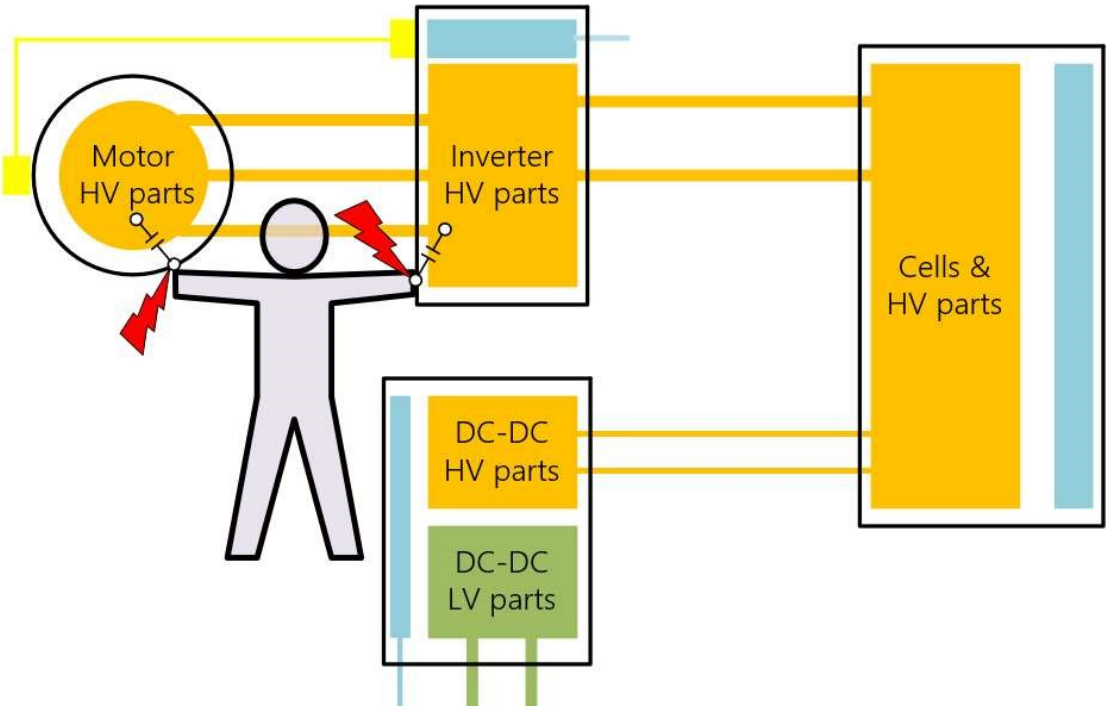
The risk appears for instance when two parts become “live” due to multiple insulation failures (see example diagram below) or when an insulation loss is combined with another risk described in this chapter and are not tied to ground by a proper equipotential ground connection & network.



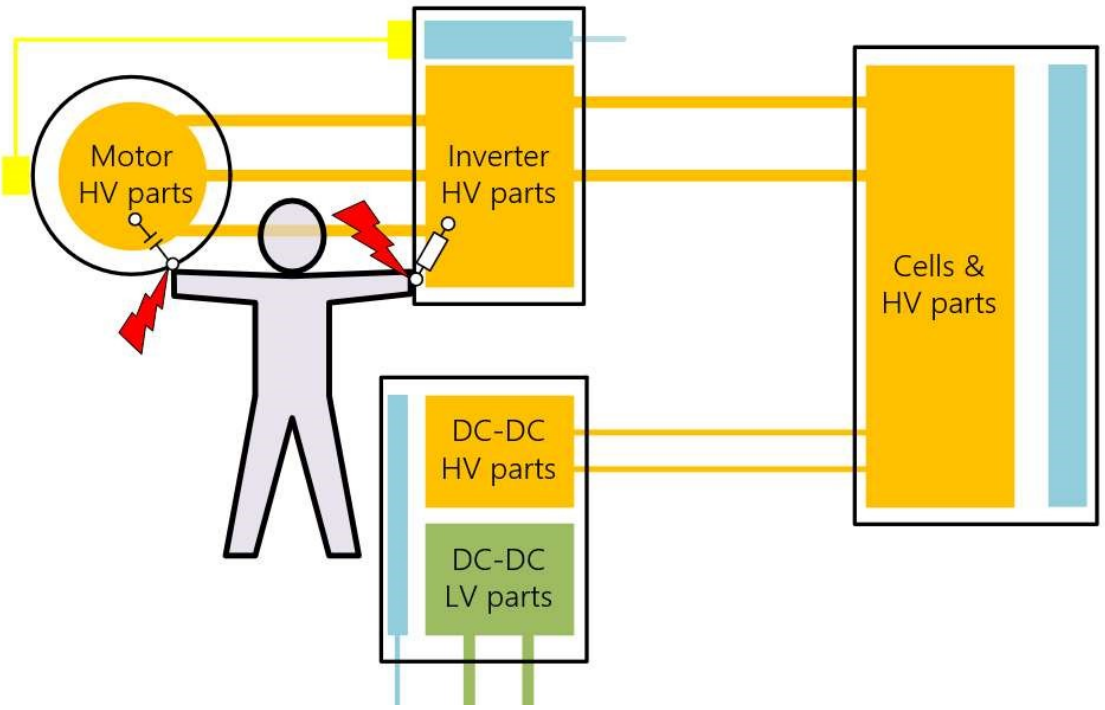
Capacitive coupling

This is when a conductive part has a capacitive coupling with the power circuit. This induces a loss of insulation for the alternative current that depends on the frequency and the capacitive coupling value.

The first one is when two different conductive parts are subject to capacitive coupling and are not tied to ground by a proper ground connection.



The second one is when a capacitive coupling is associated with an insulation loss (see example diagram below) or when capacitive coupling is associated with an access to live parts and not tied to ground by a proper ground connection.



Electric shock risks mitigation

The Racebird Safety design approach is based on best industry practices regarding hazardous voltage safety but also apply extensively the isolation principles described in the IEC 60664 and thresholds described in ISO16315

With regards to electric shock the human protection is based on the following principles:

- Conductive accessible housing and parts shall have at least a single insulation and a “trustable” connection to ground (equipotential bonding).
- Non-conductive accessible parts shall have at least a single insulation and a supplementary insulation.

  In both cases there is a safety redundancy (supplementary insulation or connection to ground) and this redundancy must have a different failure mode than the single insulation.
- A single failure that cannot be detected by the system shall not degrade the level of protection.
- A single failure that can be detected by the system shall not expose person to electrical risk

Design rules

To implement the electric shock mitigation measures the following design rules shall be applied:

1- The power circuit is isolated from the vessel ground network; no part of the HaV propulsion circuit is tightly electrically connected to the chassis ground or to the 12 Volt circuit.

➔ This prevents any conductive parts connected to chassis ground to be “live” parts in normal operation.

2- All enclosure / barriers to live parts have no opening or require tools to be removed

➔ This prevents accidental or unintentional access to “live” parts in normal operation

3- All conductive casings, connectors, accessible conductive parts have at least:

a. a single insulation and a strong equipotential bonding able to sustain short circuit current

b. Or a double insulation (a single insulation and a supplementary insulation) and a weak connection to ground

➔ This guaranties that the accessible conductive parts do not expose a dangerous voltage in any circumstances including a short in the power circuit or a capacitive coupling.

4- Isolation of live parts is at least a double insulation. The two isolations having different failure modes

➔ This provides a truly redundant insolation preventing loss of insulation.

5- AC and DC cables with double insulation and shielding connected on both ends

➔ This provides a truly redundant insulation and capacitive coupling prevention

6- AC cables are not accessible during normal operation

➔ This provides a truly redundant capacitive coupling prevention

7- A fuse or fused connections to the battery cells must protect the power circuit as well as the equipotential bonding path in case of short circuit.

➔ This is the only way to trust the equipotential bonding protection in case of short circuit

Additional measures to improve the safety case in the event of a single failure:

1- Two contactors in the RESS with diagnostic

2- Insulation monitoring system opening the contactors in case of insulation failure.

3- Crash detection opening the contactors in case of vessel crash or inversion.

4- All power circuit removable connections, including connectors are protected with a high voltage interlock loop (HVIL)

5- All power connectors are either IP2X rated or are marked with the yellow triangle logo and require tools to access live parts

6- Manual Service disconnect (MSD)

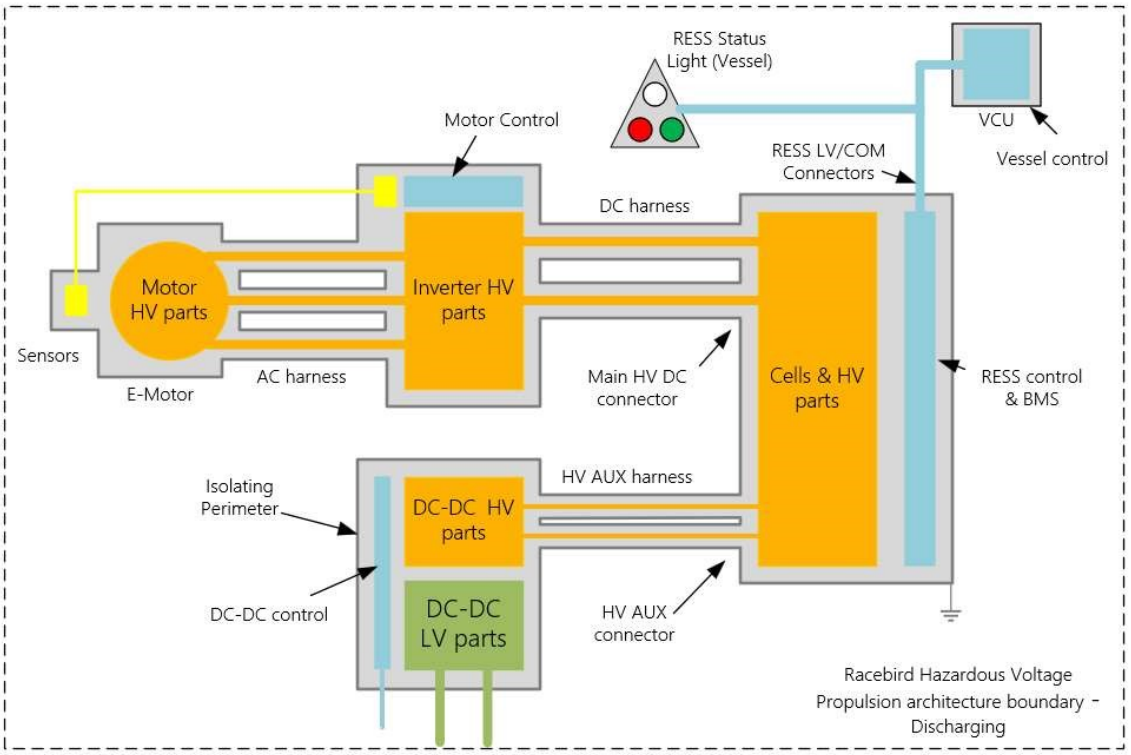
7- Automatic shut-down in the event of CAN comms loss with vehicle ECU or charger

8- DC bus voltage plausibility checks for detection of failed discharge resistor

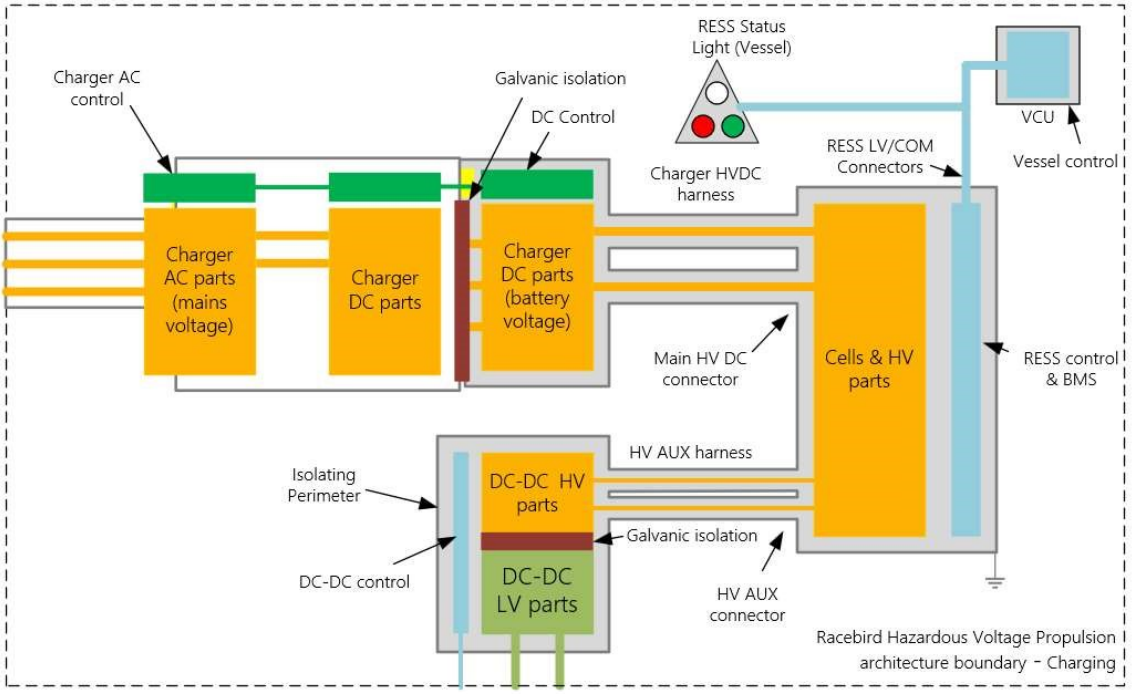
All the above features are reviewed in the Propulsion System Electrical Architecture section.

Propulsion System Electrical Architecture

General Propulsion System architecture:



General Propulsion System architecture: Connected to a DC Charger:

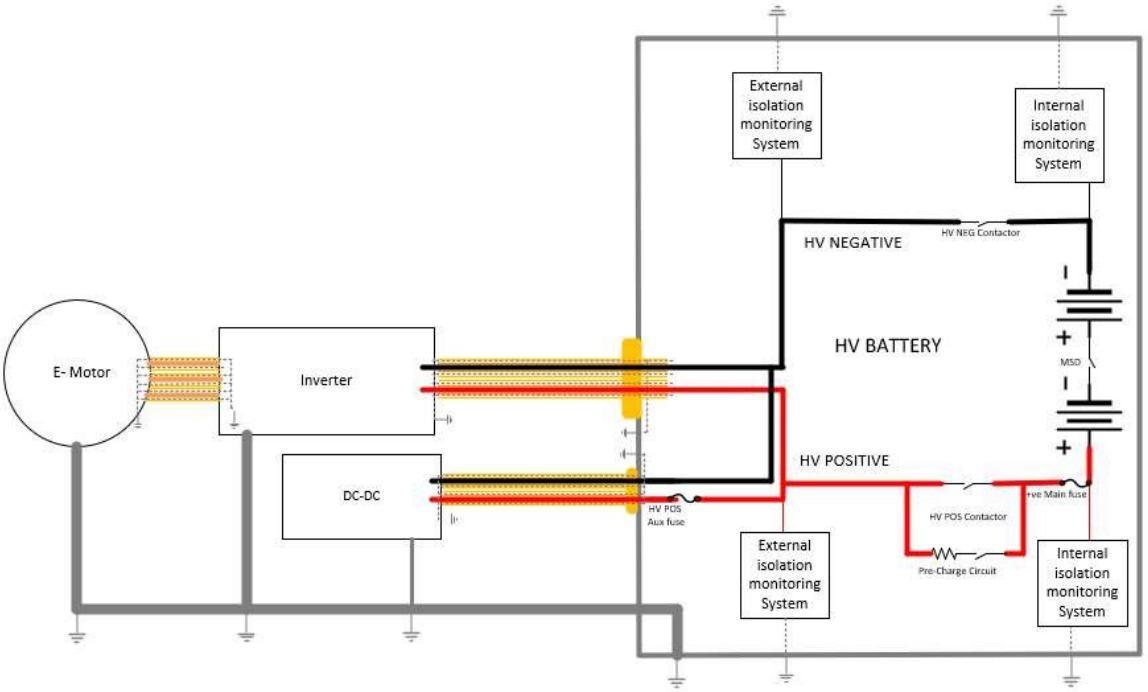


The propulsion system design is a floating hazardous voltage DC system insulated from ground. All circuits and equipment are directly connected to the common DC source the RESS, and are also fully insulated from earth. The power circuit insulation and any areas of the vessel which can be touched by someone are actively monitored by a common insulation resistance monitoring system (HV+/HV – to Equipotential Grounding) and each item of electrical equipment is protected with an overcurrent/fault protection devices.

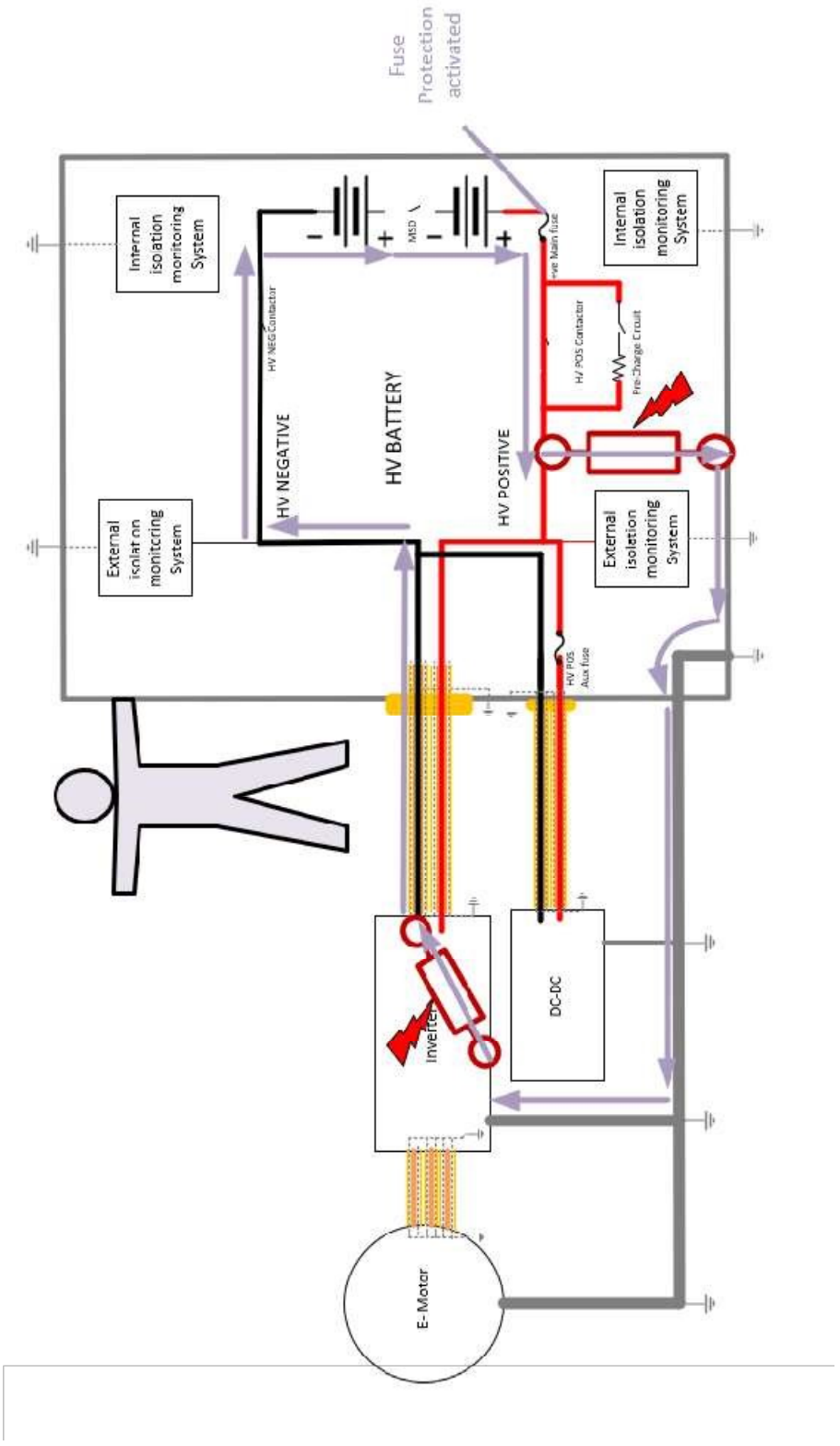
Fuses:

- Main pack DC fuse
- Auxiliary DC-DC supply fuse
- All individual cell connections have CIDs

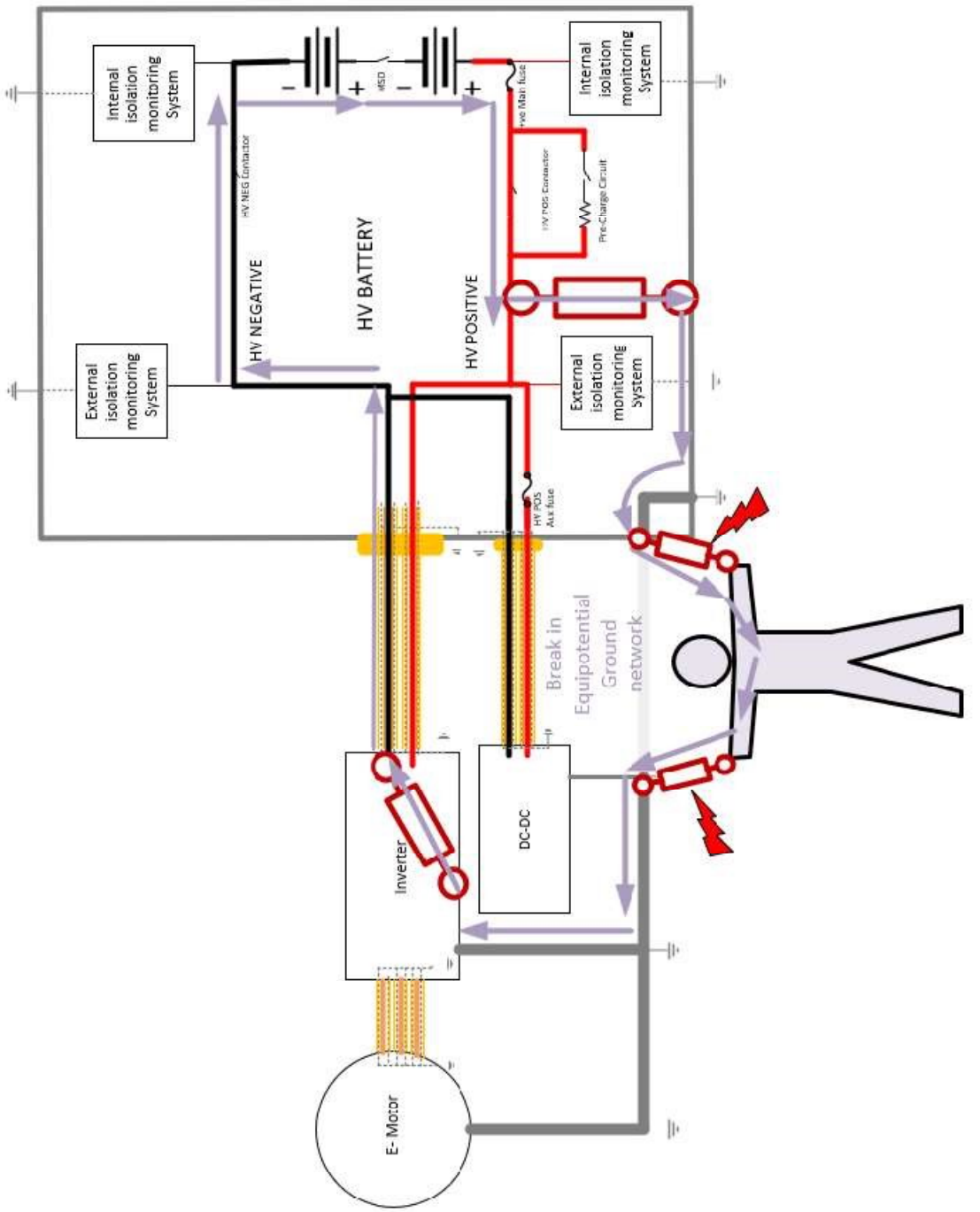
Overview of the Equipotential Grounding network of the vessel:



Example of a double insulation loss and how the equipotential Grounding network still protects the system and users regardless of any additional safety measures:



Only a double insulation loss, and Equipotential Grounding network failure, could give an electric shock risk; assuming no additional safety measures (as described in the next section):



Additional safety measures beyond the design rules

There are safety features designed into the Racebird propulsion system that will further protect people from the risk of electric shock beyond the design rules.

1) Two HVDC main contactors in the RESS with diagnostics

The main contactors are operated via coils, which are controlled by the BMS. Depending on the desired state the main contactors open or close. This means the system is only ever energised when required, with a controlled safe sequence.

a. The BMS can close the main contactors only when this is requested, supplied with a LV supply for the coils and the following parameters are within their allowed limits:

i. All temperatures (Cells, modules, fluids etc) ii. Voltage iii. Current

iv. The HV battery pack internal isolation resistance is with allowed tolerance

v. A valid signal to transition to an energy mode is received.

vi. The HVIL circuit is OK and the loop is closed. (See HVIL point 4 below) vii. The main contactors are not welded – Self diagnostics within the BMS viii. DC bus pre-charge and plausibility checks

b. The BMS disconnects the HV battery from the DC link, by opening the main contactors, if commanded via a valid signal. To keep the HV battery in a safe state, the main contactors open autonomously if it is outside its specified limits:

i. Over temperature ii. Over current iii. Over/under voltage iv. Low Isolation reading (see Insulation monitoring system point 2 below)

v. Crash or fault detection is activated

2) Crash detection opening the contactors in case of vessel crash or inversion.

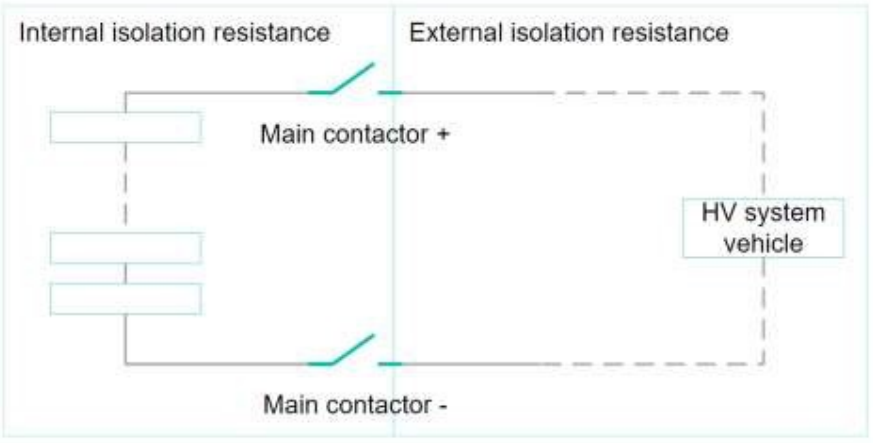
In the case of a vessel crash, onboard accelerometers in both an Inertial measurement unit (IMU) and the RESS can measure and record the rate of change. If the rate of change is deemed too high by the control system based on supplier recommendations, the propulsion system will be shut down. If this type of failure is triggered all physical components will be inspected as per manufacturer requirements.

If the IMU detects the vessel is capsized or inverted, the propulsion is deactivated and restarting is inhibited.

3) An Insulation monitoring system

a) The propulsion system monitors the isolation resistance of the HaV. voltage circuit of the Vessel. It is a crucial function to indicate short circuits, loss of insulation etc between the RESS and the vessel. This constant measurement along with the RESS safety lights on the vessel give a continuous indication to the user and control system the state of insulation loss. Two types of isolation resistance (R_{iso}) can be distinguished in the system, which are:

i) Internal isolation resistance – Contactors open = Battery R_{iso} ii) External/ System isolation resistance – Contactors closed = Propulsion System R_{iso}



b) Following ISO 16315:2016 Small craft - Electric propulsion system and ISO6469-3 Electrically propelled road vehicles, "Each single component of the system shall conform to a minimum insulation resistance of 500 Ω/V for DC components and 1 000 Ω/V for AC components". The RaceBird propulsion system uses a tolerance factor of x10 for DC components, and x5 for AC components. The minimum allowable threshold based on maximum system voltage is 5000 Ω/V, (R_{iso})=3000kΩ. This is the lower limit at which point the propulsion system produces a constant red warning light and shuts down and de-energizes automatically.

i) For example: At full pack voltage, if a person managed to be touching two different potentials due to insulation loss (requiring both a double insulation and an equipotential bond failure) at this lowest R_{iso} threshold of 3000kΩ, (two isolated failed areas) could result in a current of 0.2mA passing across the human body. This value within Severity range 1 as described below, and not harmful.

ii) Note: R_{iso} = 3000kΩ is the default lowest acceptable isolation value of the Racebird.
Normal operating R_{iso} is 20,000KΩ, so degradation of this value is monitored closely.

Electrical shock severity ranges

Severity range 1
- No effects; even with exposure of long duration.

Severity range 2
- 0.5 to 2mA: current is felt.
- 3 to 5mA: pain starts to be felt.
- 10 to 20mA: Let-go current range.

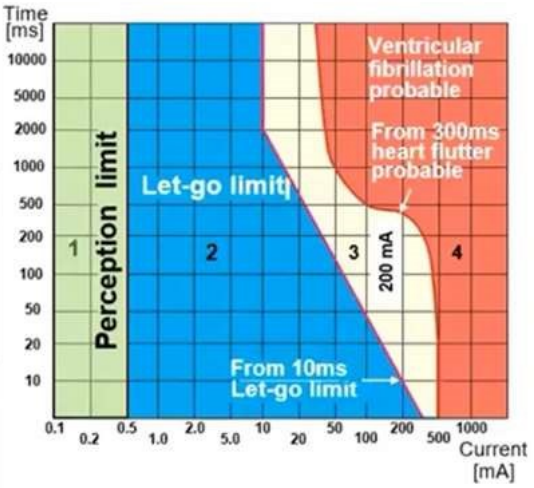
No dangerous flow of current through the body.

Severity range 3
- Muscle spasms.
- Breathing difficulties.
- Arrhythmia.

Normally no organic damage is to be expected.

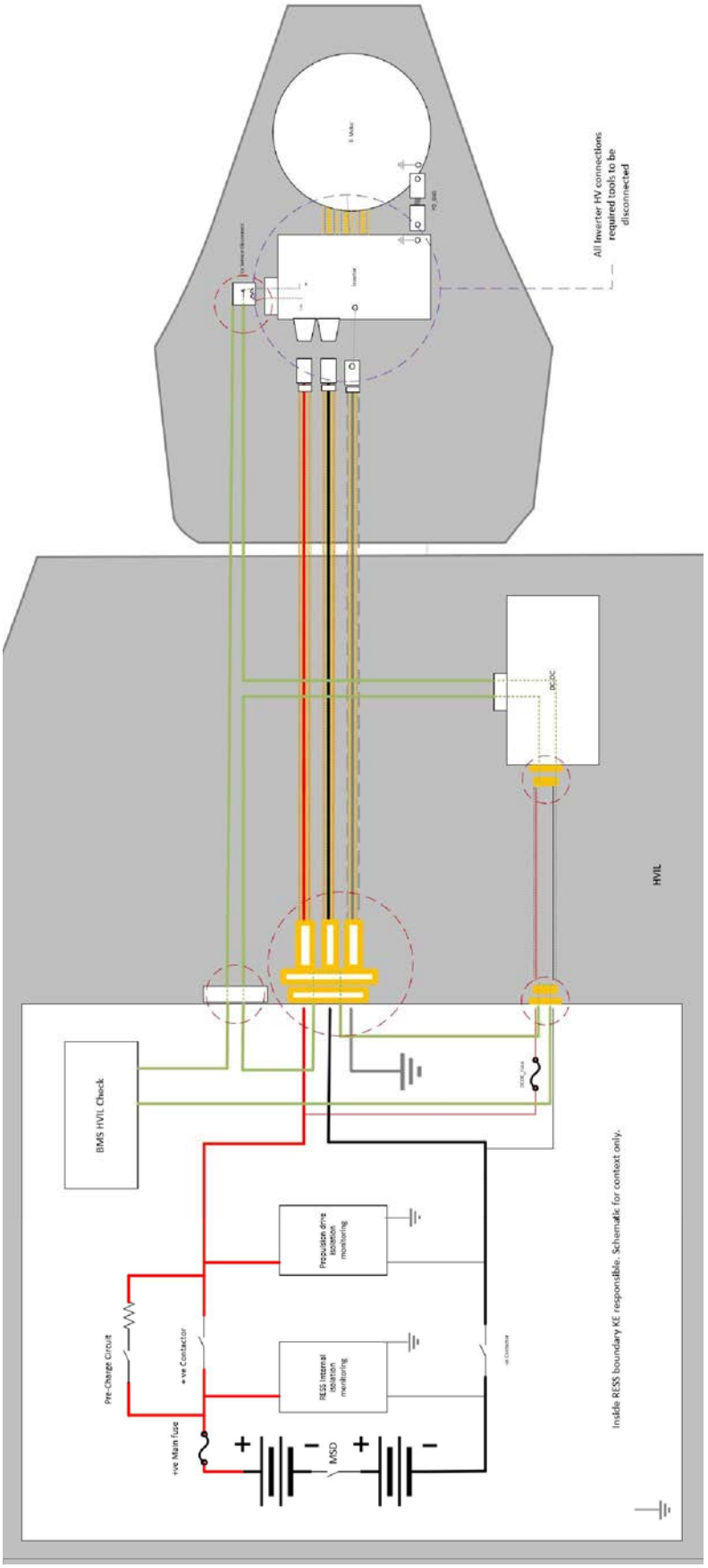
Severity range 4
- Ventricular fibrillation.
- Cardiac arrest.
- Respiratory failure.

Danger to life.



4) All power circuit removable connections, including connectors are protected with a HaV voltage interlock loop (HVIL)

The Racebird propulsion system utilizes a HaV voltage interlock loop (HVIL); A LV circuit that determines and reports if the HaV circuit is closed or open at any of its connections (circled in red in the drawing below). All HaV components utilize HVIL so is a complete system protection device. If the loop is broken, energizing the power circuit is inhibited. If the power circuit is energized and there is a break in the HVIL during operation, the system reports an HVIL error, and goes into a fault state.


All Inverter HV connections required tools to be disconnected
HVIL
BMS HVIL Check
Propulsion drive isolation monitoring
RESS internal isolation monitoring
Pre-Charge Circuit
+ve Contactor
+ve Main fuse
MSD
Inside RESS boundary KE responsible. Schematic for context only.

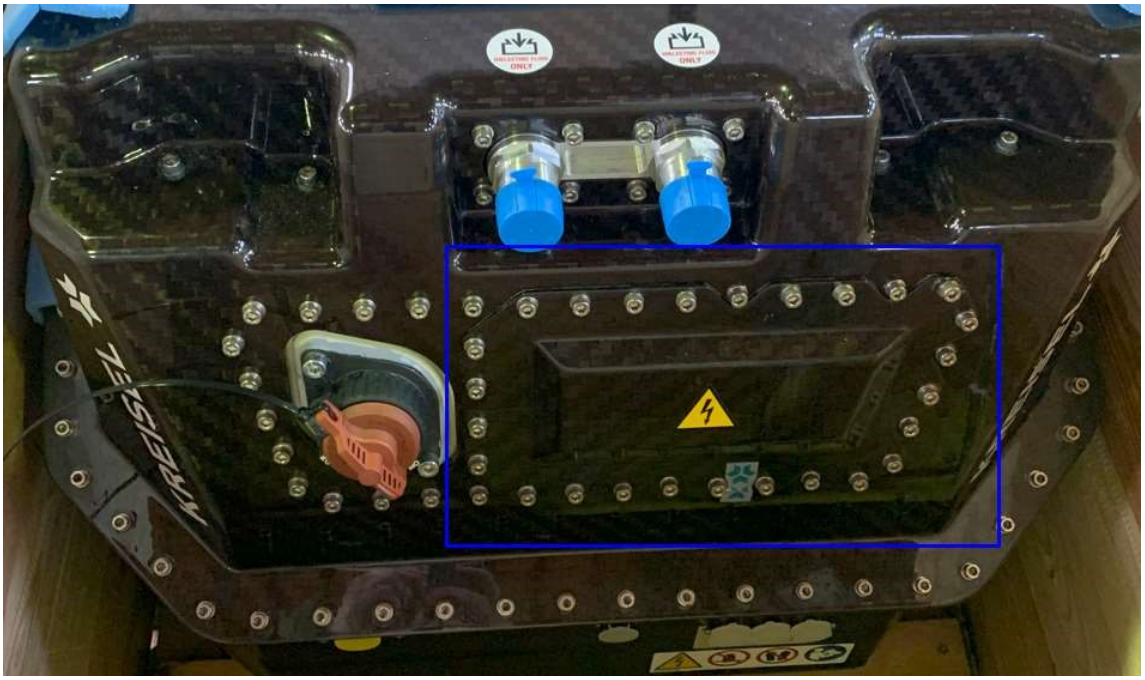
5) All power connectors are either IP2X rated or are marked with the yellow triangle logo and require tools to access live parts.

Racebird utilizes a minimum of IP2X rated connectors on all of the power circuit; IP2x is rated as finger touchproof (access to contact) as per below by ISO 20653:

Table 1 — Overview of all IP code elements and meaning

Element	IP	Meaning for the protection of electrical equipment	Meaning for the protection of persons
First code element		Against foreign objects (including dust):	Against access:
	0	— not protected	— not protected
	1	— with diameter ≥ 50 mm	— with back of hand
	2	— with diameter ≥ 12,5 mm	— with finger
	3	— with diameter ≥ 2,5 mm	— with tool
	4	— with diameter ≥ 1,0 mm	— with wire
	5K	— dust-protected	— with wire
	6K	— dust-tight	— with wire

An example of both a live part access panel where tools are required to access, and the ISO 7010-W012 warning; Electricity triangle



6) Manual Service disconnect (MSD)

The MSD is a rotary switch that protects technical and rescue workers when working on the HaV components of the vessel power circuit. As soon as the MSD is turned to “OFF” position, the circuit in the HaV battery and therefore in the entire power circuit is interrupted.

The MSD can be sealed in "OFF" position to prevent unauthorized activation.

The MSD can be sealed in "OFF" position to prevent unauthorized activation.

7) Automatic shut-down in the event of CAN comms loss with vehicle ECU or charger

8) DC bus voltage plausibility checks for detection of failed discharge resistor

Component design analysis summary

This chapter lists the components of the Racebird vessel electric propulsion system with regard to the HaV. design rules.

eMotor and Outbaord structure

Insulation:

- Single insulation with strong equipotential bonding, The motor are designed to BS EN60664-1:2007 for Creepage and Clearance.
- The regulation statement is that for an altitude of 3000m the clearance should be a minimum of 3.42mm and the creepage should be 4.1mm between phase and ground and 8.3mm between phases.

Equipotential bonding:

- Strong Visible The Emotor housing is aluminum and has equipotential bonding through a single visible 35mm2 copper cable to the equipotential Grounding network.
- Strong non-visible redundant: eMotor mounting through the outboard bracketry which is strongly bonded to ground.
- Weak redundant non-visible: The emotor has a redundant (X2) weak equipotential bonding through DC cable shielding and AC cable shielding (x3)

Required inspection.

- Visual : Inspection of the eMotor Equipotential Grounding cable and network- Daily
- Measurement : Resistance between eMotor and Equipotential Grounding cable mounting points should be less than 0.1Ω

Status with regard to design rules

- Compliant

Cascadia Motion PM150DZR MCU

Insulation

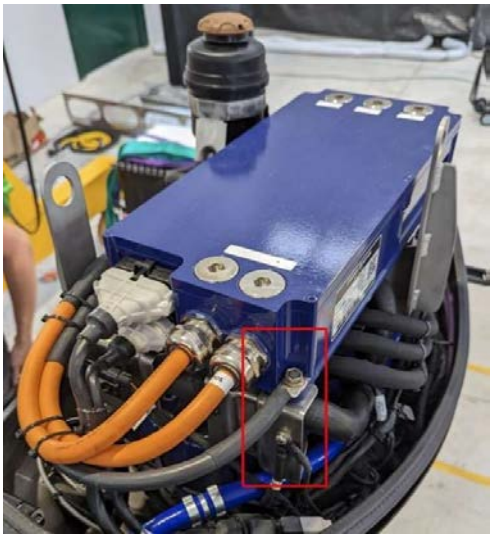
- Single/double insulation with strong equipotential bonding as per ISO6469
- An ISO 7010-W012 warning; Electricity triangle □Tools required for access

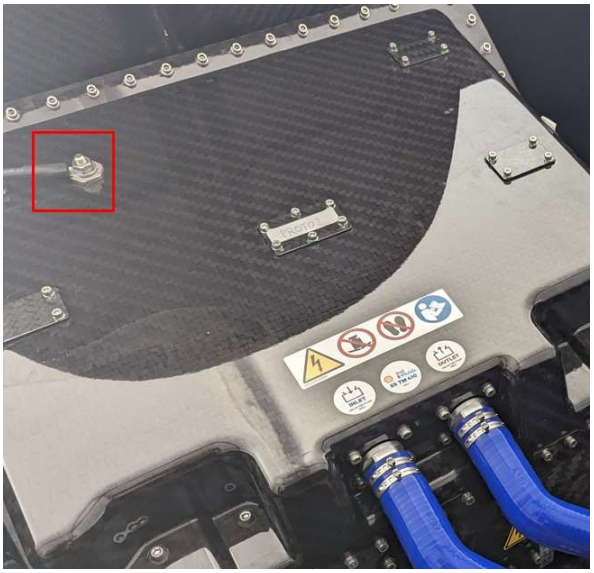
Equipotential bonding

- Strong Equipotential Grounding is able to support current required to fuse the pack fuse in event of an external short circuit. 35mm Ground cable directly back to the main RESS Equipotential Grounding point.
- Strong non-visible redundant: The mounting bolts between the MCU housing and the outbaord chassis.
- Weak redundant non-visible: The MCU has a redundant (X2) weak equipotential bonding through DC cable shielding.

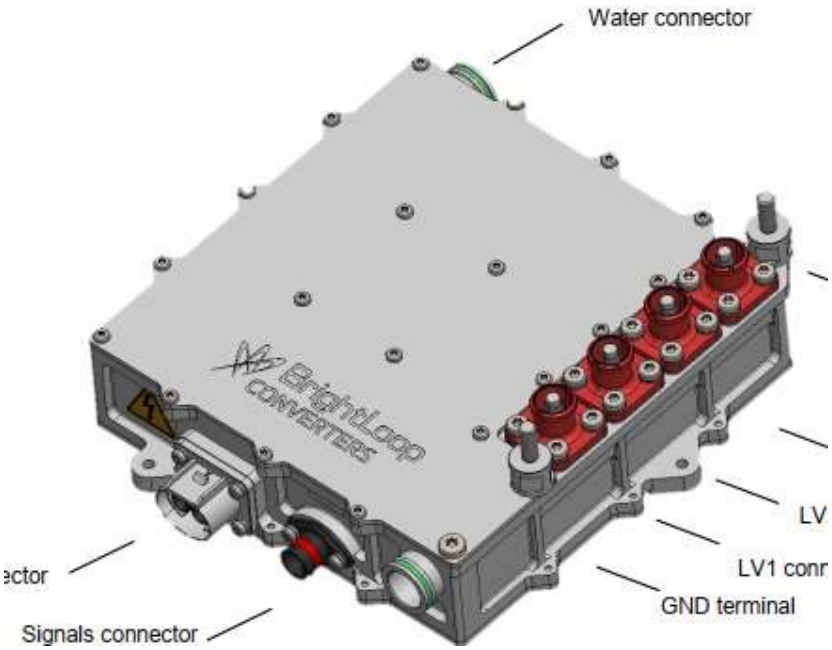
Required inspection

- Visual : Inspection of the MCU housing and equipotential grounding cable.
- Measurement : Resistance between MCU and Equipotential Grounding cable mounting point and the RESS ground stud should be less than 0.1Ω
- Resistance between MCU and MCU outboard mounting points should be less than 0.1Ω
- Resistance between MCU and 12v Negative should be less than 0.1Ω





Brightloop MPQ DCDC Converter



Insulation

- Double insulation: The DC/DC converter has been designed and qualified following a safety concept that has been defined through the merge of different standards, including the following IEC 60664
- Creepage and clearance distance are valid up to an altitude of 4 000m
- HV and LV galvanic isolation
- An ISO 7010-W012 warning; Electricity triangle
- Tools required for access

Equipotential bonding

- Strong non-visible redundant: The 12V negative connector when connected to the DCDC
- Weak redundant non-visible: The DCDC has a redundant (X2) weak equipotential bonding through HaV. DC cable shielding.

Required inspection

- Visual: Inspection of the DCDC housing Equipotential Grounding l cable.
- Measurement: Resistance between 12V Battery NEG terminal and the DCDC Housing & NEG stud should be less than 0.1Ω

Status with regard to design rules

Compliant.

KREISEL ELECTRIC Li-Ion RESS

Figure 3: Product labels

1	Seal labels	2	Electrical voltage warning
3	Type label	4	Safety label
5	Labels for dielectric fluid	6	Screws sealed with green sealing lacquer*

Insulation:

Single insulation with strong equipotential bonding or double insulation with a weak Equipotential Grounding

Battery Level: No electrolyte leakage can occur during normal and safe operation of the KE Battery system and to clarify Clearance distances are kept according to “IEC 60664-1”.

Module Level: Maximum voltage difference on module level is 50,4V. Hazardous voltage consideration starts at 60Vdc. Therefore, Kreisel Electric conforms to clearance and creepage distances according to IEC 60664-1.

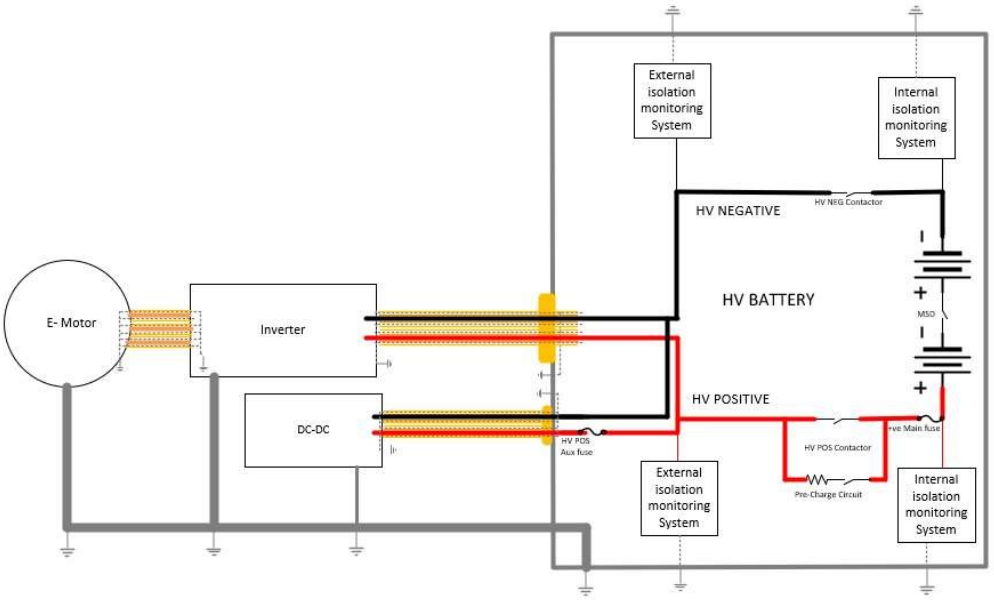
- An ISO 7010-W012 warning; Electricity triangle
- Tools required for access

Equipotential bonding

- Strong Equipotential Grounding is able to support current required to fuse the pack fuse or cell fuse in event of an internal or external short circuit.
- Weak Equipotential Grounding allows single isolation failures to be detected by the isolation monitoring circuits.

Required inspection

- Visual: RESS Status Light must flash alternate red/green on start-up to ensure both LEDs are functioning.
- Measurement: HVIL circuit function must be checked, Verify that [hvilstate_BMS = HVIL OK] when in P1.
- Measurement : Verify RESS equipotential ground network has a resistance less than 0.1Ω between any 2 points in the network.



1. Electrical checks

1.1. Equipotential bonding

Measurement of the equipotential bonding paths. Requirement for every measurement is <50 mΩ. For measuring the resistance values, an HV adapter should be used for the main battery interface GND pin. Do not measure the resistance directly in the pin of the HV main connector to avoid damage in the battery interface.

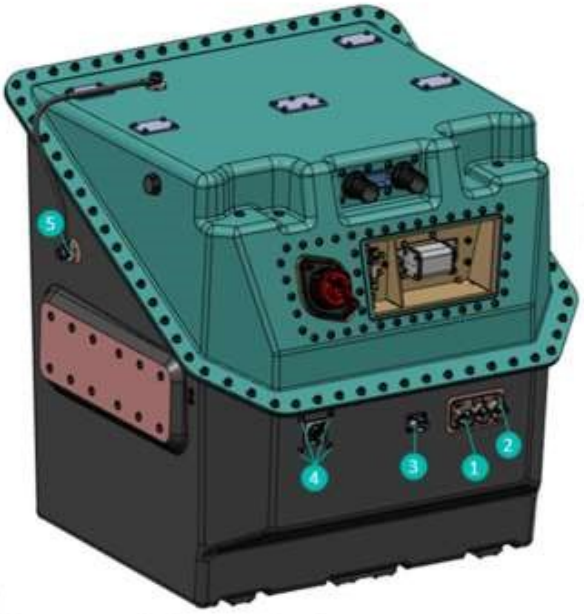


Figure 1: Equipotential bonding #1

Figure 2: Equipotential bonding #2

Status with regard to design rules

Compliant

Charger

TBC

eMotor AC connection

Insulation:

- Single insulation: An ISO 7010-W012 warning; Electricity triangle is on the cover and tools are required to access AC connections
- Direct busbars connection contained within the aluminum eMotor housing

Equipotential bonding

- Strong non visible the eMotor AC connections are contained within the aluminum MCU housing and has a strong equipotential bonding internally and through 2 glands to the MCU Aluminum housing which is part of the equipotential ground network

Required inspection

- Visual : Confirm all access covers present and An ISO 7010-W012 warning; Electricity triangle present.
- Measurement : Resistance between eMotor access caps and glands to emotor equipotential ground network points should be less than 0.1Ω

Status with regard to design rules

Compliant

MCU DC connection

Insulation:

- An ISO 7010-W012 warning; Electricity triangle is on the cover and tools are required to access
- Single insulation

Equipotential bonding

- Strong non visible the MCU DC connections are contained within the aluminum MCU housing and has a strong equipotential bonding internally and through 2 glands to the MCU Aluminum housing which is part of the equipotential ground network

Required inspection

- Visual : Confirm all access covers present and An ISO 7010-W012 warning; Electricity triangle present.
- Measurement : Resistance between MCU access caps and glands to MCU equipotential ground network points should be less than 0.1Ω

Status with regard to design rules

Compliant

MCU AC connection

Insulation:

- A An ISO 7010-W012 warning; Electricity triangle is around the connection glands and tools are required to access
- Single insulation

Equipotential bonding

- Strong non visible the MCU AC connections are contained within the aluminum MCU housing and has a strong equipotential bonding internally and through 3 glands to the MCU Aluminum housing which is part of the equipotential ground network

Shielding

- The connector shell is connected to the cable shield and provide continuity of the cable shielding

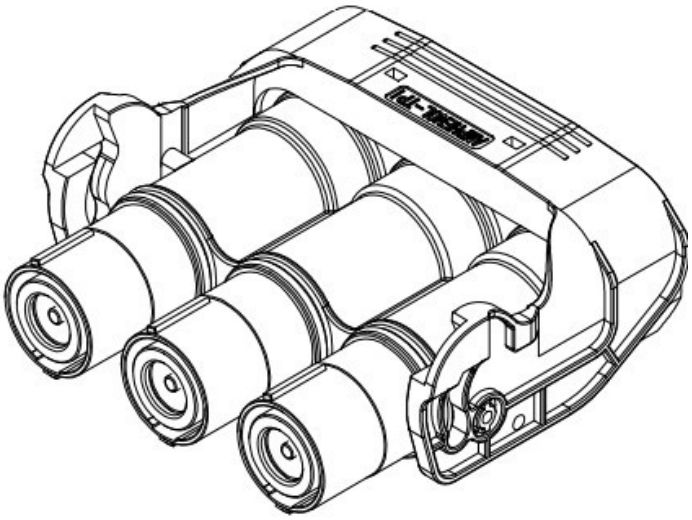
Required inspection

- Visual : Confirm all access covers present and warning logo present.
- Measurement : Resistance between MCU access caps and glands to MCU equipotential ground network points should be less than 0.1Ω

Status with regard to design rules

Compliant

RESS DC Powerlok connector



Insulation:

- Double insulation
- IP67
- Dielectric withstand voltage 5000vDC
- HVIL

Equipotential bonding

- Weak redundant non-visible: The DC connector has a redundant (X2) weak equipotential bonding through HaV. DC cable shielding and the connector housing.

Shielding

- The connector shell is connected to the cable shield and provide continuity of the cable shielding

Required inspection

- Visual : Check for damage of housing and retaining mechanism.
- Measurement : Resistance between connector shell (shielding) and 12V battery minus terminal should be less than 0.1Ω
- Measurement : Resistance between connector shell (shielding) and equipotential ground on RESS should be less than 0.1Ω

Status with regard to design rules

Compliant

DCDC connector

Insulation:

- Double insulation
- IP67
- Dielectric withstand voltage 5000vDC
- HVIL

Equipotential bonding

- Weak redundant : Weak redundant: through 2x DC cable shielding and housing

Required inspection

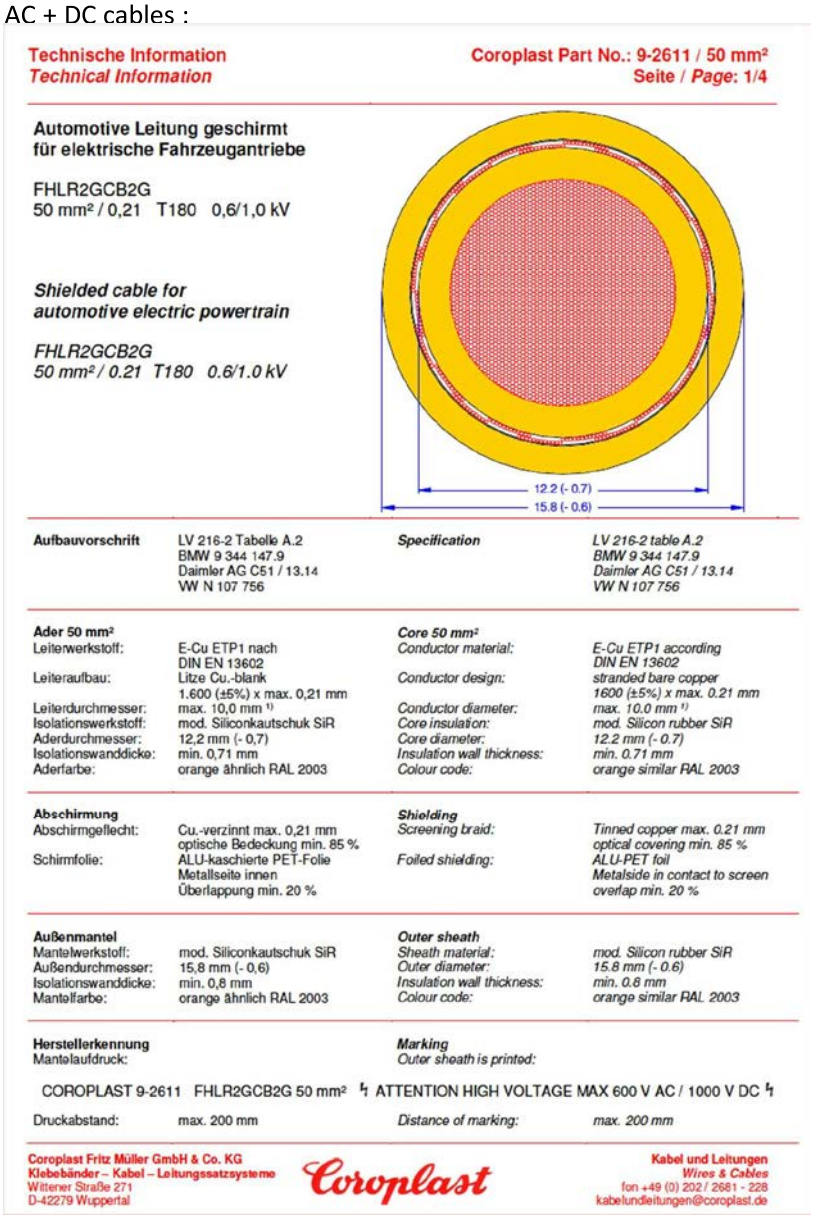
- Visual : Resistance between connector shell (shielding) and 12V battery minus terminal should be less than 0.1Ω
- Measurement : Resistance between connector shell (shielding) and equipotential ground on RESS should be less than 0.1Ω

Status with regard to design rules

Compliant

AC and DC Cables

- AC + DC cables :



Technische Information / *Technical Information*
Coroplast Part No.: 9-2611 / 50 mm²
Seite / *Page*: 1/4

Automotive Leitung geschirmt für elektrische Fahrzeugantriebe

FHLR2GCB2G
50 mm² / 0,21 T180 0,6/1,0 kV

Shielded cable for automotive electric powertrain

FHLR2GCB2G
50 mm² / 0.21 T180 0.6/1.0 kV

12.2 (- 0.7)
15.8 (- 0.6)

Aufbauvorschrift	LV 216-2 Tabelle A.2 BMW 9 344 147.9 Daimler AG C51 / 13.14 VW N 107 756	***Specification***	*LV 216-2 table A.2* *BMW 9 344 147.9* *Daimler AG C51 / 13.14* *VW N 107 756*
Ader 50 mm²		***Core 50 mm²***	
Leiterwerkstoff:	E-Cu ETP1 nach DIN EN 13602	*Conductor material:*	*E-Cu ETP1 according DIN EN 13602*
Leiteraufbau:	Litze Cu.-blank 1.600 (±5%) x max. 0,21 mm	*Conductor design:*	*stranded bare copper 1600 (±5%) x max. 0.21 mm*
Leiterdurchmesser:	max. 10,0 mm ¹⁾	*Conductor diameter:*	*max. 10.0 mm ¹⁾*
Isolationswerkstoff:	mod. Siliconkautschuk SiR	*Core insulation:*	*mod. Silicon rubber SiR*
Aderdurchmesser:	12,2 mm (- 0,7)	*Core diameter:*	*12.2 mm (- 0.7)*
Isolationswanddicke:	min. 0,71 mm	*Insulation wall thickness:*	*min. 0.71 mm*
Aderfarbe:	orange ähnlich RAL 2003	*Colour code:*	*orange similar RAL 2003*
Abschirmung		***Shielding***	
Abschirmgeflecht:	Cu.-verzinnt max. 0,21 mm optische Bedeckung min. 85 %	*Screening braid:*	*Tinned copper max. 0.21 mm optical covering min. 85 %*
Schirmfolie:	ALU-kaschierte PET-Folie Metallseite innen Überlappung min. 20 %	*Foiled shielding:*	*ALU-PET foil Metalside in contact to screen overlap min. 20 %*
Außenmantel		***Outer sheath***	
Mantelwerkstoff:	mod. Siliconkautschuk SiR	*Sheath material:*	*mod. Silicon rubber SiR*
Außendurchmesser:	15,8 mm (- 0,6)	*Outer diameter:*	*15.8 mm (- 0.6)*
Isolationswanddicke:	min. 0,8 mm	*Insulation wall thickness:*	*min. 0.8 mm*
Mantelfarbe:	orange ähnlich RAL 2003	*Colour code:*	*orange similar RAL 2003*
Herstellerkennung		***Marking***	
Mantelaufdruck:		*Outer sheath is printed:*	
COROPLAST 9-2611 FHLR2GCB2G 50 mm² ϟ ATTENTION HIGH VOLTAGE MAX 600 V AC / 1000 V DC ϟ			
Druckabstand:	max. 200 mm	*Distance of marking:*	*max. 200 mm*

Coroplast Fritz Müller GmbH & Co. KG
Klebebänder – Kabel – Leitungssatzsysteme
Wittener Straße 271
D-42279 Wuppertal

Coroplast

Kabel und Leitungen
Wires & Cables
fon +49 (0) 202 / 2681 - 228
kabelundleitungen@coroplast.de

Insulation:

- Double insulation

Shielding :

- Weak redundant non visible : Shielding terminated to connector at both ends to equipotential ground

Required inspection

- Visual : Damage, corrosion
- Resistance between connector shell (shielding) should be less than 0.1Ω to each end connector
- Measurement : Resistance between connector shell either end (shielding) and equipotential ground on RESS should be less than 0.1Ω

Status with regard to design rules

Compliant

Others

Low voltage harness, including resolver and HVIL are not considered as possibly exposing to high voltage because they are double insulated from the high voltage in RESS, MCU and eMotor

Charger harness TBC

Insulation:

Shielding :

Required inspection

APPENDIX 4 - FORMS

➔ **Reserved for the holders of the Level 3 Certificate issued by the UIM E1 Pilot Academy**

2025 APPLICATION PROCEDURE FOR A UIM E1 SUPERLICENCE

UIM SUPERLICENCE

A UIM E1 Superlicence is required for participating in the UIM E1 World Championship, together with an international licence issued by the National Authority of the pilot. UIM Superlicences are valid from the date of issue to 31st December of the same year.

In the event of any accident either within the sport or beyond its jurisdiction that prevents an individual from racing on medical grounds, a new post-injury medical certificate must be submitted prior to re-issuing of the individual's licence.

ISSUE OF SUPERLICENCE

The UIM E1 Superlicence can be obtained following a request to be submitted by the Pilot's National Authority to the UIM.

NO Application will be taken into consideration within one hour from the official Pilots' Briefing of each Event.

MEDICAL REQUIREMENTS

Applicants must undergo a medical examination at their own expenses, to be carried out as part of the UIM E1 Super Licence application process.

A medical certificate which attests the applicant good health and fitness for competitive sports practice, based on the results of a stress ECG and blood pressure profile (to be attached to the certificate), and the outcome of the medical examination as per specifications further below. Medical examinations must be carried out at an authorised sports medicine centre, and the results have to be attached to the Superlicence application to be submitted to the UIM.

In the event of any medical accident whether during training, testing, racing or otherwise, to the extent that the injury prevents the Pilot from participating in the Championship on medical grounds, a new post-injury medical certificate must be submitted at the Pilot's own expenses.

In the case of any accident which results in the Pilot receiving medical care, the Pilot must be signed off as fit to return to training and/or racing by the UIM doctor.

All elements required for obtaining a UIM E1 Superlicence must be uploaded by the Pilot'' National Authority on the private area of the UIM website:

- Level 3 Certificate issued by the UIM E1 Pilot Academy
- Number of the International Licence issued by the National Authority of the applicant
- Medical Certificate incl. completed evaluation sheet and results/reports of the medical examinations undergone
- Anti-doping consent form duly signed
- UIM E1 Immersion certificate
- Pilot's picture

The UIM issues the Superlicence on the basis of the information supplied by the Pilot's National Authority and the UIM E1 Pilot Academy. The UIM may withdraw a Superlicence on the recommendation of the relevant Pilot's National Authority.

The 500,00 Euros payment for the Superlicence fee of drivers with issued 2025 UIM E1 Superlicences will be managed by the E1 Promoter.

The minimum age for a Pilot to qualify for holding a UIM E1 Superlicence and for competing in an UIM Event is 18 years.

COCKPIT EVACUATION / IMMERSION TRAINING

In order to be eligible for obtaining the UIM E1 Superlicence, it is necessary to pass an immersion and cockpit evacuation training.

The Immersion Training Certificate, to certify the successful completion of said training, reporting the date of issue, must be delivered by experts recognised by a National Authority / UIM.

MEDICAL EVALUATION SHEET
2025 – UIM E1 SUPERLICENCE

If this medical sheet is filled in electronically, and if the doctor and ophthalmologist cannot sign and stamp electronically, please submit to your UIM National Authority a separate scanned certificate with stamp and signature of the relevant medical specialist.

Location of examination_____ Date of examination _____

Name_____ Surname _____

Place of Birth_____ Date of Birth_____

Date of first involvement in Powerboating _____

Other sports practiced _____

PRESENT STATE OF HEALTH AND FORMER DISEASES

Disease (former or current)_____

_____

With special mention of _____

☐ Cardiopathy ☐ Coronary ☐ Diabetes Type 1 / 2 (circle the type)

☐ Epilepsy ☐ High Blood Pressure

Surgical interventions undergone to date _____

_____

Dates of these interventions_____

Accidents (when, where, under which circumstances) _____

_____

Alcohol consumption_____ Tobacco _____
Allergies_____

Medicines usually/frequently taken_____

_____

_____

Please keep in mind the Anti-Doping rules, the WADA – UIM list of banned substances and Therapeutic Use Exemption rules.

GENERAL OBJECTIVE EXAMINATION
2025 – UIM E1 SUPERLICENCE

Height: _____m_____ Weight: _____kg_____
Body Mass Index (Weight (kg)/Height^2(m): BMI):_____

Age_____Gender _____

Congenital or acquired malformations_____

Respiratory system_____

Spirometry **(mandatory) Please attach printed results and graphs**

_____

FVC (measured/predicted)_____

FEV_1 (measured/predicted) _____

Cardiovascular system: _____

Is there any evidence of abnormality of the heart or cardiovascular system? ☐ Yes ☐ No

If "Yes", give details below.

_____

_____

Blood Pressure at rest_____

Hearth Frequency at rest_____

Electrocardiogram at rest_____

Stress ECG **(mandatory, please refer to page 8) Please attach printed results and graphs and final report in English language**

_____

_____

_____

Ophtalmologic check-up (mandatory every two years)

Have you undergone this ophthalmologic check-up last year?

If yes, please specify when: ……/……/…….

If not, ask your ophthalmologist to fill the hereafter items

Eyesight (uncorrected) R_____ L_____

(with correction) R_____ L_____

Eyesight with both eyes open (wearing corrective lenses if necessary) _____

_____

Field of Vision _____

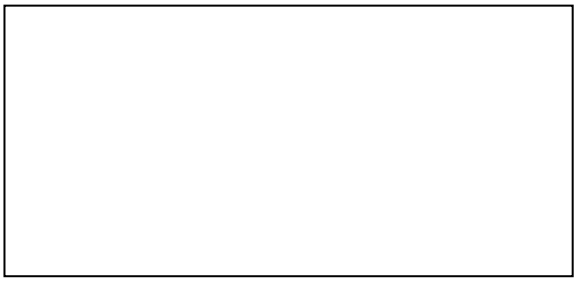
Vision of Colours: is the applicant's colour vision normal? ☐ Yes ☐ No

If "No", give details below.

_____

Signature and practice **stamp** of the ophthalmologist

If the ophthalmologist report cannot be signed and stamped electronically, please submit for the attention of your UIM National Authority a separate certificate with stamp and signature of the ophthalmologist.



Hearing Testing_____

Urine: Albumine _____ Sugar _____

Is the Urine analysis normal? ☐ Yes ☐ No

If “No”, give details below.

_____

Nervous system_____

Others_____

Does the applicant have any physical abnormality or restriction of movements in the arms or legs?

☐ Yes ☐ No

If “Yes”, give details below.

_____

_____

Is there any evidence of a physical or mental condition (past or present) which could, in your opinion, prevent the applicant from holding a motor sport competition licence?

☐ Yes ☐ No

If “Yes”, give details below.

_____

_____

TO THE DOCTOR AND THE DRIVER

Are you the applicant's usual doctor? ☐ Yes ☐ No

Your practice **stamp** (together with your name and qualifications):

Name (in CAPITAL LETTERS)_____

Qualification(s)_____

Address_____

_____

Tel :_____

Email :_____

Ability Assessment_____

Date :_____

This is to certify that I have examined the applicant in line with this form.

Signature of the Doctor

Signature of the Driver

If the doctor report cannot be signed and stamped electronically, please submit for the attention of your UIM National Authority a separate certificate with stamp and signature of the doctor.

If you as a driver cannot sign electronically the medical sheet, please return a scanned version of the document(s) with your signature.

DETAILED EXAM RESULTS FOR 2025 UIM E1 SUPERLICENCE
STRESS ECG – PULMONARY AND VISION TESTS
TO BE SUBMITTED BY DRIVERS

Maximal stress ECG and blood pressure profile: electrocardiogram have to be performed every year:

* on a **cycle ergometer** starting at 60 or 70 watts and increasing by 30 or 35 watts every two minutes.

The driver must be capable of reaching a minimum power level of 2.5 watts (males) – 2.2 watts (females) per kilogram of body weight during two minutes.

* or on a treadmill, using a ***Bruce protocol*** (preliminary warm-up recommended)
The driver must be capable to complete at least the entire stage 3 (i.e. 3 minutes at 5.5 km/h (3.4 mph) and 14% gradient).

This stress ECG aims to confirm both cardiovascular health and that the driver reaches the minimal fitness level to compete in motonautic sports. Therefore, we strongly encourage drivers to undergo regular physical training and to perform a maximal stress ECG test.

A written report from the physician (English language) must be enclosed.

Pulmonary function test (simple spirometry). Test to be performed every year as part of the yearly medical examination in order to get a superlicence.

Exhaustive ophthalmological check-up, tested and certified (English language) by a Professional ophthalmologist. Test to be renewed every 2 years and after a skull trauma.

General Recommendation for UIM Superlicence holders to preserve their physical fitness:

Cardiovascular training (endurance training) such as jogging, cycling, rowing etc. twice a week - minimum 20 minutes without any interruption. Any sports activity which has “stand still” during the activity such as soccer, tennis or any ball sport is not suitable for the endurance training, but recommended as additional training.

Training to build up muscles for neck and back at least twice a week.

Form to be signed and entered with the 2025 UIM E1 Superlicence application documents to UIM

ATHLETES CONSENT FORM

As a member of Union Internationale Motonautique (UIM) and/or a participant in an event authorized or recognized by UIM, I hereby declare as follows:

1. I acknowledge that I am bound by, and confirm that I shall comply with all of the provisions of the UIM Anti-Doping Rules (as amended from time to time), the World Anti-Doping Code (the "Code") and the International Standards issued by the World Anti-Doping Agency ("WADA"), as amended from time to time, and published on WADA's website.

2. I acknowledge the authority of UIM and its member National Federations under the UIM Anti-Doping Rules to enforce, to manage results under, and to impose sanctions in accordance with the UIM Anti-Doping Rules.

3. I acknowledge and agree that any dispute arising out of a decision made pursuant to the UIM Anti-Doping Rules, after exhaustion of the process expressly provided for in the UIM Anti-Doping Rules, may be appealed exclusively as provided in Article [13] of the UIM Anti-Doping Rules to an appellate body, which in the case of International-Level Athletes is the Court of Arbitration for Sport (CAS).

4. I acknowledge and agree that the decisions of the appellate body referenced above shall be final and enforceable, and that I will not bring any claim, arbitration, lawsuit or litigation in any other court or tribunal.

5. I understand that:

    a. my data, such as my name, contact information, birthdate, gender, sport nationality, voluntary medical information, and information derived from my testing sample will be collected and used by UIM and its member National Federations and WADA for anti-doping purposes;

    b. WADA-accredited laboratories will use the anti-doping administration and management system ("ADAMS") to process my laboratory test results for the sole purpose of anti-doping, but shall only have access to de-identified, key-coded data that will not disclose my identity;

    c. I may have certain rights in relation to my *Doping Control*-related data under applicable laws and under WADA's International Standard for the Protection of Privacy and Personal Information (ISPPPI), including rights to access, rectification, restriction, opposition and deletion, and remedies with respect to any unlawful processing of my data, and I may also have a right to lodge a complaint with a national regulator responsible for data protection in my country;

    d. if I object to the processing of my *Doping Control*-related data or withdraw my consent, it still may be necessary for my UIM and its member National Federations and/or WADA to continue to process (including retain) certain parts of my *Doping Control*-related data to fulfill obligations and responsibilities arising under the Code, International Standards or national anti-doping laws notwithstanding my request; including for the purpose of investigations or proceedings related to a possible anti-doping rule violations; or to establish, exercise or defend against legal claims involving me, WADA and/or an Anti-Doping Organization.

    e. preventing the processing, including disclosure, of my *Doping Control*-related data may prevent me, WADA or Anti-Doping Organizations from complying with the Code and relevant WADA International Standards, which could have consequences for me, such as an anti-doping rule violation, under the Code;

    f. to the extent that I have any concerns about the processing of my *Doping Control*-related data I may consult with the UIM and/or WADA (privacy@wada-ama.org), as appropriate.

6. I understand and agree to the possible creation of my profile in ADAMS, which is hosted by WADA on servers based in Canada, and/or any other authorized National Anti-Doping Organization's similar system for the sharing of information, and to the entry of my *Doping Control*, whereabouts, *Therapeutic Use Exemptions*, *Athlete Biological Passport*, and sanction-related data in such systems for the purposes of anti-doping and as described above. I understand that if I am found to have committed an anti-doping rule violation and receive a sanction as a result, that the respective sanctions, my name, sport, *Prohibited Substance* or *Method*, and/or tribunal decision, may be publically disclosed by UIM and its member National Federations in accordance with the Code. I understand that my information will be retained for the duration as indicated in the ISPPPI.

7. I understand and agree that my information may be shared with competent Anti-Doping Organizations and public authorities as required for anti-doping purposes. I understand and agree that persons or parties receiving my information may be located outside the country where I reside, including in Switzerland and Canada, and that in some other countries data protection and privacy laws may not be equivalent to those in my own country. I understand that these entities may rely on and be subject to national anti-doping laws that override my consent or other applicable laws that may require information to be disclosed to local courts, law enforcement, or other public authorities. I can obtain more information on national anti-doping laws from my International Federation or National Anti-Doping Agency.

I have read and understand the present declaration, and I have taken acknowledge of the UIM Anti-Doping Privacy Notice that can be found by clicking here.

_____	_____
Date	Print Name (Last name, First name)
_____	_____
Date of birth (Day/Month/Year)	Signature (or, if a minor, signature of legal guardian)

If you as a driver cannot sign electronically the athletes consent form, please return a scanned version of the document with your signature.

UIM

uim@uim.sport