

RMA Guidelines

Submitting a Warranty claim for ICEpower® modules

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ICEpower Product Quality

At ICEpower we are proud of our very high product quality resulting in an RMA percentage over the last 5 years of below 0.3% (Market Return). One of the reasons for our high-quality level is that all ICEpower products normally go through a rigorous test process after assembly:

- High potential test at 2500 Vac of all modules with onboard power supply and safety barrier – (100% of lot).
- Automated Functional Verification Test 1 with typically 80-200 test steps (100% of lot)
- Debug Failure Analysis, if failures found, before retesting.
- Burn In test through 22 hours constant check of functionality while running hot (10% of lot).
- Automated Functional Verification Test 2 (Check if parameters have changed after Burn In (All from Burn In).

This means that all ICEpower Modules are tested 100% before leaving the manufacturing plant, and extensive root cause analysis is done for failures in order to optimize manufacturing process and avoiding reoccurrence of such failures.



In order to improve reliability even further, the majority of ICEpower's products have comprehensive protection features build in, which protects the modules in normal use-scenarios, when used according to the specification of our datasheets.

Warranty

Despite our meticulous quality control and protection measures, product failures do occur in rare occasions. For this reason, ICEpower offers a 3 year limited warranty against defects in materials or workmanship (please see Sections 4.1 – 4.7 and 3.10 of the General Sales and Delivery Conditions of ICEpower at the end of the document).

ICEpower's limited warranty covers:

- Defects that should have been avoided by onboard protection features - stated in the respective datasheet.
- Manufacturing defects proven to come from our manufacturing site.
- Defect materials used in the production.

ICEpower's limited warranty does NOT cover:

- Transportation damages occurred from ICEpower's warehouse to the customer (EXW incoterms).
- Usage out of specification
- Abnormal use/environment
- Modules that have been attempted to be repaired or in other ways modified.
- Modules used for test-purpose or other abnormal use (modules are intended for music).
- Modules that are returned without a Return Module Authorization (RMA) number and a filled-out ICEpower RMA Form containing description of failure.
- Modules that are not packaged properly, when returned to ICEpower for analysis.

All modules returned to ICEpower undergo a visual inspection and, if necessary, a comprehensive electrical analysis to determine cause of failure. All failures will be registered in the ICEpower Quality Database together with a complete analysis report stating the failure cause and possible actions to be taken and whether the module is covered by the warranty. A copy of the report will be sent to the customer. We strive to be very fair in terms of administering warranty!

We endeavor to be able to answer all customers within one month from receipt of an RMA module.



It is important for ICEpower to receive all the defective modules that have been returned from the market or identified during incoming quality check, production or end-of-line testing, to ensure the continuously high level of our products.

Modules damaged during lab testing should not be returned, unless the damage is not caused by the process of testing.

No Repairs by ICEpower

In order to ensure a consistently high quality of ICEpower® products, as a rule, no modules are repaired. If the damage is covered by the ICEpower Limited Warranty, the modules are replaced by new ones.

Only in special cases and with an agreement between ICEpower a/s and a customer, can repairs of certain modules be agreed.

Damaged modules that are not covered by the Warranty should be scrapped.

The reasons for this policy are:

- Side effects from a defect can cause damage or degradation of other components.
- A possible repair of a specific module might not be lasting.
- We might not find all root causes to a failure.
- Replicating the comprehensive mass production functional verification test in our quality and R&D facility is prohibitive to carry out in regard to the time and resources required.
- ICEpower is unable to track repaired modules in the market.

Due to these reasons, it is not possible for ICEpower to repair defect modules or to offer warranty on repaired modules.

Return Procedure

1. Returns are only accepted if they carry a Return Module Authorization (RMA) number. The unique RMA number will identify the specific case during the analysis at ICEpower.

To obtain an RMA number, please contact: quality@icepower.dk



The RMA number is issued within 2 business days from receiving the Warranty claim and is valid for 30 (thirty) days. After 30 days, a new RMA number must be obtained before returning the modules.

2. Fill out the ICEpower RMA Form. Send the RMA Form back to ICEpower by email and enclose a printed version together with the modules.

For all email correspondence with ICEpower concerning your RMA case, please use the RMA number in the email subject.

3. Follow the packaging instructions in this document and return the products to:

ICEpower a/s
Attn: Quality Department

Vandtaarnsvej 62A, 3B
DK-2860 Søborg
Denmark

Please mark the RMA number on the outside of the package.

4. Include a Proforma Invoice stating: 1\$ value, failing module sent for analysis.

RMA Form

Please use the ICEpower RMA Form to provide the information about the modules you are returning. The form can be modified on your computer or printed and filled out by hand.

Please enter your specific RMA number, the date, your name and company address in the form. You can include 20 modules per sheet. If your amount of modules exceeds 20 pieces, please use multiple pages and write the total amount at the bottom of each page. The amount of pages can be adjusted in the header.

The form should contain Module Type, Serial Number and Failure Description. In order to accelerate assessment of the case, please choose the failure code that describes the problem with your modules.

Please choose:

- Site of failure
- Failure appearance
- Failure description

Should none of the given options apply to your case, please make a written comment. If you need more than one line to describe the failure, please feel free to use several lines.

Packaging Instructions

To ensure safe transportation of your modules, please package them properly. This is important as only products that have been handled and packaged properly are covered by the Warranty.

Modules must always be packaged in ESD safe bags and separated from one another with shock absorbing material to avoid damage during shipping.

Correct packaging:



ICEpower original packaging



Common packaging material

Wrong Packaging!



ESD protection OK but **without protection against mechanical stress – No Warranty**



Modules without protection – **No Warranty**

Relevant extracts from the General Sales and Delivery Conditions of ICEpower a/s

- 4.1 ICEpower warrants for three years from the date of delivery that the ICEpower products are free from defects in materials or workmanship at the time of delivery.
- 4.2 The responsibility of ICEpower for defects does not include defects that have occurred as a result of the Customer's instructions concerning design, sub-suppliers, construction or production, or changes, insufficient repairs, insufficiently performed installation/assembly or treatment, or other conditions for which ICEpower is not responsible.
- 4.3 The responsibility of ICEpower does not include such cases where the delivered products have not been used in accordance with the prescriptions ICEpower has made; including, but not limited to connection to power supply, electrical conditions beyond the ones specified by

- ICEpower, incorrectly conducted installation/assembly or exceptional environmental impacts.
- 4.4 Complaints regarding a delivery shall be made by the Customer in writing and sent to ICEpower immediately after the defect has been or should have been discovered. For complaints regarding defects, the Customer must follow the ICEpower RMA guidelines which ICEpower will forward to the Customer upon request.
- 4.5 When a complaint is rightfully received according to the above procedure, ICEpower shall without undue delay at its sole discretion either make a new delivery, issue a credit note or in special cases (determined by ICEpower) repair the defective products. No other remedies shall be available.
- 4.6 Any expenses incurred by the Customer for installation/assembly and disassembly are not included in the rectifying duties of ICEpower.
- 4.7 Defective products are - if previously agreed with ICEpower - to be returned to ICEpower at the expense and risk of the Customer. Repaired or replaced products are returned to the Customer at the expense and risk of ICEpower according to the same terms and conditions as ordinary deliveries.
- 3.1 Unless otherwise agreed, all deliveries shall be made in accordance with Incoterms 2010 and delivery shall be EXW ICEpower's consigned stock location in Penang, Malaysia or Bangkok, Thailand.