



# Owner Manual

INVERTER / CHARGER KIT

## ICM Series:

ICM10245 / ICM10270 / ICM10280 / ICM15245 / ICM15270 / ICM15280 / ICM20245  
ICM20270 / ICM20280 / ICM25245 / ICM25270 / ICM25280 / ICM30245 / ICM30270  
ICM30280 / ICM25425 / ICM25440 / ICM30425 / ICM30440

## ICS Series:

ICS12245 / ICS12270 / ICS12280 / ICS18245 / ICS18270 / ICS18280 / ICS25245  
ICS25270 / ICS25280 / ICS30245 / ICS30270 / ICS30280 / ICS25425 / ICS25440  
ICS30425 / ICS30440

# FOR YOUR SAFETY

**The use of the appropriate  
Tundra CM Series installation kit  
Is highly recommended**

[www.tundrainternational.com](http://www.tundrainternational.com)

PN. ICM\_ICS-GD-1015-EN

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### **1 INTRODUCTION**

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Congratulations! You have purchased one of the most sophisticated and reliable inverter/charger kit of the industry. Incorporating the latest technologies, it will deliver years of trouble free operation for your truck, boat, RV or other “OFF Grid” system.

#### **1.1 Important Safety Instructions**

Power inverters and battery chargers are power conversion devices that **MUST** be installed and used with the utmost care. All safety precautions listed in each product Owner Manual as well as those included in this manual must be carefully understood and applied for your safety and that of others.

#### **CAUTION! TO REDUCE THE RISK OF ELECTROCUTION, FIRE OR INJURIES, WE WOULD LIKE TO MAKE THE FOLLOWING RECOMMENDATIONS;**

- In order to get the most out of your system, please thoroughly read the Owner Manual of each product before installing and using them. It is important to pay special attention to “warning and caution” statements as well as those on the products themselves.
- The electrical current needed to supply the battery charger and the power inverter are highly dangerous and may cause severe personal injuries. Do not play with electricity if you don’t have the required knowledge and skills, contact a qualified electrician.

#### **1.2 Disclaimer**

The electrical code varies depending on location and the type of installation. Electrical installations should be performed by a qualified electrician in order to meet local and national wiring codes. Tundra International is not liable for any incidental, consequential or other damages arising from the use, misuse or operation of this product; including, without limitation, damages resulting from loss of use, cost of removal, installation, or troubleshooting. All Tundra products specifications are subject to change without notice.

## 2 UNDERSTANDING YOUR SYSTEM

Our ICM & ICS Series propose a different approach to the traditional inverter/charger. Our approach promotes the recharging of batteries and the use of 12v. or 24v. DC accessories whereas the traditional inverter/charger combination favors 120v. AC loads. This allows to simultaneously supply the inverter with DC power, recharge your batteries and power DC loads (ex: Interior lighting, DC refrigerator, DC air conditioning system, etc.). This type of system also offers a superior level of reliability while reducing maintenance. Here is a more detailed view of how this new system works:

### Supply AC loads:

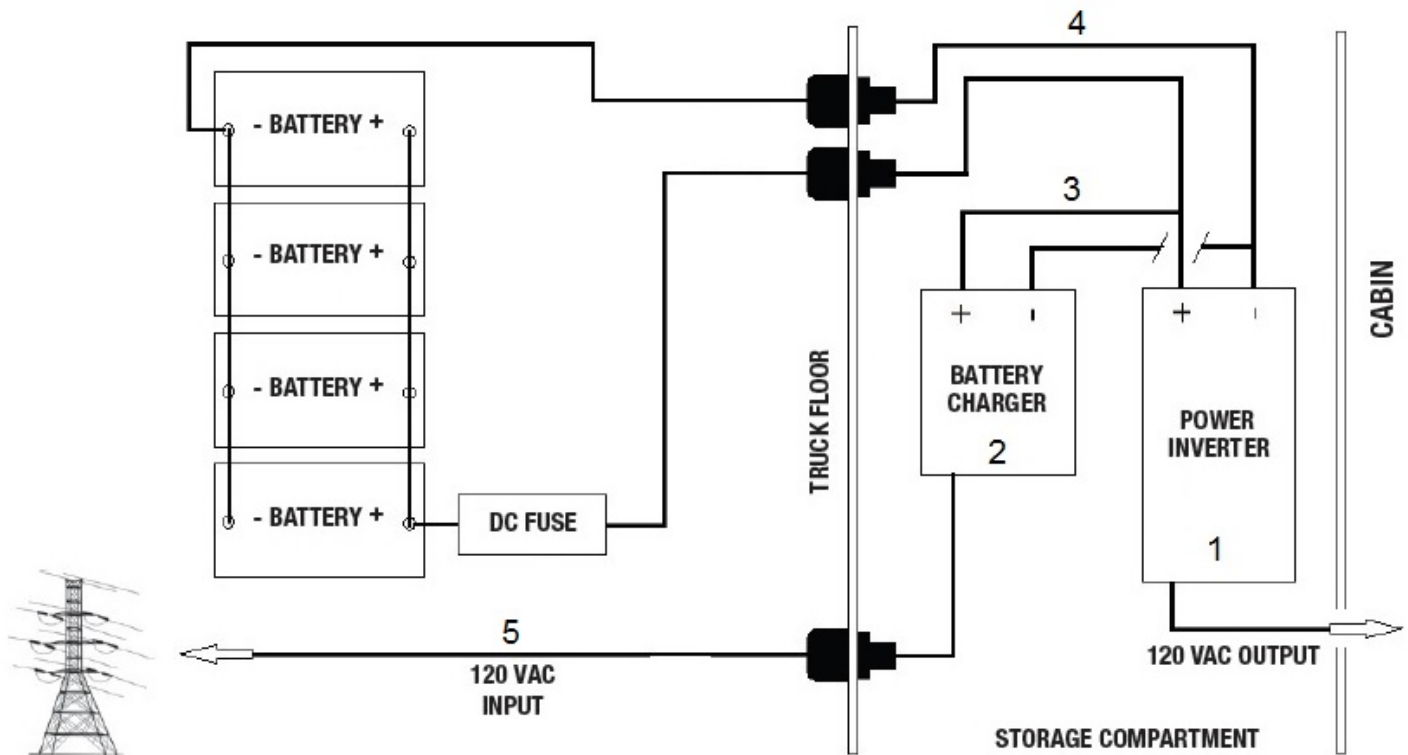
AC loads will always be supplied by the inverter and the batteries provides the energy required.

### Supply DC loads:

Once connected to the electrical network, the battery charger can supply DC loads with a regulated output voltage and without over-charging your batteries. Based on the demand, the charger will automatically adjust up to its capacity.

### Recharge the batteries:

Once connected to the electrical network, the battery charger could supply a regulated output voltage to recharge the batteries. The charge controller will automatically select one of the four charging modes (Boost, Normal, Storage or Equalization) in order to provide an optimal level of recharge.



**Included in the kit:**

- 1- Power Inverter
- 2- Battery Charger/Converter
- 3- DC link kit – 5 FT



**Optional:**

- 4- DC Power Inverter Installation Kit
- 5- 120v. AC Shore power Kit  
(15a. max / For IBC45 / IBC70 et IBC2524 only)



**Note: Batteries are NOT included / Tundra International does not sell batteries**

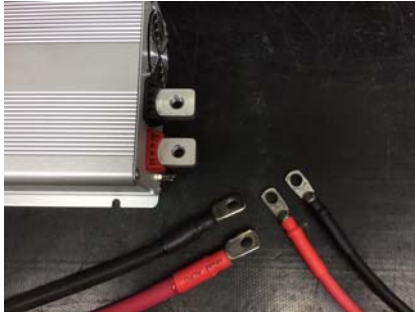
### 3 PERMANENT INSTALLATION

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**This installation procedure has been developed based on the use of Tundra installation kits. Therefore, the use of our CM SERIES installation kits is strongly recommended.** These complete installation kits are designed to maximize the performances of our products and to promote the safest possible installation. It also helps eliminate the difficult task of sourcing the right material and to cut down on installation costs and time.

1. Follow the instruction guidelines of sections 3.2 & 3.3 of your power inverter Owner Manual in order to find a suitable location to install the power inverter.
  
2. Follow the instruction guidelines of section 4 of your battery charger Owner Manual in order to find a suitable location, within 3 feet of the power inverter, to install the battery charger.
  
3. Follow the instruction guidelines from sections 3.4 to 3.9 of your power inverter Owner Manual in order to install the 12v. DC wiring between the batteries and your power inverter, but **DO NOT CONNECT TO THE BATTERIES** at this steps.

4. Using the DC link kit included in the bag (CM705), connect the battery charger DC outputs to the power inverter DC inputs. This step will bond your battery charger to the batteries using the power Inverter DC cables.
  - a. Install the extremities with the “pre-installed DC input terminals” by positioning them over the DC cable terminals coming from the batteries. You can lightly heat the rubber insulators in order to facilitate the insertion of two cables per insulator.



- b. Install the “bare wire extremities” on the battery charger DC output receptacles. Each bare wire extremities must be inserted in the correct output receptacle.

**POS +** = red cable / **NEG -** = black cable.

**DO NOT EXCEED 50 IN LB OF TORQUE ON THE OUTPUT RECEPTACLE SCREWS.**



5. Following instruction guidelines of section 3.10 of your power inverter Owner Manual, connect the power inverter to the batteries.
6. The last remaining step is the connection of your battery charger to the electrical grid. (Never connect the battery charger into the power inverter!) You can choose the material of your choice however the use of the Tundra SPK6 shore power kit is strongly recommended. If you choose this option please refer to the instructions in the Owner's Manual of the SPK6. **(15a. max / For IBC45 / IBC70 et IBC2524 chargers only)**

**Note :**     **The electrical codes vary from one place to another. Assure yourself that your installation respects the local and national codes.**

**Note :**     **The SPK6 shore power kit is not suitable for the following models:**  
 ICM10280 / ICM15280 / ICM20280 / ICM25280 / ICM30280 / ICM25440 / ICM30440  
 ICS12280 / ICS18280 / ICS25280 / ICS30280 / ICS25440 / ICS30440

## **Tundra SPK6 Content : (15a. @ 120v. Max)**

1. 6 feet 120v. Cable with male connector
2. PVC receptacle with spring lid
3. Stainless Steel mounting plate
4. NEMA 5/15R female plug
5. PVC strain relief ½" with nut
6. Bolts and Nuts 10-32
7. Plastic cover for the 6 feet cable (loom)
8. ½" metal clamps for cable
9. Self-drilling 7/8" screws



## **4 LIMITED WARRANTY**

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**TUNDRA INTERNATIONAL** warrants its products against defects in material or workmanship for a period of one (1) year from the date of first end-user purchase. This warranty applies to the original purchaser (end-user) of the product only. This limited warranty is voided if the unit is abused, modified, installed improperly, if the housing has been removed, if the serial number is missing, or if the original identification markings have been defaced, altered, or removed or if there is a lack of maintenance. Tundra International is not liable for any incidental, consequential or other damages arising from the use, misuse, or operation of this product; including, without limitation, damages resulting from loss of use, cost of removal, installation, or troubleshooting of the customer's electrical systems.

### **IMPORTANT NOTES**

1. Before returning a defective product, the end-user must certify that he has read and understood the related TROUBLESHOOTING GUIDE available in the Support & Warranty section of our website.
2. The product should have never been abused or modified.
3. The product should have never been exposed to liquids, heavy dust or corrosive material.

**FOR TECHNICAL SUPPORT, CONTACT US AT 450-649-2470 or 1-877-964-2582**

### **STEPS TO GET WARRANTY & SUPPORT:**

1. A Warranty Form must be filled by the merchant and/or the end customer
2. The merchant and/or the end customer **MUST contact us** to get an RMA number.
3. A proof of purchase **MUST BE INCLUDED** with ALL returned products.
4. The returned product **MUST BE PROPERLY PACKAGED** to prevent shipping related damages.  
Shipping related damages are not covered by the warranty.
5. All defective products **MUST** be sent with all shipping charges **PREPAID**.
6. Returned products will be evaluated by our technical department where a decision will be made as to whether the product is covered by the warranty will be repaired, replaced or credited.

**ALL DEFECTIVE PRODUCTS COVERED BY THE WARRANTY WILL BE RETURNED FREE OF CHARGE.**