

# PRODUCT MANUAL

## XCAN-10R

### EXPANSION MODULE



**Part Number: XCAN-10R**

**Revision: 1.0**

# TABLE OF CONTENTS

<b>MODULE INSTALLATION</b> .....	<b>2</b>
MOUNTING LOCATION	
DIMENSIONS	
MODULE ACCESS	
<b>MODULE OPERATION</b> .....	<b>5</b>
POWER UP	
CAN BUS ACTIVITY	
PIN ASSIGNMENTS	
JUMPER CONFIGURATION	
CAN ADDRESSING OPTIONS	
LED INDICATORS	
RELAY CONFIGURATION	
<b>MODULE PROGRAMMING</b> .....	<b>12</b>
REMOTE RELAY OUTPUTS	
<b>WARRANTY</b> .....	<b>13</b>

# MODULE INSTALLATION

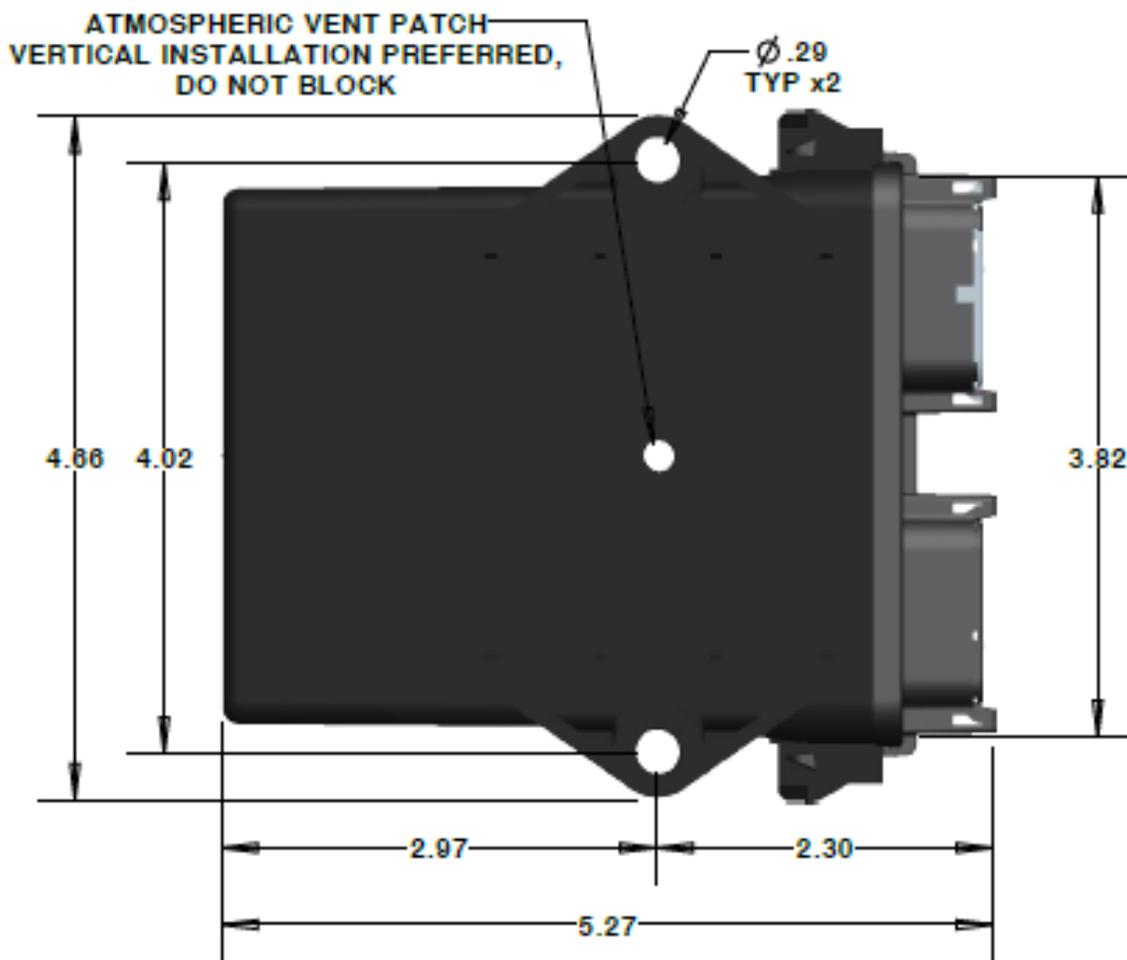
## MOUNTING LOCATION

To ensure a long life from your control panel, please review the following installation guidelines.

- **HEAT:** Be sure to take into account excessive heat areas when mounting your unit. Stay away from turbo chargers, exhaust manifolds, diesel particulate filters or any other location that would put the control panel in the vicinity of excessive heat
- **SHOCK AND VIBRATION:** Ideal mounting locations are free from vibration and shock. However, if the module is mounted on or near the engine, the use of vibration isolators designed to handle the weight and load of the module is recommended. When designing a bracket, be sure to take into consideration the arm of the bracket to reduce or eliminate the spring board effect of engine vibrations.
- **CONVIENCE OF USE:** Study the final assembly of the piece of equipment and how it will be used. Take into account the operator when locating the panel. Ease of access to the hinges of the cover, key switch and display are all critical in allowing the operator to successfully and safely operate the control panel. Extension harnesses are available from Controls Inc. if the harness being used does not allow for proper location selection.
- **WEATHER AND WASHDOWN:** The module is designed to be weather tight and can be used in open outdoor conditions. The enclosure has a Gore vent, located on the bottom of the enclosure, that will allow for breathing between the interior of the enclosure and the outside environment.
- **HARNES ROUTING:** The use of commons sense with respect to harness routing and drip loops can go a long way in the prevention of unintended water intrusion. Also take into account the stresses put on the harnessing and the proximity to heat sources as well. For spark ignited engine, be sure to keep the wiring at least 12 inches from the ignition wires.

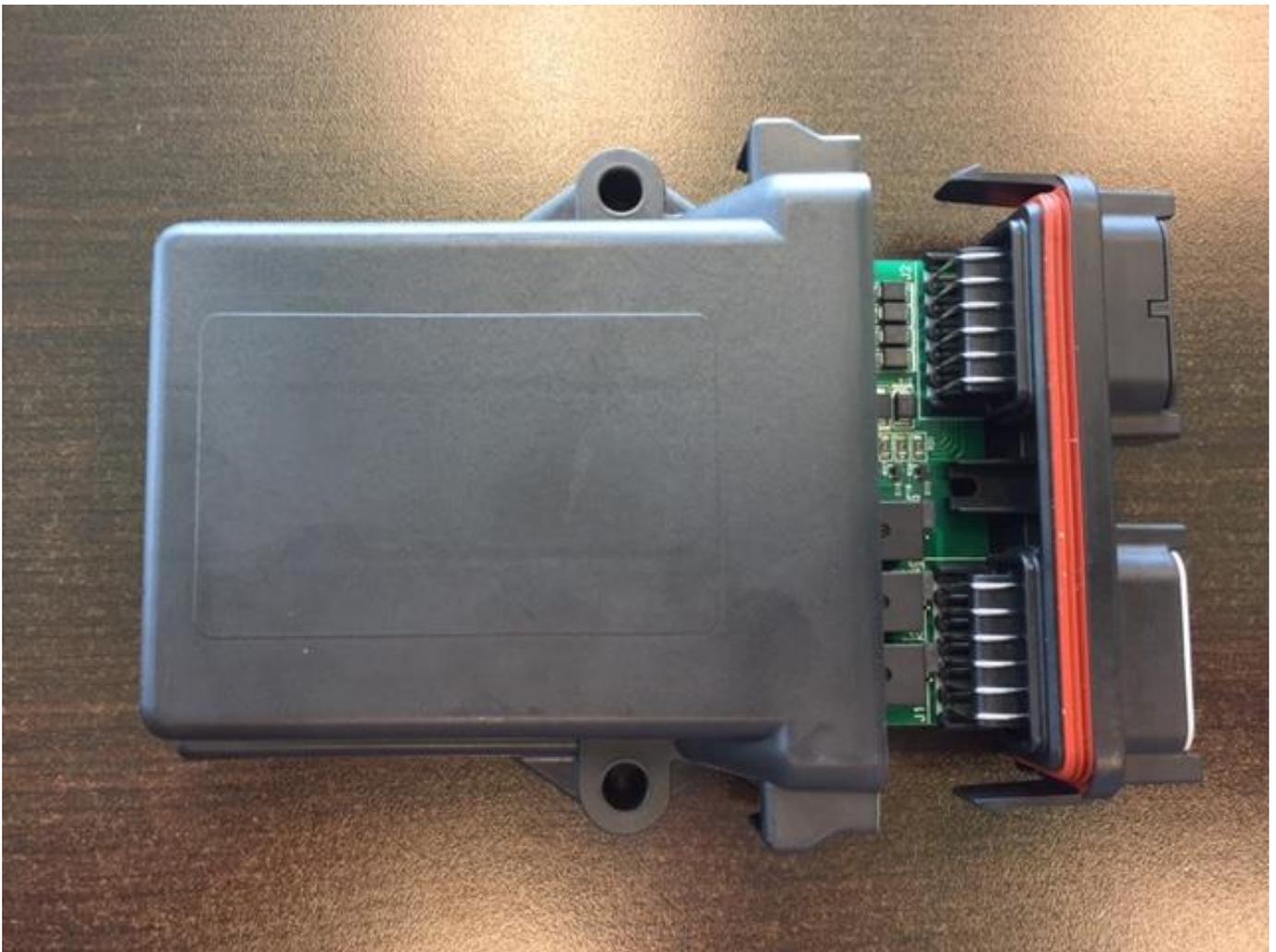
## MOUNTING DIMENSIONS

Use the dimensions below to mount the control panel or design a bracket for your equipment.



## MODULE ACCESS

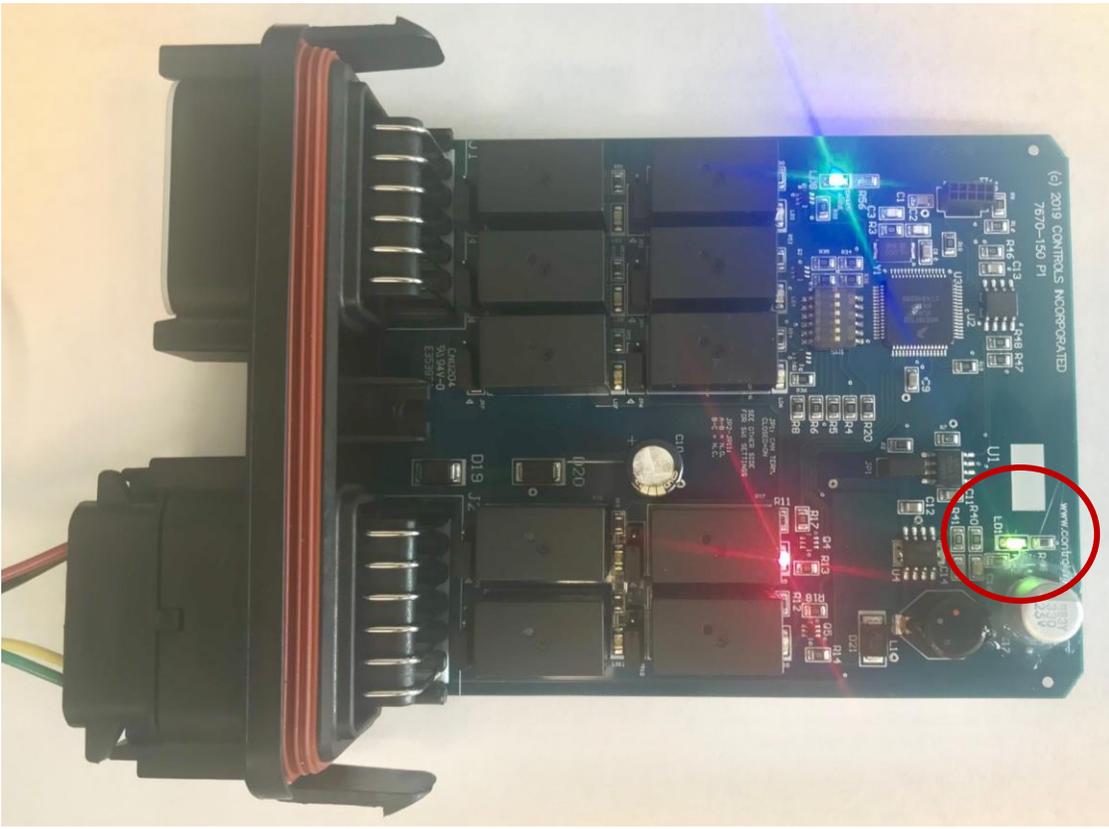
If required, the module can be opened up by compressing the two tabs located on the side of plug area. A small flat blade screw driver can be used to compress and release one side at a time. Once the tabs have been released, pull the plug away from the case. The case has a slot that the circuit card rides on. Once changes or inspection of the board is complete, reinsert the board making sure to align with slot. Push the plug area into the case to relock the tabs into place.



# MODULE OPERATION

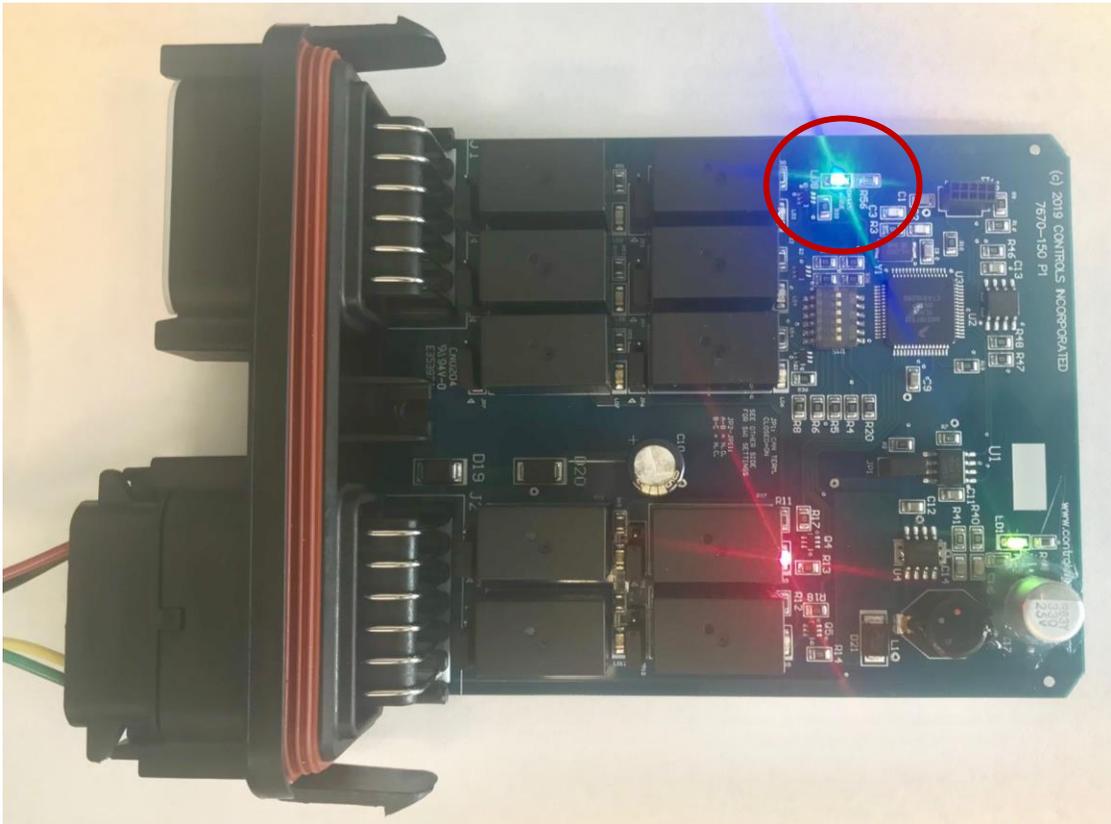
## POWER UP

The XCAN-IO module is powered by system voltage. 12 or 24 VDC nominal. When power is supplied, the green LED marked as LD1 will be illuminated.



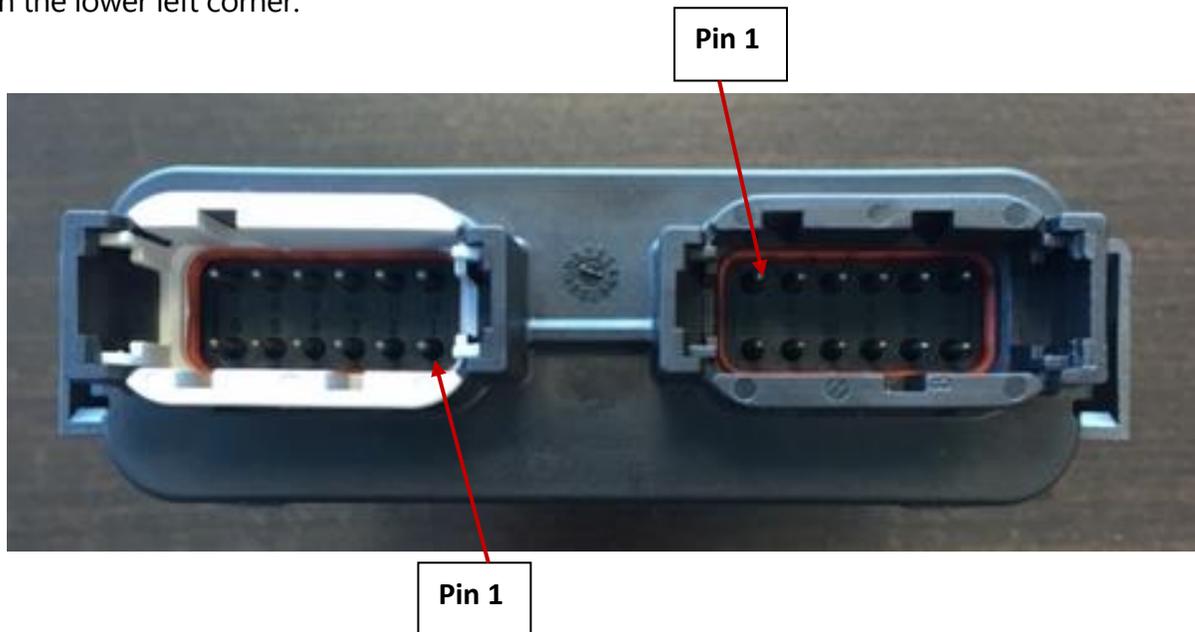
## CAN BUS ACTIVITY

Once J1939 CAN Bus communication is detected, the Blue LED marked as LD8 will illuminate.



## PIN ASSIGNMENTS

The XCAN-10R has two connectors with unique keying for each side as well as a color difference. The connector on the left side is grey in color and the right side is black. Each connector contains 12 pins. However, each connector has a different pin 1 starting location. The grey connector has pin 1 in the lower right position and increments clockwise along the bottom and then wrapping around back to the top to finish at pin 12 in the upper right. The black connector has pin 1 in the upper left corner and then increments clockwise along the top before wrapping around to the lower row and finishing at 12 in the lower left corner.



## MATING CONNECTORS

The mating connectors and components can be purchased from Controls, Inc. The following part numbers are needed to build an interconnecting harness.

### Left Side Connector

Shell - DTM06-12SA

Pins – 0462-201-20141

Wedge – WM-12S

### Right Side Connector

Shell - DTM06-12SB

Pins – 0462-201-20141

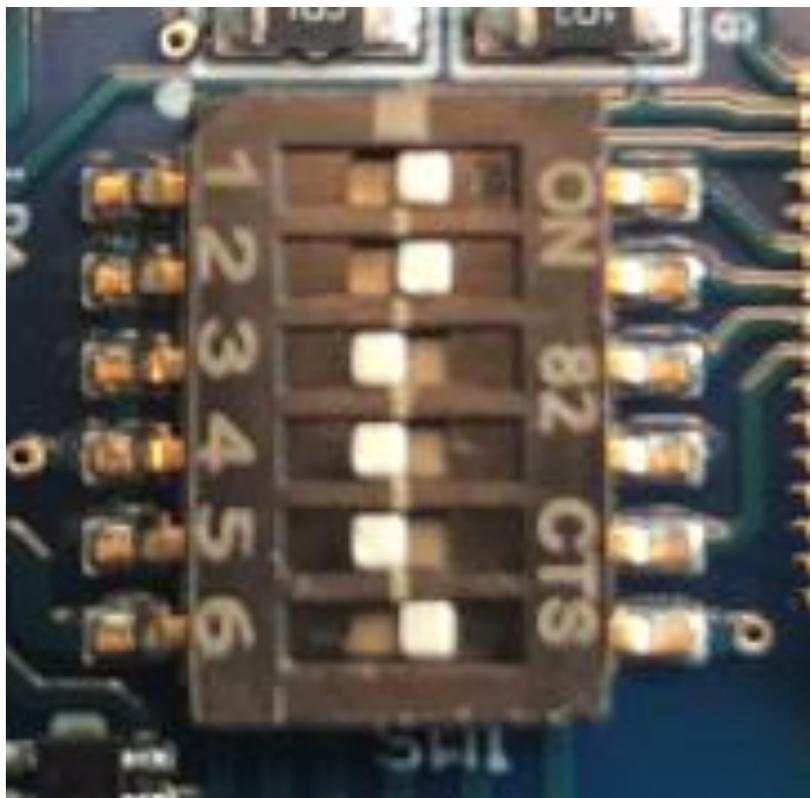
Wedge – WM-12S



## CAN ADDRESSING OPTIONS

The XCAN-10R has a bank of dip switches that allow the address of each module to be incremented based on the source address of the controller. The default address increment is 0. Increment of 1, 2 and 3 are available if more than a single XCAN needs to be added to the system.

For example, if the controller's source address is 44, and the dipswitch on the XCAN is set for 0, then the first module's address would also be 44. If the dipswitch were set to 1, the XCAN address would then become 45.



## LED INDICATORS

The SW1, Position 6, is used to enable the CAN Activity and Relay Active LED indicators. If you wish to not have LED indicators on, place the switch in the OFF position. The 10R has a bank of dip switches that allow the address of each module to be incremented based on the

# MODULE ADDRESS

ADDRESS	SW1 1	SW1 2
0	ON	ON
1	ON	OFF
2	OFF	ON
3	OFF	OFF



# PROGRAMMING

## PROGRAMMING

When used with a Controls, Inc. controller, the functionality of the XCAN-10R module is based on the programming selections available in the controller. The Controls, Inc, XL, MX, U, C and some MVP SERIES controllers are capable of running up to four XCAN-10R modules on the same network. Programming is done through the CI STATION (Controls, Inc.'s PC to controller application) or the controller's menu setup options. Application or customer specific programming configurations can be provided. Contact Controls, Inc. for additional information.

## REMOTE OUTPUTS

Each remote relay can be assigned to any function that a local relay can be assigned to. In the controller's menu, you would need to navigate to Output Configuration and then select Remote Relay. Additionally, you need to identify the XCAN-10R address and channel that you want to drive. The controller will simply operate the remote relays as if they were an extension of its own local relays.

# WARRANTY

CONTROLS, INC. is herein called "Seller". The person, firm or corporation to whom or which the sale is made is herein called "Buyer". Seller warrants to the Buyer that all products furnished under this order will conform to Seller's specification, drawings as described in its current catalog or quotation and will be free from defects in materials and workmanship. Seller must approve other special requirements asked for by the Buyer in its purchase order in writing. Parts replaced or repaired in the warranty period shall carry the unexpired portion of the original warranty. The foregoing is subject to the provisions that in no case will the total warranty period extend beyond twenty-four (24) months or two thousand (2000) hours of use, whichever occurs first, from date seller ships equipment from point of sale.

The Liability of Seller hereunder is limited to replacing or repairing at Seller's factory any part or parts which have been returned to the Seller and which are proved by buyer as defective or not conforming to Seller's specifications, drawings or other written descriptions, accepted by Seller, provided that such part or parts are returned by the buyer within thirty (30) days after such defect is discovered. All items returned to Seller for repair or replacement must be sent freight prepaid to its factory. Buyer must obtain Seller's Return Merchandise Authorization # prior to returning items. The above conditions must be met if warranty is valid. Seller will not be liable for any damage done by unauthorized repair work, or unauthorized misapplication in non-suitable environment.

In no event shall the Seller be liable for loss, damage, or expense directly or indirectly arising from the use of the units, or from any other cause, except as expressly stated in the warranty. Seller makes no warranties, express or implied, including any warranty as to merchantability of fitness for a particular purpose or use. Seller is not liable for and buyer waives any right or action it has or may have against seller for any consequential or special damages arising out of any breach of warranty, and for any damages buyer may claim for damage to any property or injury or death to any person arising out of its purchase or the use, operation or maintenance of the product. Seller will not be liable for any labor subcontracted or performed by buyer for preparation of warranted item for return to Seller's factory or for preparation work for field repair or replacement. The Seller will not consider invoicing of Seller for labor either performed or subcontracted by buyer as a liability. This warranty shall be exclusive of any and all other warranties express or implied and may be modified only by a writing signed by an officer of the Seller. With respect to accessories supplied by Seller, but manufactured by others, there is no warranty of any kind, express or implied, and specifically there is no warranty of merchantability or fitness, except as may be set forth in any warranty the manufactures have made to Seller and which can be passed to the Buyer.