



## PREMIUM **AUDIO VIDEO AND POWER** PRODUCTS

### COMM-2

### Two-Way Active Horn Speaker / Microphone System



**Please read the terms of use below before using this product:**

This product has the ability to collect audio which may include personal Information. Before using this product you should ensure that you are in compliance with any applicable law. This may include ensuring you have obtained any required express or implied consent for the collection of personal information. In using this product you take full responsibility for its proper use. Factor Electronics, authorized Factor Electronics distributors and re-sellers are not responsible for any breach of privacy laws which may arise from your use of this product.

### Owners Manual

**IMPORTANT NOTE:** THIS OWNER'S MANUAL IS PROVIDED AS AN INSTALLATION AND OPERATING AID. FACTOR ELECTRONICS DOES NOT ASSUME ANY RESPONSIBILITY AS TO ITS ACCURACY AND SHALL NOT BE LIABLE IN TORT OR CONTRACT FOR ANY DIRECT, CONSEQUENTIAL OR INCIDENTAL LOSS OR DAMAGE ARISING FROM THE INSTALLATION, USE OR INABILITY TO USE THIS PRODUCT.

**WARNING:** TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK DO NOT EXPOSE THIS APPLIANCE TO WATER, RAIN OR MOISTURE. THIS APPLIANCE SHOULD NOT DAMPENED BY WATER DROPS OR SPLASHING. CONTAINERS OF LIQUID SUCH AS VASES SHOULD NOT BE PLACED ON THIS APPLIANCE.

Immediately upon receipt, inspect the unit and shipping container for indications of improper handling or in-transit damage. This equipment was carefully inspected and tested before leaving the factory. Notify the Transportation Company, Wholesaler or Retailer immediately if any damage is found. Be sure to save the carton and packing material as evidence of damage for later inspection. DO NOT SHIP the unit back to the factory unless authorized to do so by the factory. IN TRANSIT DAMAGES ARE NOT COVERED BY THE WARRANTY. **DO NOT INSTALL OR ATTEMPT TO OPERATE THIS UNIT IF IT HAS BEEN DAMAGED.**

#### **IMPORTANT SAFETY INSTRUCTIONS**

- Read and keep these instructions.
- Heed all warnings and follow all instructions contained within this manual.
- Do not use this unit near water.
- Clean only with dry cloth.
- Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
- Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
- Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
- Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
- Only use attachments/accessories specified by the manufacturer.
- Unplug this apparatus during lightning storms or when unused for long periods of time.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
- Operate the product only with the voltage specified on the unit. Fire and/or electric shock may result if a higher voltage is used.
- Do not modify, kink, or cut the power cord. Do not place the power cord in close proximity to heaters and do not place heavy objects on the power cord and/or the product itself, doing so may result in fire or electrical shock.
- Replace the protective cover over the speaker terminals after installation. Do not touch the 70V speaker terminals as electric shock may result.
- Ensure that the safety ground terminal is connected to a proper ground. Never connect the ground to a gas pipe, as a severe explosion and/or fire may result.
- Be sure the installation of this product is stable, avoid slanted surfaces as the product may fall and cause injury, property damage, electrocution and/or fire.
- Note when the unit is turned off it is not completely disconnected from the wall AC power outlet. Do not open the cover unless the device is unplugged from the wall AC power outlet.

**Introduction:**

Congratulations and thank you for purchasing Factor Electronics products. The Factor Electronics COMM-2 is an active all weather horn speaker/microphone. The COMM-2 can be connected directly to an IP camera system with one or two-way audio. The COMM-2 also provides electronically balanced inputs and outputs and can be used for a wide variety of talk/listen audio installations. The COMM-2 is a complete two way audio system providing a high power "Class D" amplifier, re-entrant horn speaker and microphone in a weather resistant enclosure. **NOTE: the COMM-2 should be installed by a qualified installation professional.**

**Unpacking:**

The COMM-2 includes the following parts:

1 x COMM-2 amplified horn speaker/microphone

1 x Integrated swivel mount

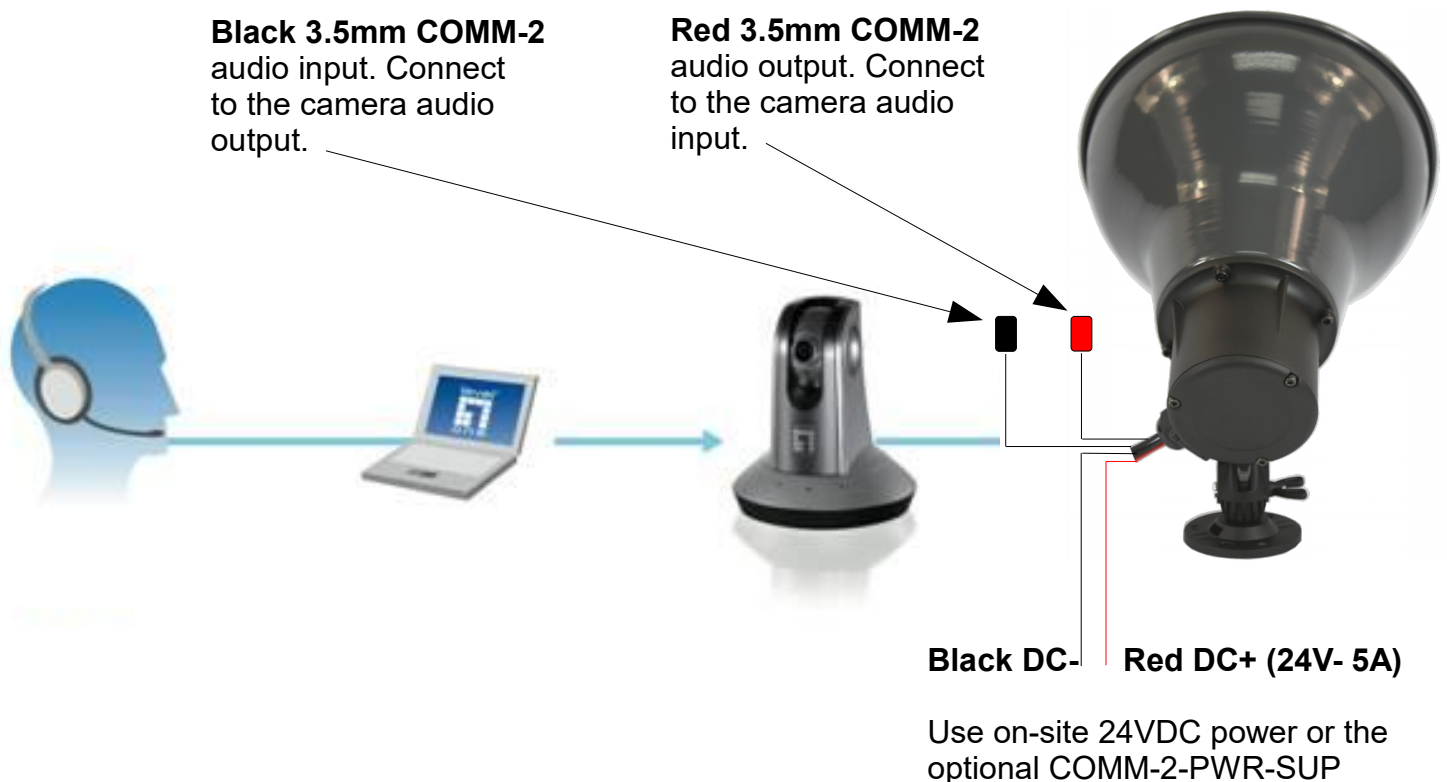
2 x 3.5mm/3.5mm connection cables & heat shrink tubing to seal the connections

1 x Product Manual

**Optional:**

**COMM-2-PWR-SUP**

**Quick Start: To get up and running quickly refer to the DIAGRAM below.**



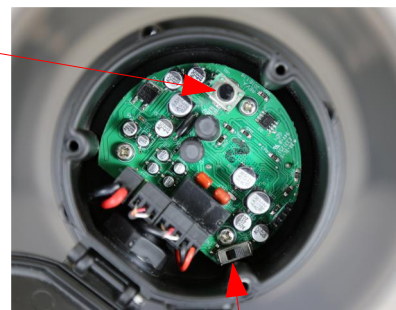
## COMM-2 Operation:

1. When connecting the COMM-2 with an IP camera system please refer to the camera software to set up the audio in/out. Once the camera software is configured and the COMM-2 is connected to the camera you can initiate the talk listen features of the COMM-2.
2. When the COMM-2 is connected to a camera system the unit will be in listen mode. The COMM-2 will provide audio monitoring of the installation site. The COMM-2 will automatically switch to talk mode when a page is initiated from the monitoring station through the IP camera system. Once the page is completed the COMM-2 will automatically switch back to listen mode. **NOTE: the operator must have a microphone/speaker connected to the IP camera system to initiate talk/listen functions.**
3. The COMM-2 provides a choice of two audio output levels to match the sensitivity of the camera system. Low and high levels.  
Please refer to your camera system manual to match the input/output of the COMM-2 with the input level of the camera system. **NOTE: the COMM-2 ships with the audio output level set to low level approx 165mV unbalanced or 450mV balanced. The audio output level can be changed by opening the back panel amplifier cover and setting the slide switch. The high level audio output is approx 450mV Unbalanced and approx 1V balanced. See the diagram below.**
4. The COMM-2 horn speaker output volume can also be adjusted by opening the back panel amplifier cover and adjusting the rotary output level control. See the diagram below. **NOTE: the COMM-2 default horn speaker output setting is 50%. In most cases this will be adequate. Most IP camera systems have a software audio level control that can be used to adjust the overall output level of the COMM-2 remotely. The COMM-2 is configured from the factory to provide full output from a standard level camera output. In practice you may never need to adjust the internal switches.**



Remove 3 Allen screws to open the back panel amplifier cover

Speaker output level adjustment  
clockwise to increase



← HIGH-LOW →  
Comm-2 audio output sensitivity adjustment

**COMM-2 Cables & Connections:**

1. The COMM-2 provides electronically balanced line level inputs and outputs. Balanced inputs and outputs reject most of the common noise in audio systems when two balanced devices are connected together. This allows long cable runs to be used without introducing high level noise into the audio system. The COMM-2 can also be connected to unbalanced audio systems however we recommend cable runs no longer than 25' when using unbalanced connections. Balanced shielded cables can be run 100's of feet when the COMM-2 is connected to another device with balanced inputs and outputs. All noise cannot be canceled out using balanced connections however most of the noise will be inaudible when using high quality shielded cable with balanced connections.

2. The COMM-2 includes 2 x shielded unbalanced 3.5mm male to male 6' cables and 2 x balanced 3.5mm female input/output connectors wired as follows:

**Balanced 3.5mm connection:**



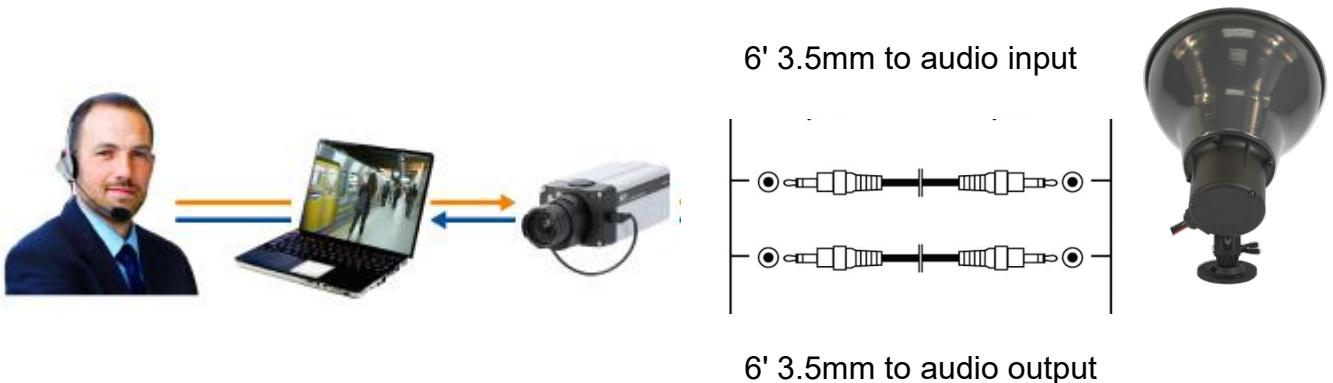
**Unbalanced 3.5mm connection:**



**3. NOTE: using an unbalanced connection at one end of the cable and a balanced connection at the other end of the cable will result in the entire connection being unbalanced. To maintain a low-noise connection use a balanced connection at both ends of the cable and connect the COMM-2 to other equipment with balanced inputs and outputs.**

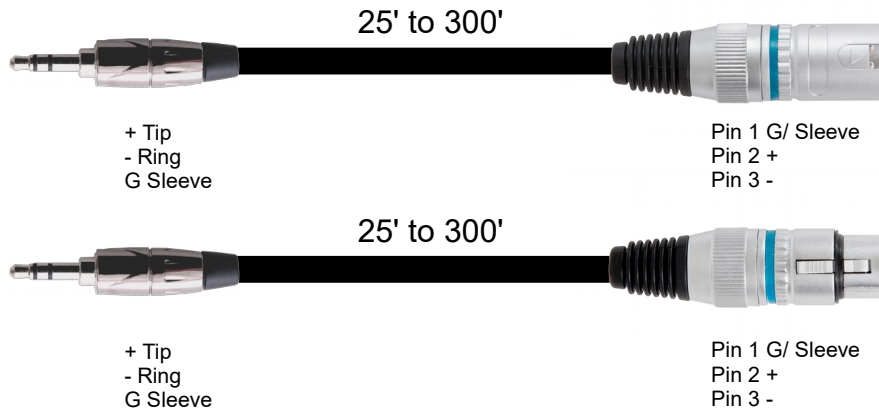
4. For standard IP camera installation where the COMM-2 is located within 6' of the IP camera, use the 6' 3.5mm cables included with the COMM-2.

**Standard IP camera installation where the COMM-2 will be located within 6' of the camera.**

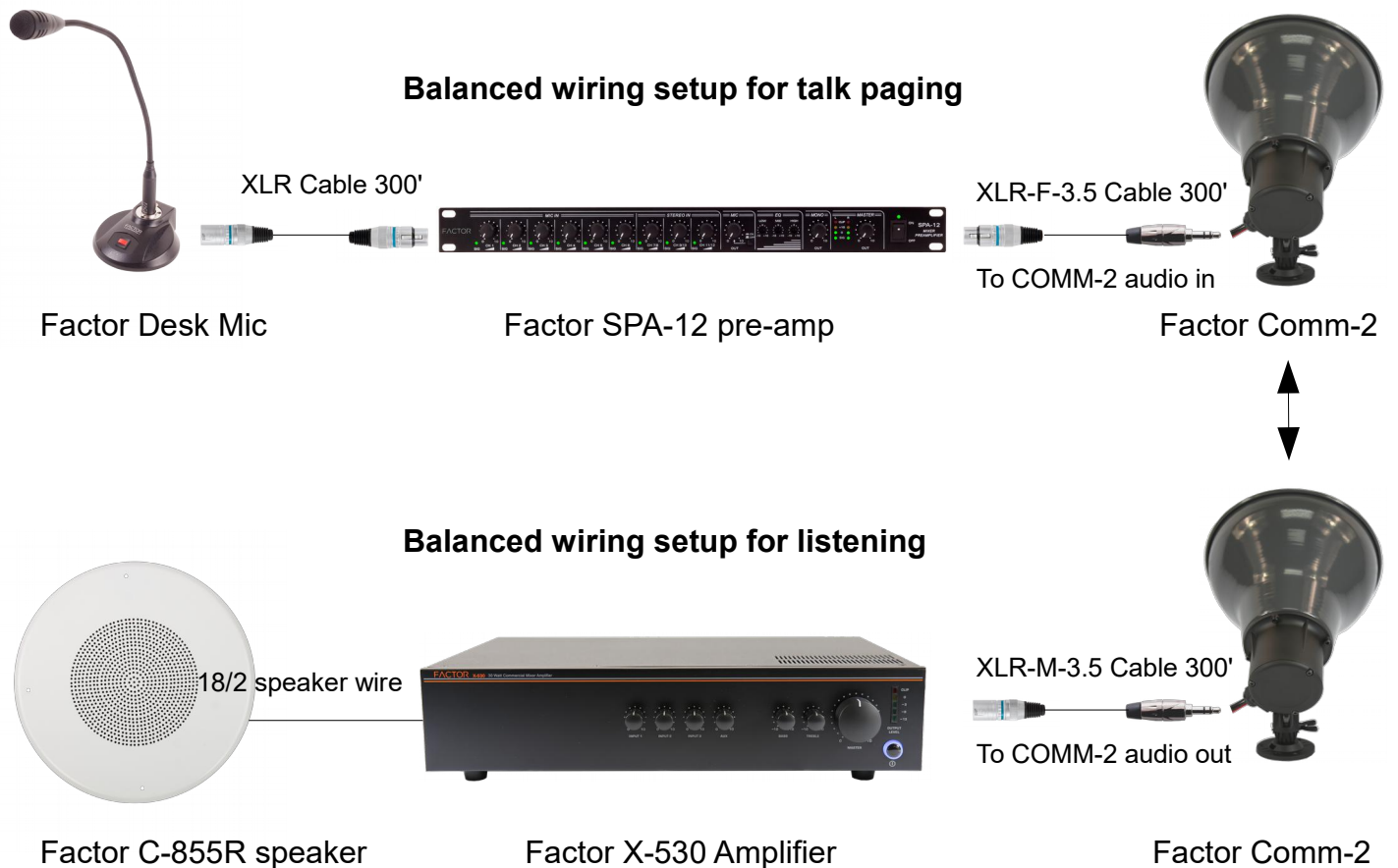


**COMM-2 Cables & Connections:**

5. For installations where the COMM-2 will be located 25' to several hundred feet from the connected audio system use balanced connections as follows:



6. Please see the example below where the COMM-2 is being added to an existing audio system in a large building and used for two way communications without an IP camera. A single COMM-2 can provide both talk and listen audio functions.



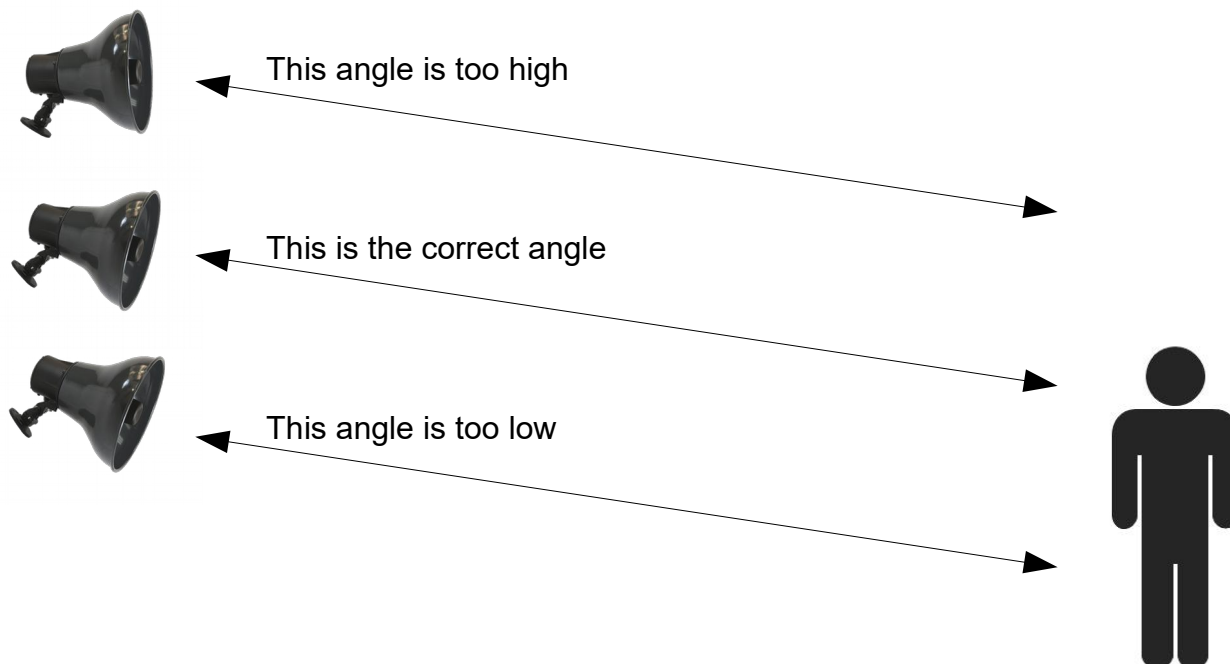
## COMM-2 Mounting Instructions:

The COMM-2 includes an adjustable swivel mounting bracket that can be used to position the COMM-2 at the correct mounting angle for the best performance.



1. Remove the “ Mounting Bolt” the COMM-2 horn will separate from the mount.
2. Position the mounting plate where the horn will be mounted. Use either wood screws or machine bolts depending on the mounting surface to attach the mounting plate. Always make sure that the COMM-2 is securely mounted to a flat surface. All three mounting screws/bolts must be used.
3. Re-attach the horn to the mount with the “Mounting Bolt” and tighten the mounting bolt securely
4. Loosen the “ Angle adjustment wing nut” to approx 75% but do not remove the wing nut. Push the wing nut to release the wing bolt. Now the COMM-2 will rotate. Rotate to the desired angle and tighten the “Angle adjustment wing nut”.
5. Connect the cables and test the COMM-2.
6. Mount the COMM-2 with the bell pointed directly at the monitoring area. See the example below:

## COMM-2 Mounting Angle:



**Technical Specifications and Warranty:**

Output Power – 15W peak  
 Max SPL – 122dB  
 Amplifier - class - D  
 THD < 1% (amplifier)  
 THD < 5% (speaker/amplifier)  
 Input sensitivity 3.5mm balanced – 160mV = full power  
 Input sensitivity 3.5mm unbalanced – 300mV =full power  
 Output level 3.5mm balanced – 1V  
 Output impedance balanced -1200ohms  
 Output level 3.5mm unbalanced – 450mV  
 Output impedance unbalanced - 600ohms  
 Talk/Listen relay threshold – 35mV +/- 5mV  
 Speaker type – Re-entrant Horn  
 Operating temperature -40C / +40C  
 Warm up time @ -40C approx 2-3 minutes  
 Horn Bell – powder coated aluminum  
 Amp housing and mount – powder coated zinc



Optional COMM-2-PWR-SUP  
 24VDC 5A filtered/regulated  
 power supply

**Inputs/Outputs:**

Line input – 3.5mm female  
 Line output – 3.5mm female  
 DC input +/- – 9" leads

**Power requirements:**

24VDC 5A

**Dimensions:**

Horn/Bell Diameter – 10.5" / 265mm  
 Depth - 10.5" - 265mm  
 Height with mount – 10.5" 265mm

**Weight:**

COMM-2 5lbs – 2.26Kg  
 Shipping weight – 7.5lbs – 3.4Kg  
 Master carton 4pcs 30lbs – 13.6Kg

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This product has the ability to collect audio which may include personal information. Before using this product you should ensure that you are in compliance with any applicable law. This may include ensuring you have obtained any required express or implied consent for the collection of personal information. In using this product you take full responsibility for its proper use. Factor Electronics, authorized Factor Electronics distributors and re-sellers are not responsible for any breach of privacy laws which may arise from your use of this product.

**Warranty**

The Factor Electronics COMM-2 is warranted to be free from defects in workmanship and materials for a period of (1) year from the date of purchase without charge for parts or labor.

This warranty applies only to the original owner. The owners responsibilities are to provide proof of purchase from an authorized Factor Electronics dealer/distributor and transportation to the dealer/distributor the unit was purchased from or Factor Electronics. This warranty does not apply to units that have been subject to misuse, abuse, neglect or improper installation, and does not apply to repairs or alterations made by unauthorized personnel. This warranty specifically excludes responsibility for consequential damage. Retention of your original bill of sale is required to obtain service under the terms of this warranty.

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In an effort to constantly provide our valued customers with the latest advancements in technology,  
 Factor Electronics specifications are subject to change from time to time without notice.

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