

# MUONIO UV-L 110

# **UV-C** Disinfectant Unit

UV-C air treatment is an environmentally friendly and chemical-free method of sterilizing air that does not produce harmful byproducts during sterilization.

MUONIO UV-C air purification systems operate safely on a timed or constant demand basis to disinfect the air in areas occupied by humans and animals.

MUONIO UV-C air purification systems are particularly suitable for public places or other spaces at a very economical cost.

The unit uses well established UV-C radiation which was utilised extensively in medical, food preparation and other professions for more than 40 years to disinfect the air, the cleanliness of the surfaces and to help mitigate the risk of contracting and spreading an infection. All bacteria and viruses tested to date (including various coronaviruses) respond to UV-C disinfection.

The Mounio UV-L 110 ventilation disinfectant device is part of a broader system range that combines ventilation and climate controls.

**INSTALLATION MANUAL** 



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# Counteracting Viruses And Bacteria

MODERN WELL-INSULATED CONSTRUCTION WITH INADEQUATE VENTILATION SUFFERS FROM INDOOR AIR QUALITY PROBLEMS SUCH AS MOULD, HIGH VOC (VOLATILE ORGANIC COMPOUNDS), INFECTIONS MORE THAN OLDER PROPERTIES DO. BUILDINGS THAT ARE NOT SO AIRTIGHT MAY NOT BE AS ENERGY-EFFICIENT BUT HAVE BETTER AND HEALTHIER INDOOR AIR QUALITY.

VIRUSES FIND IT EASIER TO STICK TO THE SKIN IN LOWER HUMIDITY CONDITIONS, ESPECIALLY IN THE THROAT AND NASAL PASSAGES. RESEARCH HAS SHOWN THAT DRY AIR ALSO MAKES THE MUCOUS MEMBRANES IN OUR NOSES DRY AND MORE PERMEABLE TO VIRUSES AND INHIBIT THE BODY'S ABILITY TO TRAP AND FILTER OUT THE VIRUSES AND MICROBES, INCREASING THE RISK OF ILLNESS. EVEN WORSE, AS THE MUCOUS MEMBRANES DRY AND CRACK, THE SKIN BECOMES MORE POROUS AND MORE VULNERABLE TO VIRAL PENETRATION DIRECTLY TO THE BLOODSTREAM. LOW HUMIDITY FREQUENTLY CAUSES AN INCREASED PREVALENCE OF COLDS AND FLU DURING AUTUMN AND THE WINTER MONTHS.

As the coronavirus and infectious viral particles spread from person to person, evidence has accumulated on viral contamination, and scientific understanding has changed. Studies and investigations of viral outbreaks indicate that most transmissions occur due to infected people, many not displaying symptoms, spewing out large droplets and minute particles called aerosols when they cough, talk, or exhale. People breathing the same air, even at a distance, can inhale the contaminations, and the infection spreads. Therefore, airborne droplets are a much greater risk than the danger of surface contact transmission, so, understandably, the vast number of reported infections occur indoors.

Tests conducted on the effectiveness of the MUONIO UV-L 110 (UVC radiation) unit, according to Standard EN 13098:2019 — (Measurement of airborne microorganisms and microbial compounds) including the multi-drug-resistant strains, confirmed a highly-efficient reduction in the number of microorganisms in the testing area.

THE MUONIO UV-L 110 (UVC RADIATION) UNIT CONFORMED TO THE STANDARD, SHOWING A SIGNIFICANT DECREASE IN THE TOTAL NUMBER OF MESOPHILIC BACTERIA AND THE TOTAL NUMBER OF MOULDS WITH A MINIMUM OF 2 LOGARITHMS TO THE AIR'S TOTAL NUMBER OF MICROORGANISMS.

PROPER ROOM VENTILATION THROUGH NATURAL OR MECHANICAL AIR HANDLING IS ESSENTIAL TO GOOD HEALTH. RESEARCH SHOWS THAT IMPROVING VENTILATION AND MAINTAINING THE RELATIVE ROOM HUMIDITY AT 40-60% LEVELS CAN MINIMIZE THE SPREAD OF VIRUSES AND REDUCE INFECTIOUS ABSORPTION INTO THE BODY.

Natural ventilation with clean, fresh air is the healthiest and best preventative measure against viral contamination.

FORCED VENTILATION IS WARRANTED TO MIX (DILUTE) STALE

OR UNCLEAN AIR WITH FRESH, CLEAN, UNCONTAMINATED AIR, ALTHOUGH IT IS ASSOCIATED WITH THE SPREAD OF INFECTIOUS POLLUTANTS.



Many studies have confirmed that those harmful microorganisms can spread via the airborne route and last for hours throughout the ductwork of mechanical air recirculation systems.

WHEN MECHANICAL VENTILATION IS OPERATING, DUST CAN ACCU

MULATE TO DANGEROUS LEVELS IF IT IS NOT REGULARLY MAINTAINED. IN THAT INSTANCE, INSTEAD OF HELPING AIR QUALITY AND HEALTH, IT MAY WORSEN THE SITUATION.



Many heat recovery ventilation systems recirculate part of the air, including any contaminants, further spreading the likelihood of infection. Therefore, the recuperated heat's energy savings must be in the context of improved ventilation, health and reduced damage to the building fabric.

MUONIO UV-L 110 UNITS OPERATE IN PARALLEL WITH AN AIR HANDLING SYSTEM BUT DO NOT REPLACE VENTILATION.

MUONIO UV-L 110 LIGHT DISINTEGRATES VOC AND ODOURS IN PARTICULAR WHEN USED ALONG WITH PROPER VENTILATION.

MUONIO UV-L 110 PROVIDES A VITAL CONTRIBUTION BY IMPROVING INDOOR AIR QUALITY BY KILLING VIRUSES AND BACTERIA, AND IT ALSO KILLS MOULD SPORES.

## **TECHNICAL DATA**

## **COMPLIANCE**

This product must be installed by a fully qualified, competent person, registered with a supervisory trade body. The installation must comply with the guidance, standards and regulations applicable to the country or state where the product is being installed. Failure to comply with the requirements of the relevant guidance, standards and regulations could lead to injury, death or prosecution.

## **Technical Data**

Effectively eliminates all types of viruses, bacteria & fungi - especially sars coronavirus. Guarantees safe operation in the presence of people and animals.

Does not generate any harmful by-products such as ozone.

Device is effective against all kinds of odours.

Can be operated via app, remote control or directly on the device (2 variants).

#### **Technical Information**

**MUONIO UV-L 110** 

Terminals 0.5 Mm<sup>2</sup> To 1.5 Mm<sup>2</sup>

Dimensions Cca 169 X 171 X 1158Mm

Mountable Bracket, Horizontal Or Vertical

Weight Cca 12.5 Kg

Fused Power Supply 230 Vac ~, 50 Hz, Single Phase

Power Supply 0.41 A

Fuse 5 Amp, Medium Bur

Wireless Frequency 2.4 Ghz With External Antenna (only for App controlled device)

Enclosure Rating Ip20

Content In The Box Muonio UV-L 110 Unit, Bracket & Manual

Hardware Version 1.0

Humidty/Temperature non condensing / 10 - 40 degC

## Content In The Box

UV-L 110 Ventilator

Bracket

2 X 55 W Phillips Uv-C Lamp (Not Installed - inserted inside the UV-L 110 Ventilator Unit)

User Manual

# **Ordering Information**

**UV-L 110** 

UV-L 110 Man - Manuani Control Unit

Tested To Standard:

En 13098:2019 Measurement of Airborne Microorganisms and Microbial Compounds

UV-C radiation has sanitizing properties and has many uses in commercial, healthcare, and consumer settings. UV-C has germicidal benefits, depending on the exposure dosage (based on strength, proximity and time). However, there are serious risks to UV-C exposure, so safety precautions are essential.

# Warning Information



THIS OPERATING MANUAL CONTAINS FUNDAMENTAL AND ESSENTIAL ADVICE TO BE FOLLOWED FOR THE INSTALLATION, OPERATION AND SERVICING OF THE UNIT. IT MUST BE READ WITHOUT FAIL BEFORE INSTALLATION AND USE OF THE DEVICE BY THE FITTER, THE OPERATOR AND THE SPECIALIST PERSONNEL RESPONSIBLE FOR THE DEVICE.



The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.



OBEY ALL SAFETY MESSAGES THAT FOLLOW THIS SYMBOL TO AVOID POSSIBLE INJURY OR DEATH.

CAUTION INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, COULD RESULT IN MINOR OR MODERATE INJURY.



DANGER INDICATES A HAZARDOUS SITUATION WHICH, IF NOT AVOIDED, WILL RESULT IN DEATH OR SERIOUS INJURY. IMPORTANT! DISREGARD WILL LEAD TO PERMANENT EQUIPMENT DAMAGE!



When in operation the product will emit internal UV-C radiation. UV-C radiation is invisible to humans and exposure to UV-C radiation may cause serious damage to eyes and skin.



OF ACTUAL OR SUSPECTED DAMAGE TO THE BULB, IMMEDIATELY VENTILATE AND LEAVE THE ROOM UNTIL IT IS VENTILATED; INFORMATION INDICATES AN EXPLANATION CONTAINING INFORMATION THAT IS USEFUL TO KNOW, A SUPPLEMENTARY OPERATING PROCEDURE, OR OTHER DATA.

THE BULB CONTAIN A SMALL AMOUNT OF MERCURY WHICH CAN BE POISONOUS AT CERTAIN CONCENTRATIONS. IN CASE



THE INFORMATION SYMBOL IS USED TO ADDRESS PRACTICES NOT RELATED TO PHYSICAL INJURY AND TO INDICATE WHERE USEFUL FACTS/TIPS WILL ASSIST IN INSTALLING OR USING THE DEVICE CORRECTLY.

# Warning Symbols



THE DEVICE MUST BE GROUNDED



AVOID DAMAGING THE POWER CABLE.



DO NOT PUT ANY FOREIGN OBJECTS ON THE POWER CABLE.



DO NOT USE DAMAGED EQUIPMENT OR CABLES WHEN CONNECTING THE UNIT TO POWER MAINS.



Do not touch the unit controls with wet hands.



Do not carry out the installation and maintenance operations with wet hands.



DO NOT ALLOW CHILDREN TO OPERATE THE UNIT.



DO NOT STORE ANY EXPLOSIVE OR HIGHLY FLAMMABLE SUBSTANCES IN CLOSE PROXIMITY TO THE UNIT.

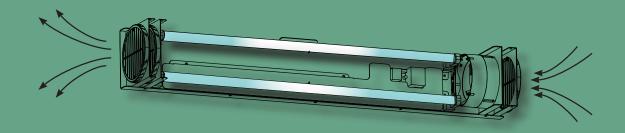


Do not remove the screws or remove the maintenance cover when operation the unit.



DO NOT BLOCK THE AIR DUCT WHEN THE UNIT IS SWITCHED ON.

## **GENERAL INSTALLATION GUIDELINES**





UNPACK THE UNIT WITH CARE.



WHILE INSTALLING THE UNIT, FOLLOW THE SAFETY REGULATIONS SPECIFIC TO THE USE OF ELECTRIC TOOLS.



DO NOT LAY THE POWER CABLE OF THE UNIT IN CLOSE PROXIMITY TO HEATING EQUIPMENT.



DO NOT OPERATE THE UNIT OUTSIDE THE TEMPERATURE RANGE STATED IN THE USER'S MANUAL.



DO NOT OPERATE THE UNIT IN AGGRESSIVE OR EXPLOSIVE ENVIRONMENTS.



Do not wash the unit with water.



PROTECT THE ELECTRIC PARTS OF THE UNIT AGAINST INGRESS OF WATER.



DISCONNECT THE UNIT FROM POWER MAINS PRIOR TO ANY TECHNICAL MAINTENANCE.



DO NOT DIRECT THE AIR FLOW PRODUCED BY THE UNIT TOWARDS OPEN FLAME OR IGNITION SOURCES.



DISCONNECT THE POWER AND INVESTIGATE THE SOURCE IF THE UNIT GENERATES UNUSUAL SOUNDS, ODOUR, OR EMITS



SMOKE.



CONTACT THE SELLER IF ANY FAULT PERSISTS.



IN CASE OF CONTINUOUS OPERATION OF THE UNIT, PERIODICALLY CHECK THE SECURITY OF MOUNTING.

DISCONNECT THE UNIT FROM POWER SUPPLY PRIOR TO INVESTIGATING ANY TECHNICAL MAINTENANCE ISSUE.

REMOVE THE UV-C BULBS IF THE POWER SUPPLY IS REQUIRED WHEN FAULT-FINDING THE FAN OR ANY OTHER COMPONENT.

# Scope

This Manual covers the installation of the UV-C fan operated MUONIO UV-C Disinfectant Unit:

Type One: UV-L-110-MAN

THE UNIT REQUIRES A 230 VAC ~ POWER SUPPLY CONNECTED THROUGH A FUSED DOUBLE POLE ISOLATION OUTLET.

THE UV-L-110-MAN MAY BE WIRED IN A PERMANENTLY 'ON' MODE OR CONTROLLED BY AN EXTERNAL SWITCH, A THIRD PARTY TIMER CONTROL OR SWITCH TYPE SENSOR DEVICES (I.E. CO<sup>2</sup> SWITCH\*)

\*A  $CO^2$  switch will provide air quality indication of  $CO^2$  only and indirectly provides information if disinfection may be required. The UV-C unit will not lower the  $CO^2$  levels but disinfect the existing air in the room and thus limit the possibility of infection transmission. Ventilation is required to reduce the area's  $CO^2$  level.





Always isolate the AC mains supply before installing or working on any components that require 230 V~, 50 Hz supply.

#### Pre- Installation Information

THIS INSTALLATION MANUAL'S GUIDELINES ARE FOR INFORMA-TION ONLY; THEY DO NOT PROVIDE COMPLETE ASSURANCE IN INDIVIDUAL SITUATIONS.

UV-C HAS SIGNIFICANT GERMICIDAL BENEFITS, DEPENDING ON EXPOSURE DOSE (BASED ON STRENGTH, PROXIMITY AND TIME). HOWEVER, THERE ARE SEVERE RISKS TO UV-C EXPOSURE, SO SAFETY PRECAUTIONS ARE ESSENTIAL.

CORRECTLY SIZED UNITS SHOULD BE SELECTED FOR OPTIMUM DISINFECTANT PERFORMANCES. THE MOUNIO SELLER OR SALES AGENTS ARE AVAILABLE TO PROVIDE ASSISTANCE WITH UNIT SELECTION, LOCATION DECISIONS AND OTHER TECHNICAL SUPORT ISSUES IF REQUIRED.

THESE PRODUCTS MUST BE MOUNTED AND INSTALLED CORRECTLY.

THE UNITS MAY OPERATE AS STAND ALONE DEVICES OR IN COMBINATION WITH OTHER MUONIO DEVICES.

UV-C RADIATION HAS SANITIZING PROPERTIES AND HAS MANY USES IN COMMERCIAL, HEALTHCARE, AND CONSUMER SETTINGS.

THIS PRODUCT IS SAFE WITH HUMAN/ANIMAL PRESENCE IN THE ROOM WHEN INSTALLED AND USED CORRECTLY.

THE UNIT MUST NOT BE ACTIVATED WHEN THE METAL PROTECTIVE COVER IS NOT FASTENED CORRECTLY IN PLACE.

INSTALL OR LOCATE THIS APPLIANCE ONLY IN COMPLIANCE WITH THE PROVIDED INSTALLATION INSTRUCTIONS.

PLEASE READ THE WARNING AND MOUNTING INSTRUCTIONS CAREFULLY BEFORE INSTALLING AND MOUNTING THE UNIT.

If the mounting and installation work is incorrect, there is a high risk of injury and damage to the Unit or other objects.

IF THE EQUIPMENT'S PROTECTION IS IMPAIRED, NO RIGHTS CAN DERIVE FROM THE INSTALLATION AND PROCEDURES IF THE PRODUCT IS NOT INSTALLED OR USED IN COMPLIANCE WITH THE MANUFACTURER'S INSTRUCTIONS.

MUONIO RECOMMENDS THAT THE PRODUCT INSTALLATION IS BY A PROFESSIONAL INSTALLER, AND THE COMPANY CANNOT BE HELD LIABLE FOR ANY INJURY OR DAMAGE CAUSED BY INCORRECT INSTALLATION OR ASSEMBLY.

DO NOT USE THE PRODUCT BEFORE CAREFULLY READING THIS MANUAL.

ALWAYS KEEP THIS MANUAL WITH THE PRODUCT AND CONSULT IT REGULARLY.

## Eye & Skin Burn Hazard

MUONIO UV-L 110 PRODUCT CONTAINS COMPONENTS THAT EMIT UV-C LIGHT SEALED SAFELY INSIDE THE METAL ENCLOSURE AND POSES NO DANGER TO HEALTH IN ITS ENCLOSED STATE WHEN INSTALLED CORRECTLY ACCORDING TO THESE INSTALLATION INSTRUCTIONS.

FAILURE TO FOLLOW THE WARNINGS IN THIS PUBLICATION AND ANY OTHER SAFETY GUIDELINE REGARDING THE INSTALLATION OR USES OF UV-C PRODUCTS COULD RESULT IN PERSONAL INJURY.

THIS UNIT CONTAINS HIGH ENERGY ULTRAVIOLET C-BAND (UV-C) GERMICIDAL LAMPS, WHICH CAN CAUSE TEMPORARY SEVERE EYE AND SKIN IRRITATION. NEVER EXPOSE UNPROTECTED EYES OR SKIN TO THE UVC LIGHT.

IMMEDIATE OR PROLONGED EXPOSURE TO UV-C LIGHT CAN RESULT IN PAINFUL INJURIES, SUCH AS EYE INJURY, SKIN BURNS, PREMATURE SKIN AGEING OR SKIN CANCER.

It is critical to void exposure to direct or strongly reflected UV-C light as it can result in Harmful UV-C radiation exposure.

DO NOT LOOK DIRECTLY OR INDIRECTLY AT THE UV-C LIGHT WHEN THE POWER IS ON, FOR EXAMPLE, DURING THE INSTALLATION OR MAINTENANCE ACTIVITY.

DO NOT ACTIVATE THE UNIT IF THE METAL COVER OR ANY OTHER PROTECTIVE PART IS DAMAGED, ALLOWING UV-C LIGHT TO BE VISIBLE.

THE UNIT SHOULD NOT BE ADJUSTED OR REPAIRED BY ANYONE EXCEPT SUITABLY QUALIFIED SERVICE PERSONNEL.

IT IS ESSENTIAL NOT TO BYPASS OR TAMPER WITH THE SAFETY INTERLOCKS.

DO NOT OPERATE THE UNIT IF IT IS DAMAGED.

IT IS CRUCIAL THAT THE MAINTENANCE COVER IS CLOSED CORRECTLY AND THAT THERE IS NO DAMAGE TO THE SCREWS OR FIXINGS.

## Mounting the Unit on Hollow Walls:

IF THE UNIT IS TO BE INSTALLED ON A HOLLOW WALL, SUCH AS HOLLOW BRICKS, WOODEN PANELS OR PLASTERBOARD, WE RECOMMEND CONTACTING A SUITABLY QUALIFIED INSTALLER OR CONSULT THE WALL TYPE MANUFACTURER FOR A SPECIFIC RECOMMENDATION FOR THE SAFEST RESULTS.

PLACE UV-C WARNING SIGNS NEAR ALL ACCESS PANELS OR DOORS TO A SPACE CONTAINING THE PRODUCT.

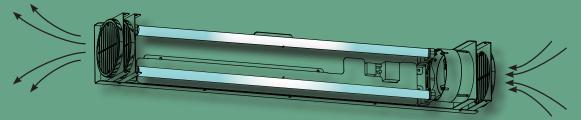
## **INSTALLATION LOCATION**











# THE UNIT MUST BE MOUNTED HORIZONTALLY

# Unit's Position and Line of Sight

Human exposure to UV-C can cause significant eye and skin damage, so it is imperative to ensure that an occupant never looks directly at a UVC lamp source. The UV-L 110 uses enclosed or shielded UV lamps located within the protective enclosure that emit Germicidal Ultraviolet (GUV, also known as UVGI) ultraviolet light in the UV-C wavelength range (245.5 nm) to inactivate and kill microorganisms.

UV-C radiation is a known disinfectant for air that can help mitigate the risk of acquiring an infection, used extensively for more than 40 years. All bacteria and viruses tested to date (many hundreds over the years, including various corona viruses)

THE MUONIO UV-C DEVICE IS AN UPPER-AIR UNIT THAT ONLY EMITS UV-C LIGHT IN THE TOP PORTION OF AN AREA ABOVE PEOPLE'S HEADS. IT IS CRITICAL TO ELIMINATE ANY DANGER THAT CAN POSE A HAZARD TO HUMAN HEALTH FROM THE UV-C LIGHT IN AN OCCUPIED SPACE BY MOUNTING THE UNIT SAFELY ABOVE AND INVISIBLE TO OCCUPANTS.

The unit is a fixed device attached to either a wall or ceiling for achieving adequate room air mixing and airflow patterns; both critical for optimal effectiveness. The air disinfection unit's effectiveness depends on the airflow efficiency rate over time.

THIS POSITIONING LOCATION CREATES AN AREA THAT DISINFECTS ANY AIR CONTAINING DROPLETS OR VIRUSES OR BACTERIA PASSING THROUGH THE REGION OR DEACTIVATES ANYTHING CIRCULATING INTO THAT UPPER PORTION OF THE ROOM WITH UV-C LIGHT.

THE UNIT PROTECTS THE OCCUPANTS BY COMBINING UPWARD-FACING LOUVRES AT BOTH ENDS, COMBINED WITH SECONDARY INWARD-FACING REFLECTORS TO DIRECT ANY STRAY UV-C LIGHT TOWARDS THE UPPER PORTION OF A ROOM.

The unit's mounting position must be at a minimum of 2.14M from the floor surface and a maximum of 5M above the occupants' head-height. The final mount selection may have to increase in circumstances where the occupants position and line of sight allows visibility of the UV-C light emissions.

THE PLACEMENT MUST ALLOW FOR A MINIMUM DISTANCE OF 300MM AT BOTH ENDS. LONGER DISTANCES CAN ENHANCE THE AIRFLOW AND DISINFECTANT PROCESSES AND POSITIONING THE UNIT CLOSER TO THE EXPECTED CONTAMINATION SOURCE WILL INCREASE EFFECTIVE DISINFECTION OF THE INFECTIOUS/HAZARDOUS AGENTS.

# LIGHT EMISSIONS

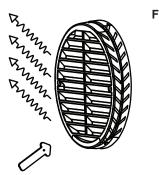
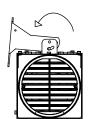


FIG 1

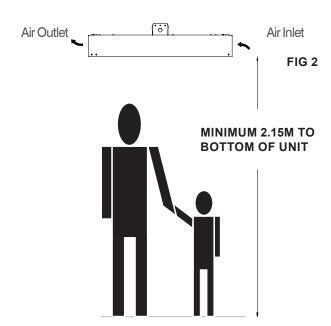








CEILING WALL OPTIONS
OPTIONAL FIXING BRACKET ORIENTATION



CAUTION: THIS DEVICE IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE.

## **INSTALLING THE UNIT**











Choosing the correct fastening method to fix the unit securely to the selected wall or ceiling for the particular job is critically important to secure the public's safety and protect the equipment.

# Mounting The Unit on Walls or Ceilings

FASTENINGS ARE NOT SUPPLIED BECAUSE THE OPTIONS ARE TOO VARIED TO ENSURE OPTIMAL FIXING STRENGTH.

PLEASE DO NOT INSTALL THE UNIT IN LOCATIONS WHERE IT CAN BE DETRIMENTALLY AFFECTED BY ACCUMULATIONS OF DIRT, GREASE, CONDENSATION, OR OTHER DAMAGING SUBSTANCES.

DO NOT COVER OR OBSTRUCT THE AIR INLET OR OUTLET GRILLE.

Ensure the appliance is earthed.

DO NOT USE THIS MUONIO UV-L 110 IN AREAS WHERE EXCESSIVE DUST EXISTS.

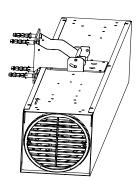
ALWAYS DISCONNECT SUPPLY BEFORE WORKING ON THE PRODUCT.

BEFORE INSTALLATION: REMOVE THE RETAINING SCREWS AND THE COVER, INSTALL THE UV-C BULBS (DELIVERED IN PROTECTIVE PACKAGING, INSIDE THE UNIT), AND REPLACE THE COVER AND RETAINING SCREWS.

THIS PRODUCT SHOULD BE MOUNTED SAFELY TO SOLID WALL OR CEILING SURFACES ONLY.

WARNING: DO NOT MOUNT THE UNIT VERTICALLY

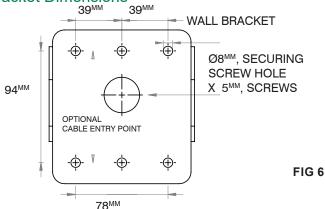
SOLID BRICK OR CONCRETE BLOCK WALLS MUST BE DRILLED



(USING A SPIRIT LEVEL AS A GUIDE TO ENSURE BRACKET IS LEVEL) AND PLUGS WITH RAWLPLUGS NOT SUPPLIED. THE PLUG AND SCREW FASTENINGS MUST BE LOCATED IN THE SOLID PART OF THE WALL, NOT JUST IN THE PLASTER LAYER.

FOR PANELLED INTERNAL WALLS OR CEILINGS, IT IS BEST TO LOCATE THE STUDDING, POSITION THE HEATER FIXING BRACKET ACCORDINGLY.





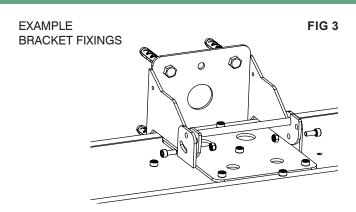


FIG 4

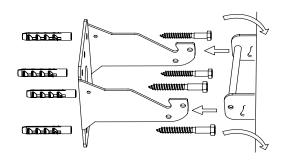
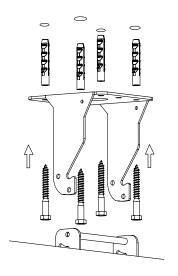


FIG 5



# GENERAL LAYOUT





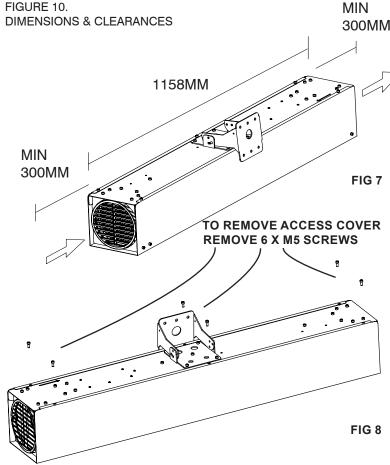


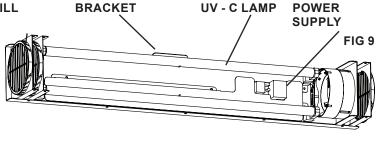


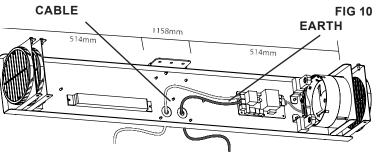


#### Installation Procedure

- 1. Do not use this unit in areas during construction OR WHERE EXCESSIVE DUST/HUMIDTY EXISTS.
- 2. Do not mount the Unit where the air inlet or OUTLET GRILLE COVER ARE OBSTRUCTED.
- 3. WARNING: DO NOT MOUNT THE UNIT VERTICALLY
- 4. ATTACH MOUNTING BRACKET TO CEILING OR WALL USING AN APPROPRIATELY STRONG FIXING METHOD TO DO THE JOB SAFELY AND PROPERLY. (NOT SUPPLIED).
- 5. SOLID BRICK OR CONCRETE BLOCK WALLS MUST BE DRILLED (USING A SPIRIT LEVEL AS A GUIDE TO ENSURE BRACKET IS LEVEL) AND PLUGGED WITH RAWLPLUGS SUPPLIED. THE PLUG AND SCREW FASTENINGS MUST BE LOCATED IN THE SOLID PART OF THE WALL, NOT JUST IN THE PLASTER LAYER.
- 6. THE BRACKET MUST BE MOUNTED SECURELY USING SUITABLE FASTENERS THROUGH THE FIVE SCREW HOLES BEFORE DRILLING THE WIRE ENTRY HOLE.
- 7. Ensure that the unit is secured to the mounting BRACKET USING BOTH LOCKING SCREWS PROVIDED ON EACH SIDE TO FIX IT AT THE FINAL SELECTED ANGLE POSITION.
- 8. Use the mounting bracket to mark the mounting HOLE CENTRES ON THE SELECTED WALL OR CEILING. ALLOWING IF NECESSARY FOR THE ELECTRIC CABLES TO PASS THROUGH THE CABLE ENTRY HOLE IN THE CENTRERILL OF THE BRACKET.
- 9. We would recommend screwed fastenings WITH PLUGS FOR SOLID WALLS, DIRECTLY TO SECURE STUD PARTITION CEILING TIMBER OR IF NECESSARY TO CORRECTLY SIZED TOGGLES THROUGH DRILLED HOLES FOR DRYWALL OR HOLLOW CONCRETE BLOCKS WALLS.
- 10. Bring unit up to mounting brackets and lock into POSITION WITH M5 x 10 SCREW & NUT.
- 11. INSERT THE UV-C BULBS INTO THE BULB HOLDERS AND GENTLY, BUT FIRMLY, ROTATE THEM IN THEIR SOCKETS UNTIL THEY LOCK INTO POSITION.
- 12. ROTATE UNIT TO REQUIRED ANGLE.
- 13. Fix the outside cover into position with the SUPPLIED 5MM SCREWS.
- 14. Make the electrical connection to power supply





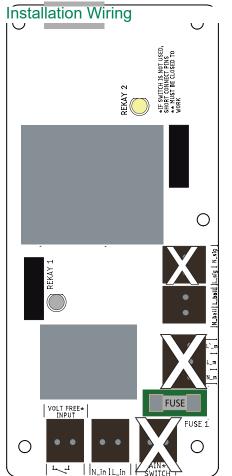


# **TERMINAL IDENTIFICATION & DESCRIPTION**



Safety Precautions/Warnings

To avoid the risk of electric shock, disconnect AC power before installation or maintenance.



**FIG 11** 







# Double Pole Isolation

THE UVC VENTILATION SYSTEM REQUIRES A FUSED DOUBLE POLE ISOLATION ELECTRICAL SUPPLY (230  $\sim$  Vac 1PH 50Hz) EXTERNAL TO THE UNIT, PROTECTED BY A 5 AMP FUSE WITH A CONTACT SEPARATION OF AT LEAST 3MM IN BOTH POLES. THE FUSED POWER SUPPLY INPUT - L, N TO THE UNIT SHOULD SERVE THE VENTILATION UNIT ONLY.

## **Control Module Connections**

THE CONTROL BOARD (PCB) IN THE MUONIO UV-L 110 PRODUCT IS ALSO USED IN OTHER DEVICES AND SOME ELEMENTS ARE NOT REQUIRED IN THIS PRODUCT.

SOME CONTROL BOARD ELEMENTS ARE NOT USED:

- SIGNAL LED NOT USED IN THE VENTILATOR PRODUCT.
- Main switch not used in the ventilator product
- Presence detector not used in the ventilator.

THE POWER SUPPLY TO THE UV-C LAMP BALLAST IS PRE-WIRED FROM THE BALLAST TO THE POWER BOARD.

NOT USED

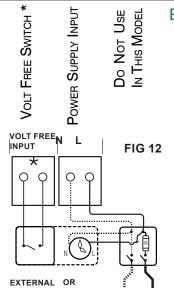
Not Used



5 A. FUSE MEDIUM BURN

BALLAST POWER SUPPLY

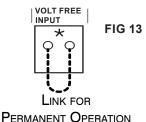




#### Earth Connection

DO NOT OPERATE THE UNIT WITHOUT PROPER GROUNDING TO EARTH. SEE FIG 2 FOR EARTH CONNECTION.

**DO NOT CONNECT** VOLTAGE ACROSS THE VOLT FREE CONTACTS OR THE UNIT WILL BE DAMAGED



# Power Supply

THE CABLES TO CONNECT THE POWER SUPPLY AND THE VOLTAGE FREE CONTACTS ARE WIRED TO CONNECTORS OUTSIDE FROM THE CABLE ENTRY POINT AT THE TOP OF THE UNIT. THE POWER SUPPLY SHOULD BE CONNECTED TO N IN (NEUTRAL - BLUE) AND L IN (LIVE - BROWN). THE E - (EARTH - GREEN YELLOW) MUST BE CONNECTED TO GROUND.

#### Volt free SWITCHING CONTROL

IF UV-C VENTILATOR IS TO BE OPERATED MANUALLY THEN AN EXTERNAL SWITCH MUST BE INSTALLED ACROSS THE VOLT FREE TERMINAL CONNECTIONS. THE UNIT WILL OPERATE IF THE VOLT FREE TERMINALS MAKE CONTACT THROUGH AN EXTERNAL SWITCH, TIMER OR EXTERNAL CO2 SENSOR.

# OPTIONAL SWITCH LIVE CONTROL

IF THE UNIT IS TO BE OPERATED WITH A SWITCH CONTROL ON THE POWER SUPPLY THEN THE SWITCH LIVE AND NEUTRAL FEEDS SHOULD CONNECT TO THE POWER SUPPLY INPUT. IN THAT EVENT IT WILL BE NECESSARY TO CONNECT A WIRE LINK ACROSS THE VOLT FREE INPUT TERMINALS (\*) FOR THE UNIT TO OPERATE THROUGH THE SWITCH LIVE.

## **SERVICE & COMMISSIONING**





# Service & Maintenance CAUTION:

THE MOUNIO UV-LL 110 IS A PREVENTATIVE MEASURE THAT REDUCES THE POSSIBILTY OF INFECTIOUS TTRANSMISSION. THE MAXIMISE THE UNIT PROTECTIVNESS, CORRECT SIZING AND LOTCAION OF THE UNITS IS ESSENTIAL. MOUNIO AGENTS CAN ASSIST AS REQUIRED WITH SELECTION AND ANY OTHER TECHNICAL ISSUES.



Never, under any circumstance, attempt to adjust or clean the Unit during operation or while the power supply is ON.

# **UV-C Ballast**

THE BALLAST IS ANOTHER CRITICAL COMPONENT OF THE UV-C UNIT. IT ALLOWS THE ELECTRIC CURRENT TO BE REGULATED FOR THE LAMP TYPE AND CONTROLS CURRENT FLOW AT VARYING SUPPLY VOLTAGES. MANY WILL BE FAMILIAR WITH THE WAY DEFECTIVE BALLASTS IN FLUORESCENT TUBES MAY REPEATEDLY BLINK OR JUMP INTO LIFE OR STAY LIT FOR LONG BEFORE BURNING THEMSELVES OUT. BALLAST SERVICE LIFE IS AROUND 3000 STARTUPS. THE OPTIMUM WAY TO ENSURE THE UNIT'S CONTINUOUS OPERATION IS TO EVALUATE THE TIME SWITCHINGS DURING THE OPERATIONAL PERIODS, DEPENDING ON USAGE, AND REPLACE THE BALLAST IN ADVANCE OF THE CALCULATED SERVICE LIFE OR REGULAR SERVICE INTERVALS.

CLEAN THE UV-C UNIT MUST PERIODICALLY (APPROXIMATELY EVERY THREE MONTHS), WITH INTERVALS BASED ON THE USAGE PATTERN AND CONDITIONS. UV-C LAMPS CAN BE CLEANED WITH A DRY COTTON CLOTH OR PAPER TOWEL. WEAR RUBBER GLOVES AND CLEAN WITH ALCOHOL ONLY.

# **UV-C Lamps**

UV-C lamps use a highly engineered, transparent glass to allow the 254.5~nm light wavelength to pass unfiltered, handled with extreme care.

WEAR PROTECTIVE GLOVES WHEN WORKING ON OR REPLACING THE LAMPS.

UV-C LAMPS COULD LOSE SOME OF THEIR EFFECTIVE USABLE ULTRAVIOLET (UV) OUTPUT BUT STILL RETAIN THE BLUE LIGHT THAT IS VISUAL TO THE HUMAN EYE. FOR THAT REASON, IT IS GOOD PRACTICE TO REPLACE THE LAMPS ONCE EVERY YEAR.

IN NORMAL CIRCUMSTANCES, UV-C LAMP SERVICE LIFE IS AROUND 9000 HOURS OR RUNNING PERMANENTLY FOR 1 YEAR.

# Cleaning Guidelines

BUT OTHER FACTORS, SUCH AS RE-STARTS AND ELEMENTS EROSION OF FILLERS IN THE UVC LAMP CAN ALSO AFFECT THE QUALITY OF OUTPUT OVER TIME. DUST CAN\_ALSO\_DECREASE THE LAMP'S DISINFECTANT EFFICIENCY.

EXERCISE EXTREME CAUTION WHEN CLEANING THE UNIT OR DISPOSING OF A LAMP THAT HAS BROKEN.

# Precautions with cleaning

NEVER USE LIQUID CLEANER OR SPRAY OR POUR LIQUIDS DIRECTLY ON ANY PART OF THE UNIT. SEVERE DAMAGE TO THE DEVICE OR BODILY INJURY MAY OCCUR.

ALWAYS SPRAY CLEANER ONTO SOFT CLOTH, THEN WIPE THE INSIDE SURFACE OF THE DEVICE.

THE UNIT'S EXTERIOR MAY PERIODICALLY BE WIPED WITH A SOFT CLOTH AND MILD CLEANER. NEVER USE HARSH CHEMICALS OR SPRAY CLEANER DIRECTLY ONTO THE UNIT.

# Cleaning The Unit's Interior

If necessary, prevent dust buildup within the lamp chamber, remove the six retaining screws and the cover sleeve, and wipe the Unit's internal surfaces clean.

NEVER SPRAY OR POUR LIQUID CLEANERS INTO THE DEVICE.

ISOLATE THE UNIT FROM THE POWER SUPPLY.

REMOVE THE COVER LID AND CLEAN THE INSIDE CARE-FULLY WITH A SOFT CLOTH TAKING PARTICULAR CARE NOT TO DISPLACE OR DAMAGE THE LAMPS.

# To replace the UV-C Bulbs

TURN OFF THE UNIT FROM THE POWER SUPPLY. REMOVE THE MAINTENANCE COVER AND LOCATE THE UV-C LAMPS INSIDE THE DEVICE.

HOLD THE TWO WHITE END CAPS OF ONE LAMP, AND GENTLY TWIST IT 1/4 TURN TO ALIGN THE PINS VERTICALLY WITHIN THE BASE HOLDERS' SLOTS, REMOVE IT FROM THE BASE AND PUT IT IN A SAFE LOCATION. REPLACE THE NEW LAMP INTO THE OPEN BASE HOLDERS' SLOTS, GENTLY TWIST IT IN REVERSE DIRECTION 1/4 TURN TO LOCK THE PINS IN THE BASE LOCK POSITION. CHECK THAT THE LAMP IS FIXED IN PLACE SECURELY. IF NECESSARY, REPEAT THE PROCESS FOR THE REMAINING LAMP.

REFIX THE OUTSIDE COVER INTO POSITION SECURELY WITH THE SUPPLIED 5MM SCREWS. REESTABLISH THE POWER SUPPLY, AND TEST THE UNIT TO BEGIN A DISINFECTION CYCLE.

#### Warranty

WHAT DOES THIS WARRANTY COVER?

THIS APPLIANCE HAS BEEN MANUFACTURED WITH CARE AND WAS METICULOUSLY EXAMINED BEFORE DELIVERY. THIS LIMITED MANUFACTURER WARRANTY COVERS ANY DEFECTS OR MALFUNCTIONS IN MATERIAL AND MANUFACTURING WORKMANSHIP OF ALL PARTS SUPPLIED BY MOUNIO UNDER NORMAL USE AND SERVICE WHEN OPERATED AND MAINTAINED IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS FOR THE DURATION OF THE WARRANTY PERIOD

PLEASE RETAIN YOUR PROOF OF PURCHASE (SALES RECEIPT) AND THE PRODUCT SERIAL NUMBER FOUND AT THE REAR OF THE UNIT FOR THE DURATION OF THE WARRANTY PERIOD OFFERED.

ALL SPARE PARTS SUPPLIED BY MOUNIO AND PURCHASED BY THE END USER ARE WARRANTED TO BE FREE FROM FAULTY MATERIAL OR DEFECTIVE WORKMANSHIP FROM THE DATE OF SALE TO THE ORIGINAL PURCHASER FOR 12 MONTHS.

ALL PARTS WARRANTY CLAIMS MUST INCLUDE A COPY OF THE PURCHASE INVOICE TO THE END USER.

MOUNIO CANNOT CONSIDER CLAIMS FOR WHICH SALES INVOICES ARE NOT AVAILABLE.

THIS WARRANTY IS NOT TRANSFERABLE.

HOW LONG DOES THE COVERAGE LAST?

THE MUONIO UV-L 110, INCLUDING THE LAMPS AND POWER SUPPLY, ARE WARRANTED FOR GERMICIDAL OUTPUT FROM THE DATE OF SALE TO THE ORIGINAL PURCHASER FOR 12 MONTHS FROM DATE OF PURCHASE.

WHAT WILL MOUNIO DO?

THE WARRANTY OFFERED BY MOUNIO IS LIMITED TO THE MAKING GOOD BY REPAIR OR REPLACEMENT FOR THE PURCHASER ANY PART OR PARTS FOUND, UPON EXAMINATION AT ITS FACTORY, EXCLUDING SHIPPING CHARGES, TO BE DEFECTIVE UNDER NORMAL USE AND SERVICE DUE TO DEFECTS IN MATERIAL OR WORKMANSHIP.

IF A PROBLEM ARISES WITH A MOUNIO UNIT, IT MUST HAVE AN IMMEDIATE REPAIR. CONTINUED USE OF THE MOUNIO UNITS AFTER A PROBLEM HAS OCCURRED MAY HAVE SAFETY IMPLICATIONS AND CAN RESULT IN FURTHER COMPONENT FAILURE, FOR WHICH MOUNIO CANNOT BE HELD LIABLE.

RETURNED PARTS MUST BE COMPLETE AND UNEXAMINED. PACK THE COMPONENT(S) CAREFULLY TO AVOIDED ANY DAMAGE IN TRANSIT. CERTAIN COMPONENT PARTS, ELECTRICAL ITEMS, FOR EXAMPLE, MAY REQUIRE PARTICULAR CARE WHEN PACKING TO AVOID DAMAGE IN TRANSIT.

WHAT DOES THIS WARRANTY NOT COVER?

THIS WARRANTY DOES NOT EXTEND TO ANY MOUNIO PRODUCT THAT HAS BEEN MODIFIED OR ALTERED IN ANY WAY.

THIS PRODUCT IS NOT INTENDED TO BE PURCHASED AND INSTALLED BY UNREGISTERED HEATING ENGINEER CONTRACTORS AND ELECTRICAL CONTRACTORS. THIS WARRANTY DOES NOT COVER PRODUCTS OR PARTS PURCHASED FROM ANY SOURCE OTHER THAN LICENSED HVAC OR ELECTRICAL CONTRACTORS. THIS WARRANTY DOES NOT COVER PARTS INSTALLED BY UNREGISTERED INSTALLED BY CONTRACTORS.

THIS WARRANTY DOES NOT APPLY TO ANY PART OF THE GOODS SUBJECTED TO IMPROPER OR ABNORMAL USE, OR ANY USE OTHER THAN ITS INTENDED USE, ACCIDENT, ACTS OF GOD, NEGLIGENCE, OR FROM IMPROPER OPERATION, ALTERATION, MODIFICATION, FITMENT OF NON-GENUINE PARTS, ACCIDENT DAMAGE, OR DAMAGE RESULTING FROM IMPROPER OPERATION, MAINTENANCE, INSTALLATION, WIRING OR NONCOMPLIANCE WITH INSTALLATION INSTRUCTIONS, DAMAGE CAUSED BY FOREIGN OBJECTS, FAILURE DUE TO LACK OF MAINTENANCE, USE OF INCORRECT FUSE PROTECTION, OR WHICH HAS SERVED ITS NORMAL LIFE.

THE WARRANTY EXCLUDES REPEAT OR ADDITIONAL REPAIRS RESULTING FROM INCORRECT DIAGNOSIS OR POOR-QUALITY PREVIOUS REPAIR WORK.

MOUNIO SHALL HAVE NO RESPONSIBILITY FOR CHARGES INCURRED BY THE CUSTOMER FOR INSTALLATION OR REMOVAL OF WARRANTED ITEMS.

THIS WARRANTY DOES NOT COVER PARTS OR EQUIPMENT USED WITH MUONIO UNITS THAT MOUNIO DOES NOT MANUFACTURE OR SUPPLY AS PART OF THEIR PRODUCT

CONSEQUENTIAL AND INCIDENTAL DAMAGES ARE NOT RECOVERABLE UNDER THIS WARRANTY. THE WARRANTY PERIOD WILL NOT EXTEND TO THE UNIT OR TO REPLACED OR REPAIRED PARTS THROUGH REPAIRS MADE UNDER WARRANTY DURING THE WARRANTY PERIOD. THE MANUFACTURER ASSUMES NO LIABILITY FOR ANY HARM, WHICH MAY OCCUR AS A RESULT OF THE USE OF THE EQUIPMENT HEREIN AND SHALL NOT BE LIABLE FOR CONSEQUENTIAL OR ANY OTHER DAMAGES WHETHER OR NOT CAUSED BY MANUFACTURER'S NEGLIGENCE OR RESULTING FROM ANY EXPRESS OR IMPLIED WARRANTY OR BREACH THEREOF. CONSEQUENTIAL DAMAGES FOR THE PURPOSE OF THIS WARRANTY SHALL INCLUDE, BUT NOT BE LIMITED TO, LOSS OF USE, INCOME OR PROFIT, OR LOSS OF OR DAMAGES TO PROPERTY OR INJURY OR DEATH TO PERSONS OR ANIMALS OCCASIONED BY OR ARISING OUT OF OPERATION, USE, INSTALLATION, REPAIR OR REPLACEMENT OF THE EQUIPMENT OR OTHERWISE.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF.

IT IS HEREBY CLARIFIED THAT AFTER THE STANDARD WARRANTY PERIOD, CALL-OUT CHARGES WILL BE APPLICABLE FOR ALL CALL-OUTS WITH THE COST WILL BE BORNE BY THE CUSTOMER.

WARRANTY DOES NOT COVER CHANGES OF THE PRODUCT SETTINGS BY THE USER OR ANY DAMAGE RESULTED AS FROM SUCH CHANGES.

\*\*THIS WARRANTY SHALL BE VOID IF UV LAMPS FROM MANUFACTURER'S OTHER THAN MOUNIO ARE USED WITH THIS EQUIPMENT.

DAMAGE TO NEW

ALL MOUNIO PRODUCTS MUST BE EXAMINED ON RECEIPT; PLEASE EXAMINE ALL UNITS AND PACKAGING, ANY CLAIMS IN RESPECT TO THE DELIVERED PRODUCTS, INCLUDING VISIBLE DEFECTS, QUANTITY SHORTAGES OR INCORRECT PRODUCT SHIPMENTS, MUST BE MADE WITHIN TEN (10) DAYS OF DELIVERY, FAILURE TO NOTIFY SELLER IN WRITING OF ANY VISIBLE DEFECTS IN THE PRODUCTS OR OF QUANTITY SHORTAGES OR INCORRECT SHIPMENTS WITHIN SUCH PERIOD SHALL BE DEEMED UNQUALIFIED WAIVER OF ANY RIGHTS TO RETURN PRODUCTS ON THE BASIS OF VISIBLE DEFECTS, SHORTAGES OR INCORRECT SHIPMENTS.

NO CLAIMS WILL BE ACCEPTED AFTER THIS TIME.

FAILED FANS, BALLAST & ELECTRICAL CONTROLS

ANY FANS, BALLAST & ELECTRICAL CONTROL UNITS FITTED TO ANY MOUNIO UNIT THAT FAILS DURING THE FIRST TWELVE MONTHS OF WARRANTY MUST BE RETURNED TO US UNEXAMINED. WE WILL REJECT THE WARRANTY IF THEY HAVE BEEN DISMANTLED. THIS ONLY APPLIES TO THE FIRST TWELVE MONTHS OF WARRANTY.

HOW DO YOU GET SERVICE?

TO BE ELIGIBLE FOR SERVICE UNDER THIS WARRANTY YOU MUST RETURN THE WARRANTY REGISTRATION CARD INCLUDED IN THE PACKAGING WITHIN 30 DAYS OF INSTALLATION OF THE MOUNIO PRODUCT. IF SOMETHING GOES WRONG WITH YOUR PRODUCT, CALL XXX TO RECEIVE A RETURN MERCHANDISE AUTHORISATION (RMA) AND INSTRUCTIONS FOR RETURNING THE PRODUCT TO A LICENSED DISTRIBUTOR IN YOUR AREA OR DIRECTLY TO THE MANUFACTURER.

ONCE THE PRODUCT IS RETURNED, WE WILL INSPECT YOUR PRODUCT AND CONTACT YOU WITHIN 10 BUSINESS DAYS OF OUR RECEIPT OF THE PRODUCT TO GIVE THE RESULTS OF OUR INSPECTION. IF WE DETERMINE THAT THE PRODUCT IS COVERED UNDER THIS WARRANTY, WE WILL SHIP A REPLACEMENT TO YOU AT NO ADDITIONAL COST. REPLACEMENT PARTS MAY BE REFURBISHED. IF WE DETERMINE THAT THE PRODUCT IS OUTSIDE WARRANTY CONDITIONS, OR THAT THIS WARRANTY IS VOID, WE WILL RETURN THE PRODUCT TO YOU WITH CASH ON DELIVERY TERMS. THERE IS NO CHARGE FOR INSPECTION.

ANY FAULT MUST BE REPORTED TO AN AUTHORISED MOUNIO DEALER AS SOON AS IT OCCURS. CONTINUED USE OF A UNIT, AFTER A FAULT HAS OCCURRED, CAN RESULT IN FURTHER COMPONENT FAILURE OR INJURY FOR WHICH MOUNIO CANNOT BE HELD LIABLE.

ALL CLAIMS MUST BE SUBMITTED, BY AN AUTHORISED MOUNIO SERVICE DEALER, WITHIN 30 DAYS OF THE DATE OF REPAIR.

IN THE EVENT OF A CLAIM, PROOF OF THE SERVICE WORK CARRIED OUT BY A SUITABLY QUALIFIED TECHNICIAN IS REQUIRED.

THE CUSTOMER SHALL PROVIDE A REASONABLE, SAFE AND ACCESSIBLE WORKING ACCESS THE APPLIANCES FOR MAINTENANCE AND SERVICE PERSONFI

ANY REPAIR OR MAINTENANCE WORK OUTSIDE THE SCOPE OR PERIOD OF THE WARRANTY SHALL BE CHARGED TO THE CUSTOMER.

THE WARRANTY IS NOT EFFECTIVE UNLESS THE SELLING DEALER REGISTERS THE UNIT, VIA THE MOUNIO WEBSITE AND CONFIRMS THE REGISTRATION TO THE PURCHASER BY COMPLETING THE CONFIRMATION FORM IN THE INSTALLATION MANUAL. (WWW.MOUNIO.XXXCCCXXX)

LIMITATION OF LIABILITY

MOUNIO DISCLAIMS ANY EXPRESS (EXCEPT AS SET FORTH HEREIN) AND IMPLIED WARRANTIES CONCERNING THE GOODS INCLUDING, BUT NOT LIMITED TO, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

MOUNIO MAKES NO WARRANTY AS TO THE DESIGN, CAPABILITY, CAPACITY OR SUITABILITY FOR USE OF THE GOODS.

EXCEPT AS PROVIDED HEREIN, MOUNIO SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO THE PURCHASER OR ANY OTHER PERSON OR ENTITY CONCERNING ANY LIABILITY, LOSS, OR DAMAGE CAUSED OR ALLEGED TO BE CAUSED DIRECTLY OR INDIRECTLY BY THE GOODS INCLUDING, BUT NOT LIMITED TO, ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES RESULTING FROM THE USE OR OPERATION OF THE GOODS OR ANY BREACH OF THIS WARRANTY. NOTWITHSTANDING THE ABOVE LIMITATIONS AND WARRANTIES, THE MANUFACTURER'S LIABILITY HEREUNDER FOR DAMAGES INCURRED BY THE PURCHASER OR OTHERS SHALL NOT EXCEED THE PRICE OF THE GOODS.

NO ACTION ARISING OUT OF ANY CLAIMED BREACH OF THIS WARRANTY OR TRANSACTIONS UNDER THIS WARRANTY MAY BE BROUGHT MORE THAN ONE (1) YEAR AFTER THE CAUSE OF THE ACTION HAS OCCURRED.

MISCELLANEOUS

EXCEPT AS PROVIDED HEREIN, NO EMPLOYEE, AGENT, DEALER OR OTHER PERSON IS AUTHORISED TO GIVE ANY WARRANTIES OF ANY NATURE ON BEHALF OF MOUNIO.

MOUNIO MAY WAIVE COMPLIANCE WITH ANY OF THE TERMS OF THIS LIMITED WARRANTY, BUT NO WAIVER OF ANY TERMS SHALL BE DEEMED TO BE A WAIVER OF ANY OTHER TERM.

HOW DOES STATE LAW APPLY?

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS.

APPLICABLE LAW MAY PROVIDE RIGHTS AND BENEFITS TO THE PURCHASER IN ADDITION TO THOSE PROVIDED HEREIN, WHICH MAY VARY FROM STATE TO STATE.

IF ANY PROVISION OF THIS LIMITED WARRANTY SHALL VIOLATE ANY APPLICABLE LAW AND IS HELD TO BE UNENFORCEABLE, THEN THE INVALIDITY OF SUCH PROVISION SHALL NOT INVALIDATE ANY OTHER PROVISIONS HEREIN.

PLEASE RETAIN YOUR PROOF OF PURCHASE (SALES RECEIPT) FOR THE DURATION OF THE WARRANTY PERIOD OFFERED.



# Disposal of Old Devices



Devices marked with this symbol are subject to European Directive 2002/96/EC. All electric and electronic devices must be disposed of separately from household waste at official disposal centres. Avoid hazards to the environment and dangers to your personal health by disposing of the device properly. For further information about proper disposal, contact your local council, waste disposal office or the shop where you bought the device.

CUSTOWER 5	CUSTOMER SIGNATURE								
DATE	SERIALNUMBER*								

Local Agent



