

Operation and Maintenance Manual – Issue 3




Mini-Ray Tool IR1759-MK5-AT3130-EDCont

PCN.CV3948-000



Language: (original version English)

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- TE produces IR1759-MK5-AT3130-EDCONT Mini-Ray Hand Tool and Controllers in conformity with RoHS 2015/863/EU.UL499, UL Listing: E62371. The tool has been manufactured to Low Voltage Directive 2014/35/EU,
- Information on the occurrence and location of substances subject to RoHS guidelines can be found at the following website: <http://www.te.com/customersupport/productcompliance/>
- It is intended for use by trained, qualified operating and maintenance personnel and assumes the equipment has been supplied complete and is unmodified

Technical Specifications

ED-7-CONT-230/110V MK5

- **Dimensions:** 160x120x250
- **Weight:** 6.2 kg
- **Volts:** 230/110 50/60 Hz
- **Current:** amps
- **Voltage lamp:** 23.5 /24 v AC.
- **Connection** 3 pin IEC
- **Fuses** 4AT Mains -16AT to Gun

Mini-Ray hand tool IR1759MK5

- **Weight:** 1.1 kg
- **Noise:** 51db
- **Cable length** 3 meters
- **Volts:** 23.5 /24 v AC.
- **Watts** 250
- **Lamp Type** Tungsten
- **Connection Type,** 6 pin connector
- **Cord Length** 3.1 M

Application

- **Max Product diameter (mm 6)**
- **Max product length (mm 25)**
- **Max product length with clamps (mm 19)**



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1. Revision history

Rev.	Date	Description	Name
Issue 1	Jan 2014	New Tool UL approved	
Issue 2	Feb 2015	Add section	
Issue 3	April 2019	Updated information	

2. Introduction

If a local language translation of this manual is required, please contact local TE /Tyco Electronics Technical Service

2.1 About this Manual

- As with all electrical equipment, the IR1759-MK5 Mini-Ray Hand Tool and Controllers must be operated properly. It is intended for use by trained operating and maintenance staff and assumes the equipment has been supplied complete and is unmodified.
- Carefully read and observe all the instructions and warnings in this manual.
- Incorrect use of the IR1759-MK5 Mini-Ray Hand Tool can cause serious injury. This equipment must be operated and maintained only by fully trained and qualified personnel.
- Failure to follow the manufacturer's instructions may void the warranty of this equipment.
- The IR1759-MK5 Mini-Ray Hand Tool and Controllers must be operated in accordance with safe working practices and local safety codes and regulations.
- Do not use the IR1759-MK5 Mini-Ray Hand Tool and Controllers for any purpose other than its intended function.
- The IR1759-MK5 Mini-Ray Hand Tool control module carries International Protection (IP) Code of IP12.5 and the Controller modules carries an International Protection (IP) Code of IP1.1. Never expose the IR1759-MK5 Mini-Ray Hand Tool and Controllers to water and moisture.

2.2 How to Use this Manual

This manual gives information regarding the safe operation and maintenance of the equipment. Before operating or maintaining the equipment you must read and understand the following sections:

3. Safety

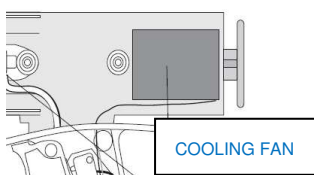
4. Installation

2.3 System Description

IR1759-MK5 Mini-Ray Hand Tool



- The IR1759-MK5 Mini-Ray Hand Tool and Controllers combine to form a lightweight, medium duty system for low volume bench production and in-site application equipment for TE's SolderSleeve®, MiniSeal®, SolderTacts®, and Thermofit® heat-shrinkable devices terminations
- The IR1759-MK5 Mini-Ray Hand Tool uses infra-red energy derived from a tungsten halogen lamp as its radiant heat source. The tool is normally used with an external reflector to focus the heat from the lamp uniformly around the circumference of the work-piece, concentrating heat energy within the work area of the front reflector. The internal reflector assembly contains an optical filter which reduces the amount of visible light and ultraviolet (UV) radiation emitted. An optical filter between the lamp and the work area reduces glare from the lamp, allowing the operator to observe the heating process and reducing eye strain to the operator.
- The Mini-Ray Hand-tool is supplied with cable and connector ready to connect to this specific UL approved ED-7-CONT Controllers.
- **ON/OFF Trigger Control.** The function of the Mini-Ray Hand-tool trigger is to switch power to lamp when required. The switch provides for continuous operation of up to 70 sec (ON) and 2 sec (OFF) after which 70 seconds continuous operation again is possible. It is possible to 'pulse' the tool to finish an incomplete installation, provided the trigger is pressed for 2 seconds.
- The IR1759-MK5 Mini-Ray Hand Tool contains a cooling fan inside the Hand Tool to maintain acceptable temperatures for the internal components as well as for keeping external surfaces cool and to allow for long-duration heating. Since the front reflector is outside the cooling air stream, it may get hot during long heating cycles



- The tool is also equipped with a thermostatic switch to protect it from overheating. Overheating activates the switch, which disconnects the heat lamp temporarily.



2.3 System Description continued The IR1759-MK5 Mini-Ray Hand Tool

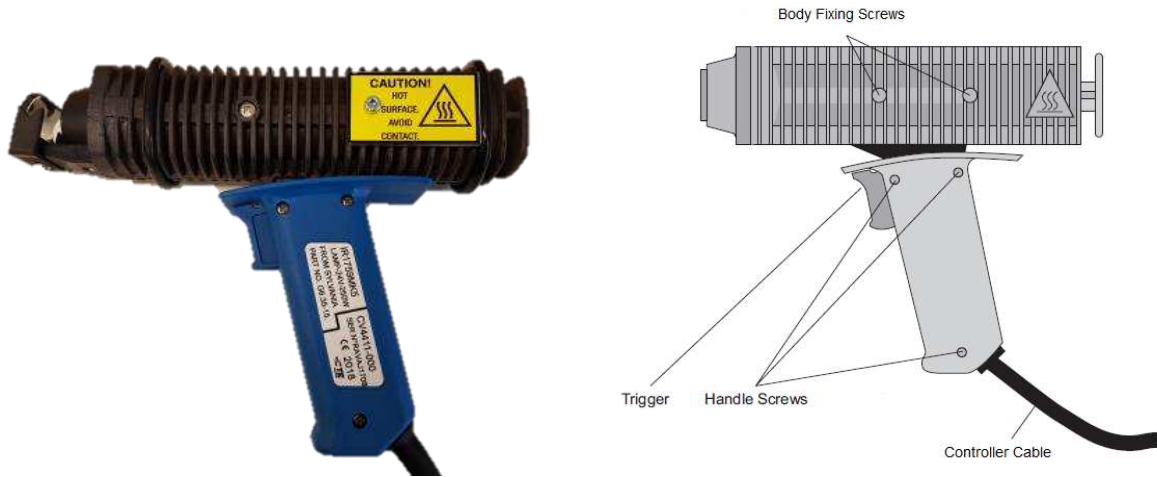


Fig 3

Mini-Ray Hand Tool Connector –

- The input connector is a 6-pin 'female' plug at the end of the supply lead. The plug is fitted with a locking ring and is connected to the output socket on the controller.
- The Mini-Ray Hand-tool has one connector and one operator control.

System Connections and Controls – ED-7-CONT-230/110V MK5

- The Controller is used to provide an electrical supply to the Mini-Ray Hand-tool.
- The Controller and components are housed in sturdy metal cases, designed to operate on a bench or table.
- The Controller operates as a simple switched supply for the Mini-Ray Hand-tool and is turned on and off by the trigger on the Hand-tool. In this mode the Controller always provides full power to the Hand-tool for as long as the trigger is depressed.
- Controller ED-7-CONT-230/110V MK5 provides a controlled and regulated voltage to the lamp in the Mini-Ray hand tool while the trigger is depressed. This controlled voltage ensures that the lamp will not see more than 24V AC.
- The Triac controller can be operated from either a 220V-240V, or 110V-115V AC supply and will Automatically detect which supply voltage is connected. The controller is switched on from the Mini-Ray Hand-tool trigger maintaining operation while the trigger is pressed. Once the maximum operating period of 70 seconds is reached, the controller will automatically switch to a TIME OUT mode indicated by the green 'ON' LED going OFF. Further action of the Hand-tool is inhibited until the TIMEOUT period of **2 seconds** has lapsed. After the 2 seconds lapsed, 70 seconds continuous operation again is possible, within the 70 secs operating that time the trigger can be released and pressed without any delay to the operation of the lamp on the gun.

2.3 System Description continued The IR1759-MK5 Mini-Ray Hand Tool

The mains supply to the controller is connected through a standard, (IEC) mains socket on the rear panel. This socket has an integral ON/OFF switch (Fig1). Both live and neutral lines are fused protected at the connector.



Fig1



Fig 2

Mini-Ray Hand Tool Connector –

The input connector is a 6-pin 'female' plug at the end of the supply lead. The plug is fitted with a locking ring and is connected to the output socket. As shown in Fig1

The output connector is a male 6-pin socket on the rear panel. The socket includes a locking ring and connects to the plug on the Mini-Ray Hand Tool. Fig 2



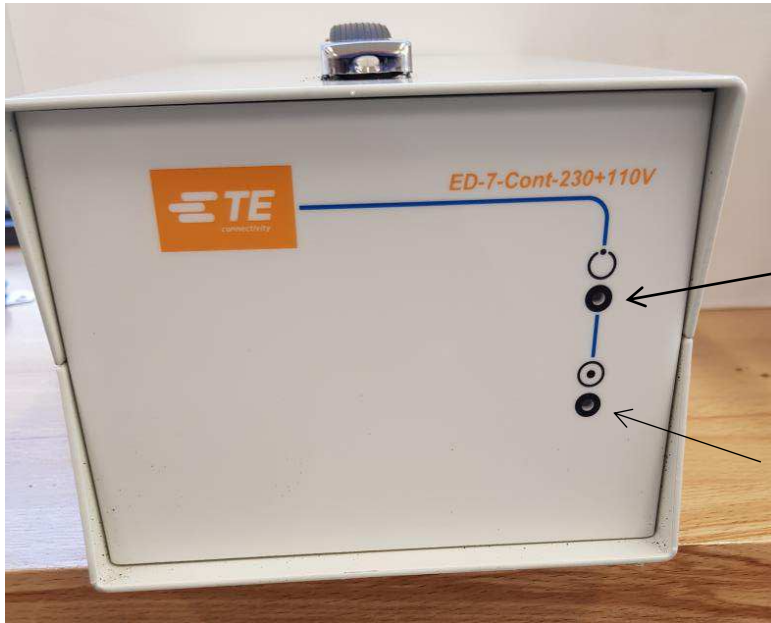
Note: IR1759-MK5-AT3130-EDCONT should not be connected to other Controllers except the one supplied



CAUTION

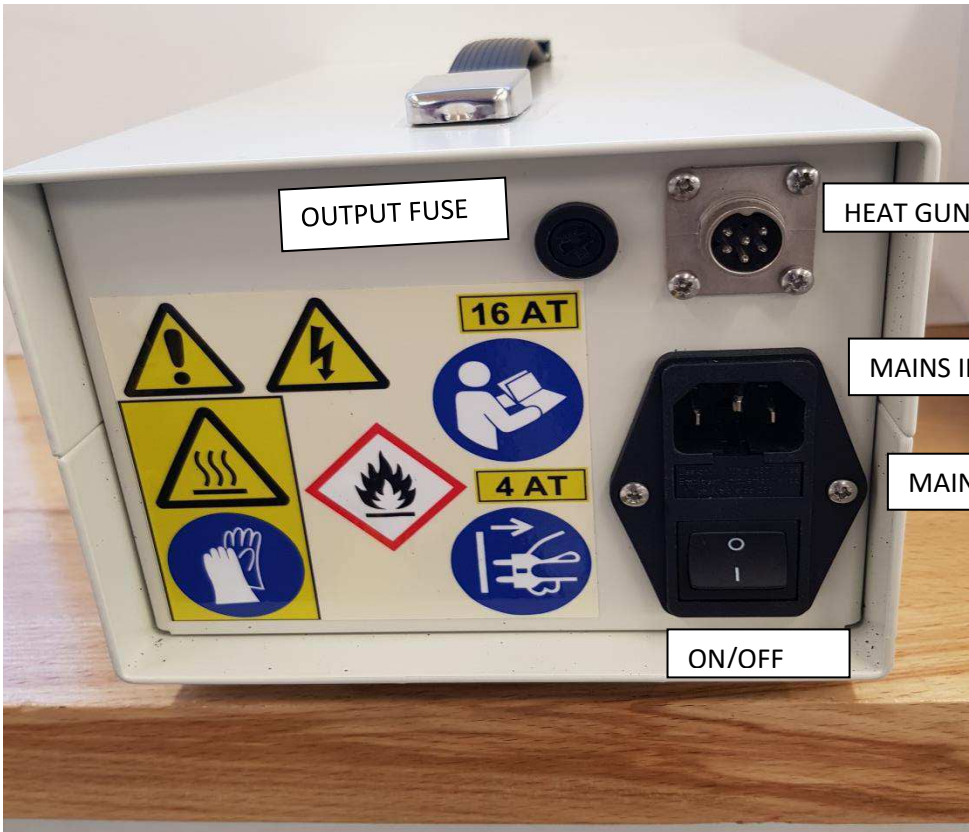
To avoid burns, the front reflector should not be touched when the tool is in use.

2.3 System Description continued ED-7-Cont-230+110V



Mains ON LED

LAMP ON LED



OUTPUT FUSE

HEAT GUN CONNECTION

MAINS INPUT

MAIN POWER FUSES

ON/OFF

3. Safety

3.1 Important Safety Instructions UL 499

“READ THESE INSTRUCTIONS”

WARNING: THIS PRODUCT IS A SOURCE OF VERY HIGH TEMPERATURE HEAT PRODUCED BY TUNGSTEN HALOGEN LAMP. AS WITH ANY ELECTRICAL EQUIPMENT, WHEN USING THIS HEATING TOOL, ALWAYS FOLLOW SAFETY PRECAUTIONS TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK OR PERSONAL INJURY.

RESTRICTED USAGE: The halogen lamp is to be used **only** as heating source on Mini-Ray Infrared Heating Tool Model Name IR1759. It is **not** suitable for room illumination or any other purpose or application.

1. Read and understand this instruction manual before using Mini-Ray tool.
2. Do not expose heat tool to water and moisture including but not limited to rain and humid environments. Store indoors. Connect to grounded outlet only. Do not defeat this protection by using adapters or modifying the plug.
3. To extend the lamp life after using, run heat tool on cool for 1 to 2 minutes before turning-off. Never store product whilst hot.
4. Turn-off all controls before unplugging.
5. Unplug heat tool before performing any repair, servicing and when not in use.
6. Use heat tool on adequately rated circuits to avoid overheating of electrical system.
7. Do not use with damaged cord or plug. If equipment is not working as it should, has been dropped, damaged, left outdoors, or dropped into water, return it to a service centre.
8. Do not pull or carry by cord, use cord as a handle, close a door on cord, or pull cord around sharp edges or corners. Do not run equipment over cord. Keep cord away from heated surfaces.
9. Do not unplug by pulling on cord. To unplug grasp the plug, not the cord.
10. When an extension cord is used, it must be minimum 14-gauge, 3-wire grounded cord rated for outdoor use.
11. Use heat gun in a well-ventilated area. Do not run when combustible materials, vapours or fumes are present.
12. Do not leave heat tool when plugged in. Do not leave heat tool in a running condition unattended.
13. Do not handle plug or heat tool with wet hands.
14. Do not touch the nozzle opening, shield, or attachments as high temperature and extreme heat are generated at those areas. Keep your hands and body out of the hot air stream. We recommend you wear safety glasses and protective gloves.
15. Do not use heat gun in presence of children. Do not allow to be used as a toy. Do not store within reach of children. Keep the heat tool in a safe, dry environment.
16. Do not heat chemicals that will ignite and /or release harmful vapours.
17. Use only as described in this manual. Use only manufacturer's recommended attachments.
18. All service and/or repair work be performed by qualified personnel.
19. This appliance must not be used by children or persons with reduced physical, sensory, or mental capabilities.

3.2 Electrical Safety

Read **All Instructions** before Using (This Equipment) To reduce the risk of fire, electric shock, or injury.

DANGER



- The Mini-Ray Controllers are connected directly to the AC mains electricity supply. Before starting any electrical maintenance or repair, always turn off the equipment and ensure it is completely disconnected from the mains supply.
- Do not open the case of the Mini-Ray Controller or Hand Tool whilst the equipment is connected to the mains supply. The Mini-Ray equipment must be connected to an earth ground power supply, which must be protected by a 30mA residual current device.
- The Mini-Ray equipment must not be hard-wired to a mains supply.
- Use only specified fuse types and ratings.
- Power connections for the tool must conform to local standards and regulations
- Potentially hazardous voltages will be exposed if the equipment covers are removed while it is powered or if any of the cables are damaged. Do not use the equipment if the cables are damaged or any of the external panels are removed or exposed in any way.

3.3 Hot Surfaces Safety

CAUTION!



Note: Risk of burning upon contact with hot parts.

Care must be taken not to touch any exposed hot metallic surfaces of the tool or product. Special care must also be taken whilst handling product immediately after installation.



It is recommended that protective clothing and gloves are used when operating this tool.

3.4 Eye Protection



Eye protection must be used when using this tool. Safety glasses should be worn when operating this tool, to provide eye protection against hot debris, dust, etc. Never look directly at the lamp when it is energised.

Ensure that the optical filter and optical block assembly are in good condition and have been correctly fitted.

3.5 General Safety Instructions - Mini-Ray equipment

When used exactly as instructed in this manual, the Mini-Ray equipment presents no hazard to the user.



As with all electrical equipment, the IR1759-MK5 Mini-Ray Hand Tool and Controllers must be operated properly. Carefully read and observe all the instructions and warnings in this manual.

Incorrect use of the IR1759-MK5 Mini-Ray equipment can cause serious injury. This equipment must be operated and maintained only by fully trained and qualified personnel.

Failure to follow the manufacturer's instructions may void the warranty of this equipment.

The IR1759-MK5 Mini-Ray equipment must be operated in accordance with safe working practices and local safety codes and regulations.

Do not use the IR1759-MK5 Mini-Ray equipment for any purpose other than its intended function.



Do not use the equipment on or near fuelled aircraft or in a potentially explosive environment.



A fire may arise if the tool is not used with care. Parts of the Mini-Ray Hand Tool get hot during use. Special care must be taken to avoid heating materials other than the pieces being worked on.

The Mini-Ray Hand Tool should be used in a well-ventilated area, never use the tool near solids, liquids or gases that burn easily.

Be sure that the Mini-Ray Hand Tool is not placed on or near flammable materials between uses.

3.6 Standard Electrical Rating Label

Rating information of controller,/Model serial number/ Manufacturer's address.

		FARADAY ROAD, DORCAN, SWINDON - UK.	
MACHINE TYPE: ED-7-CONT-230/110V-MK5		SERIAL No. <input type="text"/>	
SHORT CIRCUIT CAP: 35A @ 230V		WIRING DIAGRAM No. 122602	
CURRENT - MAX LOAD 1.3@230V 2.5A@120V		RATED VOLTAGE: 230V50Hz 120V60HZ	
CE	200X ₁	PCN No. CV4409-000	



Emergency Stop

The equipment has no separate emergency stop system. Use:

- The ON/OFF switch (Fig page 9) on the rear panel.
- Or removing the power lead from the mains supply can be used to disconnect the equipment from the mains supply.

Mini-Ray Hand Tool Supply Cable



The cable between the Controller and the Mini-Ray Hand Tool carries supply and signal voltages and should not be disconnected whilst the controller is switched on.



Follow recommendations in product safety data sheets at all times when installing products with the Mini Ray system/

4. Installation

4.1 Installation and Set-Up

Unpacking

Remove any packaging and inspect the IR1759-MK5 Mini-Ray Heat Tool for any damage. Check that all items have been supplied.

Report any damaged parts or missing items to your supplier.

Retain all packing materials. These will be required if you need to return the item for repair.

Location/Positioning

The IR1759-MK5 Mini-Ray Heat Tool is designed to be installed and operated in an industrial environment. However, it should not be used near explosive or flammable materials or in a location where it would be subject to moisture or excessive dust.

Parts of the Mini-Ray Hand tool get hot during use. Special care must be taken to avoid heating materials other than the pieces being worked on.

The tool has an IP1.1 rating. The Mini-Ray tool is designed for areas free from inflammable solids, liquids and gases.

- The Mini-Ray System should be located on a bench with a level firm surface with sufficient clearance must be left at the rear of the unit, for connection to the mains supply and the Mini-Ray Hand Tool. Controllers are supplied with a 2.5m mains lead and Hand Tool with a 3.1m control lead
- Mains electrical leads should be routed to help prevent damage or entanglement.
- Work in areas with good lighting.
- Never use the tool near solids, liquids or gases that burn easily.
- The tool shall be maintained well.

Electrical connections. Photo page 10

The Mini-Ray system must be installed in accordance with established safe working practices.

Incorrect use can cause injury.

Installation requirements must conform to local standards and regulations

The Mini-Ray Controller is a Class I tool. This controller is designed to operate from a 230V±10% 50Hz mains and 110v 60hz mains

For example:

- ED-7-CONT-230/110V & -MK5.

The Mini Ray System is supplied with an appropriate power lead / plug at one end and an IEC connector at the other.

If this mains lead is lost at any time it should only be replaced with a CE / UL approved mains power supply cord.

The mains supply to the equipment must be protected by a 30mA residual current device

4.1 Installation and Set-Up continued

Pre-Installation Checks

1. Ensure the input supply switch on the Controller is switched **OFF**.
2. Ensure the correct AT-XXXX fixture is fitted to the Mini-Ray Hand Tool (See “Fitting an ATXXXX Fixture” Page 17.)
3. Connect the Mini-Ray Hand Tool to the Controller and secure the locking ring.
4. Connect the mains supply cable to the Control
5. Plug the mains supply cable into the electricity supply socket.

Selecting the Hand Tool Aperture

Two Mini-Ray Hand Tool types are available the difference between models is the aperture size:

- IR-1759 - Standard
- IR-3104 - Large

A kit (AE-897) is available to convert between standard and large aperture sizes.

The kit contains the relevant optical block, inner reflector, optical filter and locking ring.

See *Pg. 30 Spare Parts and Accessories* for ordering information.

4.2 Changing the Aperture



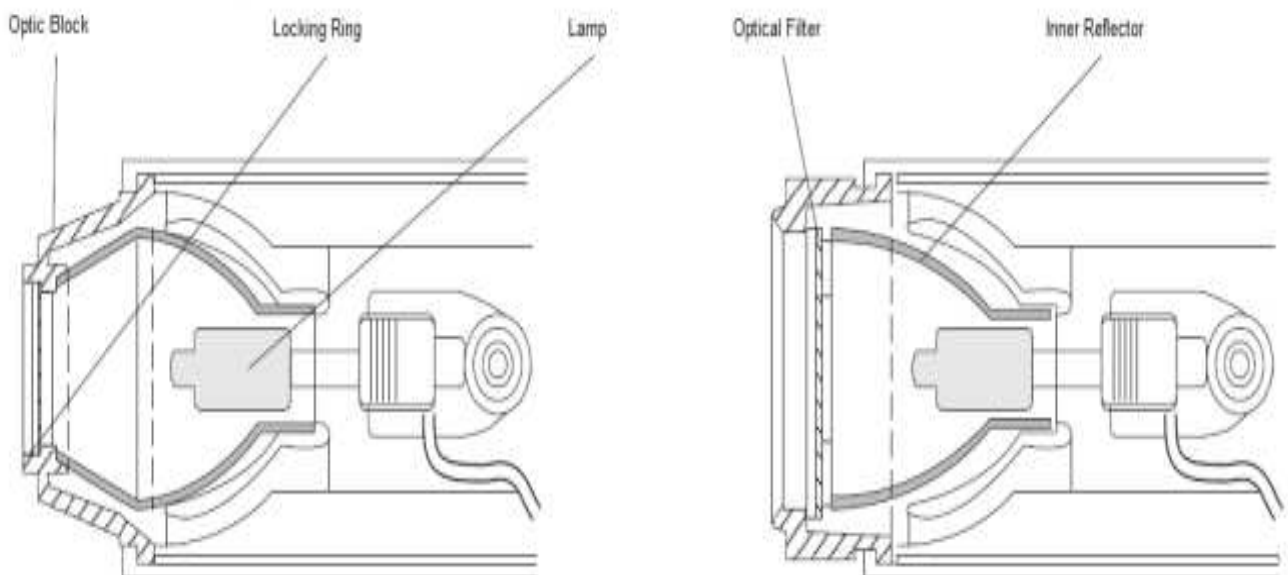
The equipment may be hot. Allow the Mini-Ray Hand Tool fan to run until the aperture assembly is cool.

The procedure for changing the aperture is the same whichever kit is being fitted:

1. Switch OFF the Controller and disconnect it from the mains supply.
2. Unplug the Mini-Ray Hand Tool control cable from the Controller.
3. Place the Mini-Ray Hand Tool on its side with the trigger and lens to the left.
4. Remove the two body fixing screws and separate the two halves of the Hand Tool. Fig 3 page 8
5. Remove the optical block and optical filter assembly taking care not to touch the surface of the filter. Then remove the inner reflector.

Do not touch the lamp

6. If you accidentally touch any of these parts you must clean them with a soft, clean, cotton cloth dipped in isopropyl alcohol.
7. Fit the required parts.
The lens assembly can only be positioned at 90° increments, so make sure it is fully engaged before trying to reassemble the tool.
8. Replace the top half of the tool, ensure that no wires are trapped, and re-fasten the two main screws.



Fitting an Aperture Kit to Change Size

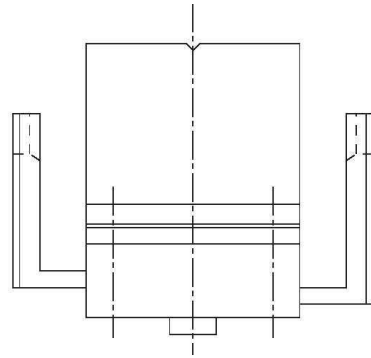
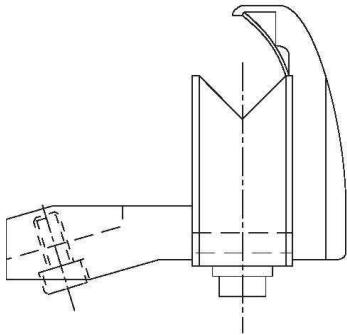
Fitting an AT-XXXX Fixture

The Mini-Ray equipment can be used to install a variety of TE's SolderSleeve® termination products. In order to, ensure correct positioning of the product in the heating zone, a range of fixtures are available.

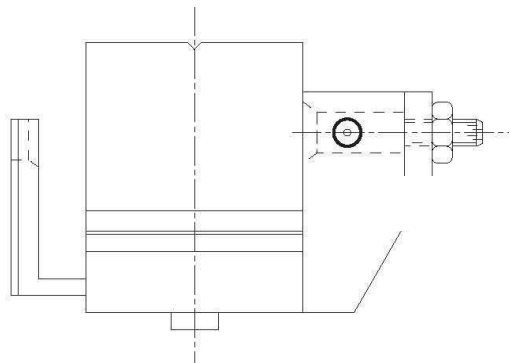
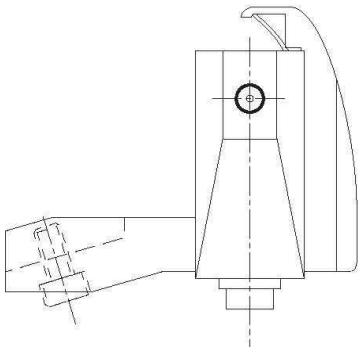
Each fixture attaches to the front of the Mini-Ray Hand Tool.

The available fixtures are shown in the following illustrations

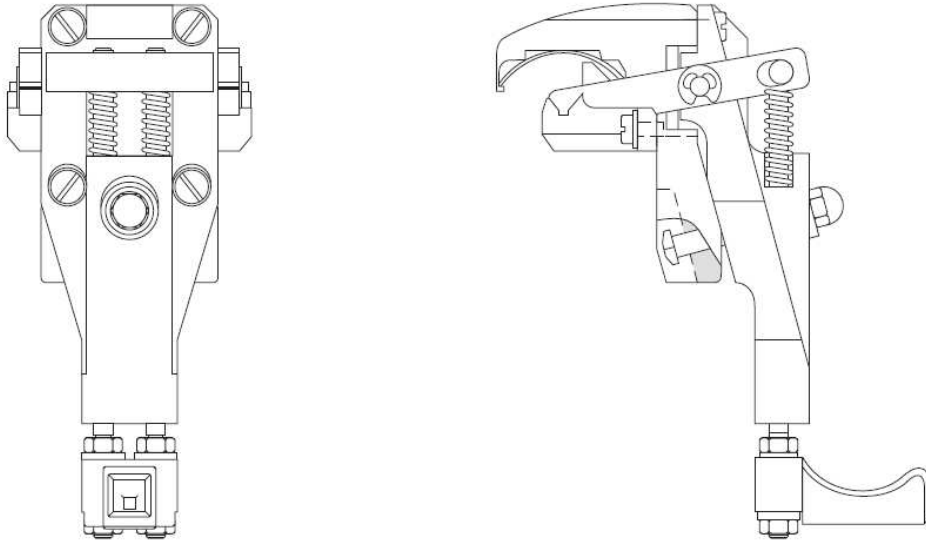
AT 3130 Standard V Block



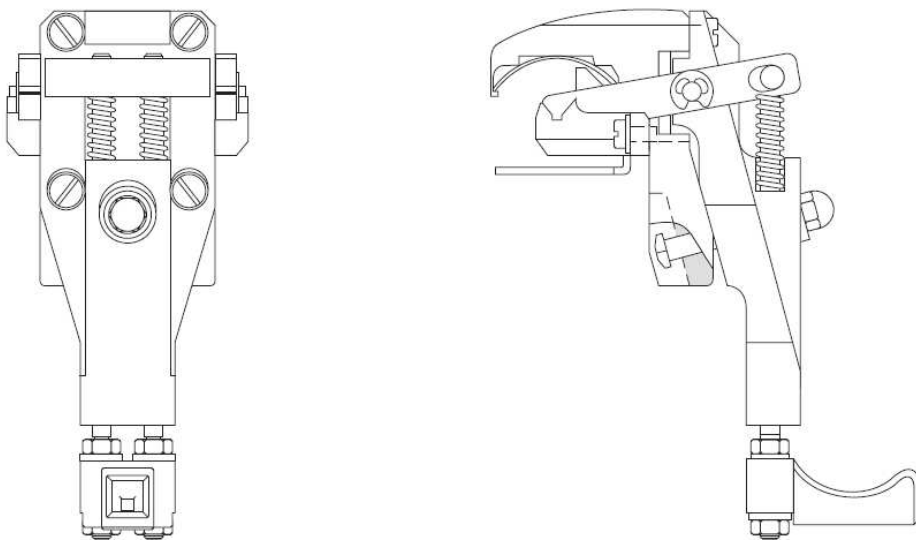
AT 3131 Solder-tact Block



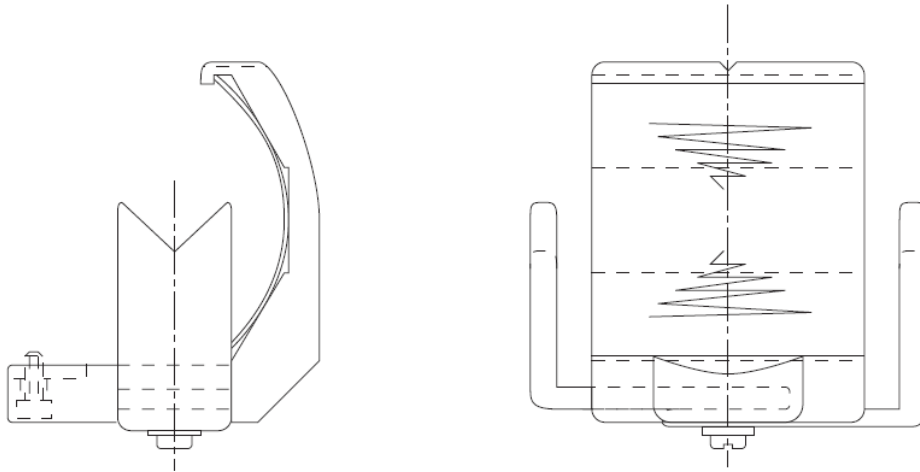
AT 3132 V Block with Clamp



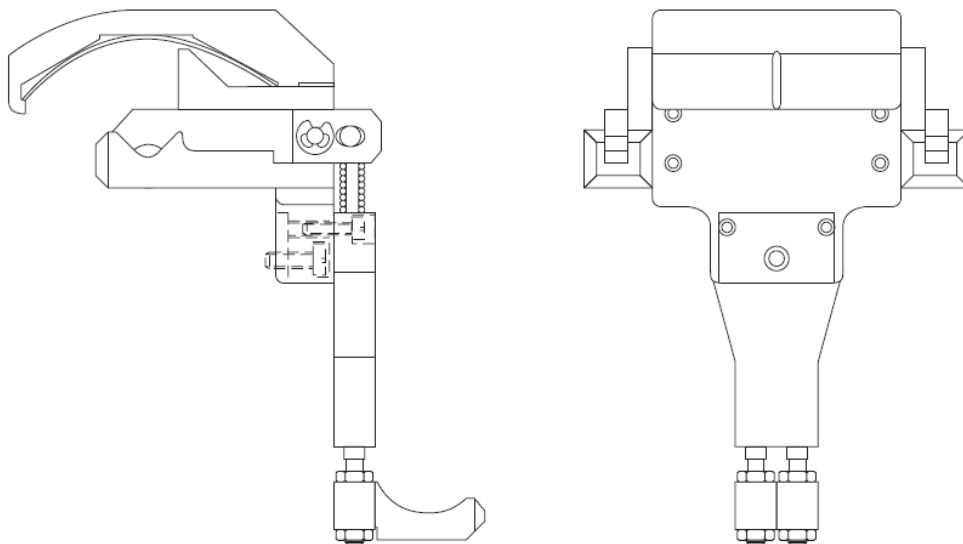
AT 3132 Mk31 V Block with Clamp & 5mm Wide Mask



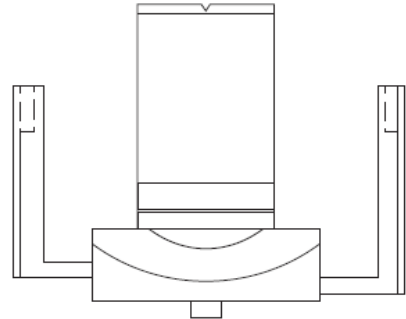
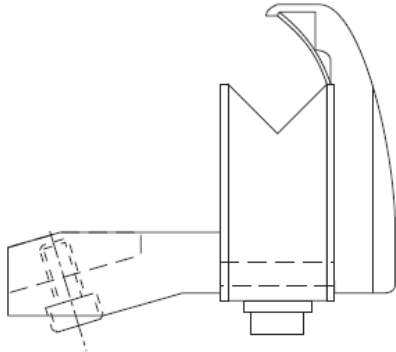
AT 3134 Standard V Block (Large Aperture)



AT 3147 V Block with Clamp (Large Aperture)



AT 3191 Special V Block (Standard)



5. Operation

5.1 Operation

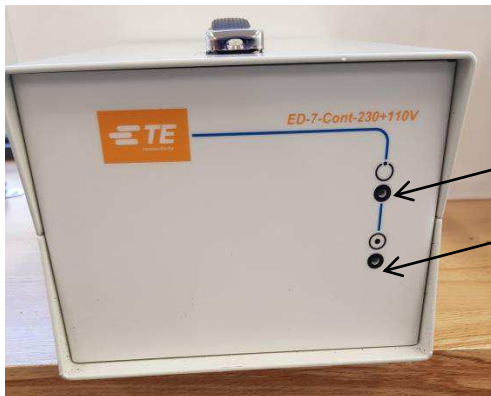
Before operating the Mini-Ray Hand Tool or the Controller, you should ensure you are familiar with the system connections and controls in System Description & Introduction, Pg. 6 and the safety requirements detailed from Pg. 11.

General



Do not look directly into the illuminated lamp at any time.

1. Connect the Mini-Ray Hand Tool (IR1759-MK5) to the Controller (ED-7-CONT), and ensure the connector locking ring is fully engaged.
2. Connect the mains lead to controller.
3. Connect the mains lead to the mains supply.
4. Switch on the controller using the rocker switch on IEC socket at the rear of the controller.



Mains ON LED

LAMP ON LED

Lamp ON (Green)

5. The fan in the Mini-Ray Hand-tool will start
6. Press the Mini-Ray Hand-tool trigger to start the process and switch power to the lamp. Power to the lamp is gradually applied (Soft Start), controlled by the internal processor. The "LAMP ON" green LED will be lit. Continuous hand tool operation is limited to a maximum of 70 Seconds. The mode indicated by the green 'ON' LED going OFF, this has entered the 'TIME OUT' sequence. (Yellow). While in 'TIME OUT' action of the Hand-tool trigger is inhibited.
7. End of the 'TIME OUT' = **2 seconds**
8. The Mini-Ray is now ready to be operated

Process Finishing

If a heat shrinking process needs to be finished off, the Mini-Ray Hand Tool can be pulsed for short periods.

The pulse action of the trigger is enabled, as long as, the process time is within the 70 second operating period, and the trigger is re-applied

6. Maintenance

6.1 General Maintenance and Service IR1759-MK5-AT3130-EDCONT Mini-Ray

WARNING!



Refer to Section “Safety Precautions” for relevant safety information.

Only use recommended spares as specified by TE Connectivity. Any other manufacturer’s parts are NOT produced to these specifications, and may cause damage to your heat tool. TE cannot assume any liability for damage resulting from the use of any other brand of replacement parts.

General

Daily

- Inspect the external surfaces of the optical filter and reflector. Refer to the cleaning instructions on page 24 if cleaning is required.
- Check the operation of the fan in the Mini-Ray Hand Tool. Ref page 24.

Monthly

- Check that the fan is clear of accumulated dust etc.

3 Monthly

- Check the condition of the power cord to the controller and the Mini-Ray Hand Tool cord.
- Check the operation of the LEDs.
- Wipe the Controller front panel with a soft clean cloth.

Annually

Check the earth bonding of all Mini-Ray/Controller equipment in accordance with EN 60204 or local regulations for non-EEC countries.

IMPORTANT WARNING

Portable Appliance Testing (PAT)

Flash Test

DO NOT Flash Test (protection circuits fitted to this machine may be damaged).

Insulation Resistance Testing

DO NOT exceed 250 volts. DC (protection circuits fitted to this machine may be damaged).

6.2 Gun Maintenance



Cleaning

Front Reflector and Outer Filter Face Cleaning –

Heat from the lamp is directed by the reflectors and is concentrated in the heating zone in the front reflector.

Contamination of the reflectors or the filter will decrease the efficiency of the tool. Therefore, they should be periodically inspected for cleanliness. Normally, only the front reflector and the outer face of the lamp filter will need cleaning. The rear reflector and inner face of the lamp filter are protected from the work area, so contamination is less likely. Contaminated surface should be cleaned with a soft cloth and isopropyl alcohol.

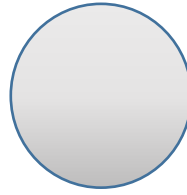
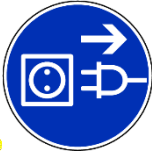
Fan and Housing Cleaning –

Since the lamp draws large quantities of air through the tool, dirt and lint may accumulate in the fan area and gradually restrict the air flow. Therefore, this part of the tool should be inspected occasionally and cleaned, when necessary with a soft brush. To facilitate cleaning, simply remove the mounting screws located on the rear of the fan cover.

During Each Quarter –

- Check and clean fan and housing
- Front filter and outer face cleaning
- Check any damage to tool and front reflectors

6.3 Lamp and Filter Replacement Instructions



In the course of normal usage the effectiveness of the optical filter may gradually deteriorate. Any resulting increase in brightness may be corrected by replacement of the filter.

IR Filter Replacement Instructions –

Step 1 Disconnect the IR1759-MK5 Mini-Ray Hand Tool from its power source.

Step 2 Unscrew and remove the front reflector guard and using a suitable tooling remove the circlip from the Hand Tool.

Step 3 Remove the filter and replace with new filter carefully within the slot. Place the circlip within the slot and screw the front reflector guard in the original position.

Note –

Do not touch the surface of the filter.

IR filters may damage if dropped or touched at the coated surface. Always held IR filters by their edge or use lint-free tissue paper during handling.

The infrared filter should not be touched over its coated surface at any times during or after replacement.

Optical Filter Cleaning –

Cleaning should be carried out by blowing any dust off.

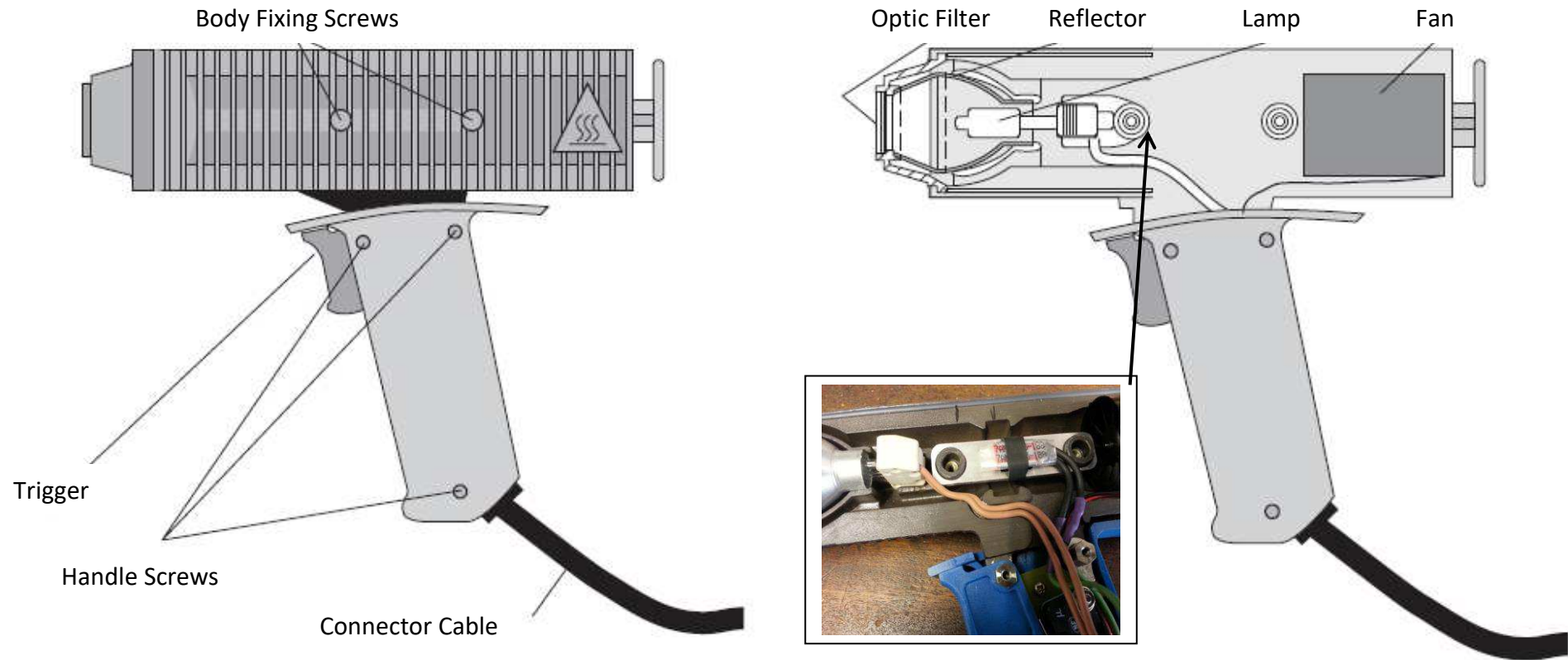
If excess dust/dirt cannot be removed in this way, carefully clean the filter using a soft cloth.

Note –This may reduce the filter life.

Lamp Replacement Instructions – Drawing reference page 26

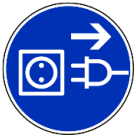
1. Remove the 2 body fixing screws in the side of the Hand tool.
2. Separate the two halves.
3. Lift the adapter and the optical filter assembly from its location (slots locate in pegs in the Hand tool).
4. Remove inner reflector .Page 17
5. Remove lamp carefully by pulling it from the ceramic holder.
6. The new lamp should be fitted taking care to avoid direct contact between fingers and the glass surface of the lamp .Use the plastic container that the lamp came in to hold lamp.
7. Place inner conical reflector and optical filter assembly in position within provided slots. Take care that the inner conical reflector and optical filter assembly is located correctly to avoid damage to the heat sink and wire leading the lamp whilst mating the two casting halves of the Hand Tool assembly.
8. Screw the front reflector guard in position once two casting halves have been assembled after the lamp and the filter replacement.

NOTE: The infrared filter should not be touched over its coated surface at any times during or after replacement. Infrared filters are identically coated on both surfaces and designed to be installed with either surface facing the lamp

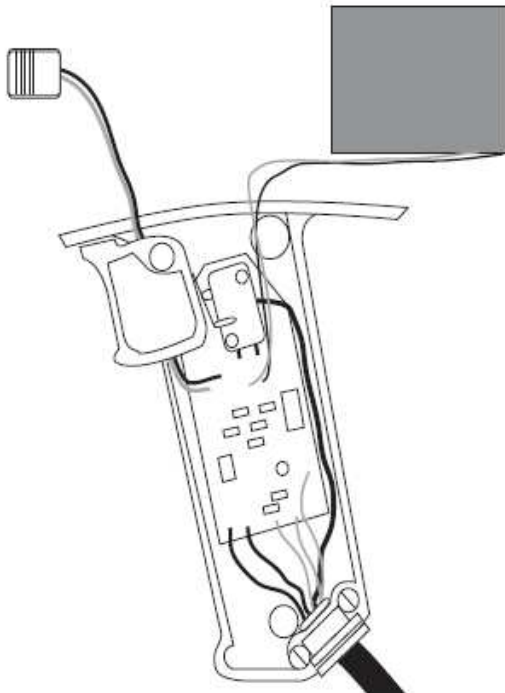


Lamp Replacement

6.4 Trigger PCB Replacement Instructions



- Step 1** Disconnect the Hand Tool from the Controller.
- Step 2** Remove the 2 body fixing screws in the side of the Hand Tool. (See Pg. 26)
- Step 3** Remove the three handle screws and separate the two halves. (See Pg.26)
- Step 4** Undo the screws retaining the trigger PCB, the Controller cord and the micro switch (if applicable).
- Step 5** Disconnect the Controller cord earth wire from the Hand Tool chassis.
- Step 6** Remove the optical block, and the reflector.
- Step 7** Carefully unplug the lamp from the ceramic holder, taking care not to touch the glass surface.
- Step 8** Remove the PCB, fan, ceramic holder, micro switch and Controller cord.
- Step 9** Locate and fasten the replacement PCB and the Controller cord, taking care that all wires are routed to avoid contact with the micro switch and trigger.
- Step 10** Replace the fan and the ceramic lamp holder.
- Step 11** Connect the Controller cord earth wire to the Hand Tool chassis.
- Step 12** Replace the lamp, taking care not to touch the glass surface, the reflector assembly and the optical block.
- Step 13** Reassemble the handle and the heatsink, ensuring there are no trapped wires.
- Step 14** Tighten the heatsink and handle screws along with "HOT SURFACE LABEL".



Trigger assembly/PCB

7. Spare Parts/Accessories



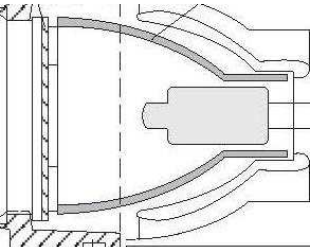

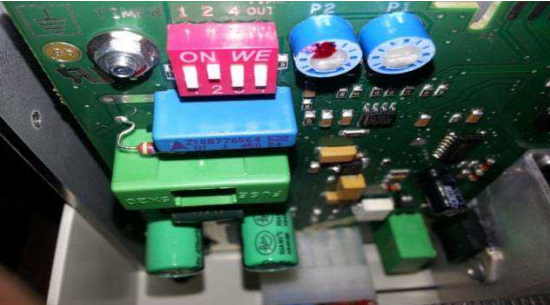

7.1 Spares/Ordering information

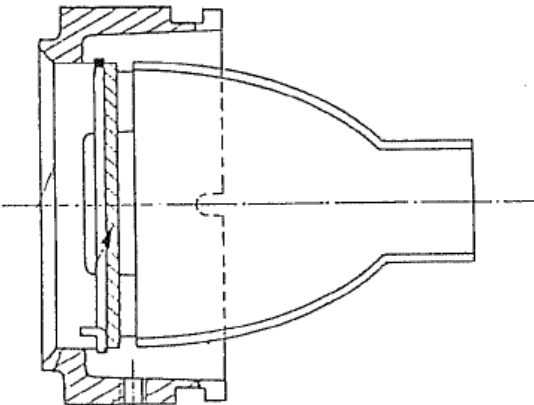
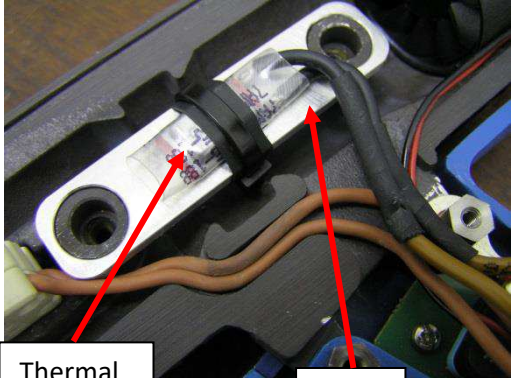
Fuses: **ED-7-CONT-230/110V**

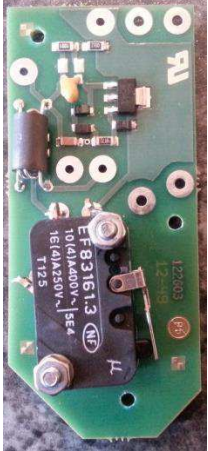
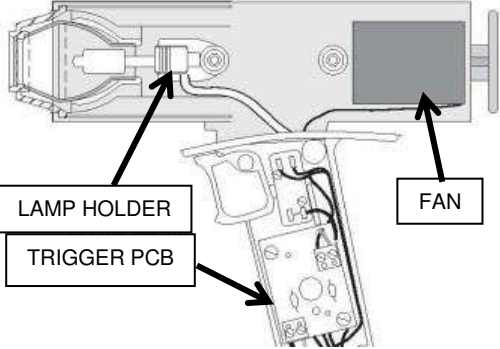
BS 4265, IEC 127. Mains Fuse 4A(T) Lamp Fuse 16A(T)

For ordering the complete tool/ spares/ accessories, use the following description and part numbers –

Description	Information	Part No.
<p>IR1759-MK5-AT3130-EDCONT Hand Tool/Reflector/Control Box</p>		<p>CV3948-000</p>
<p>IR-1759-MK5-GUN Hand Tool, Standard Aperture</p>		<p>CV4411-000</p>
<p>ED-7-CONT-230/110V-MK5</p>		<p>CV4409-000</p>

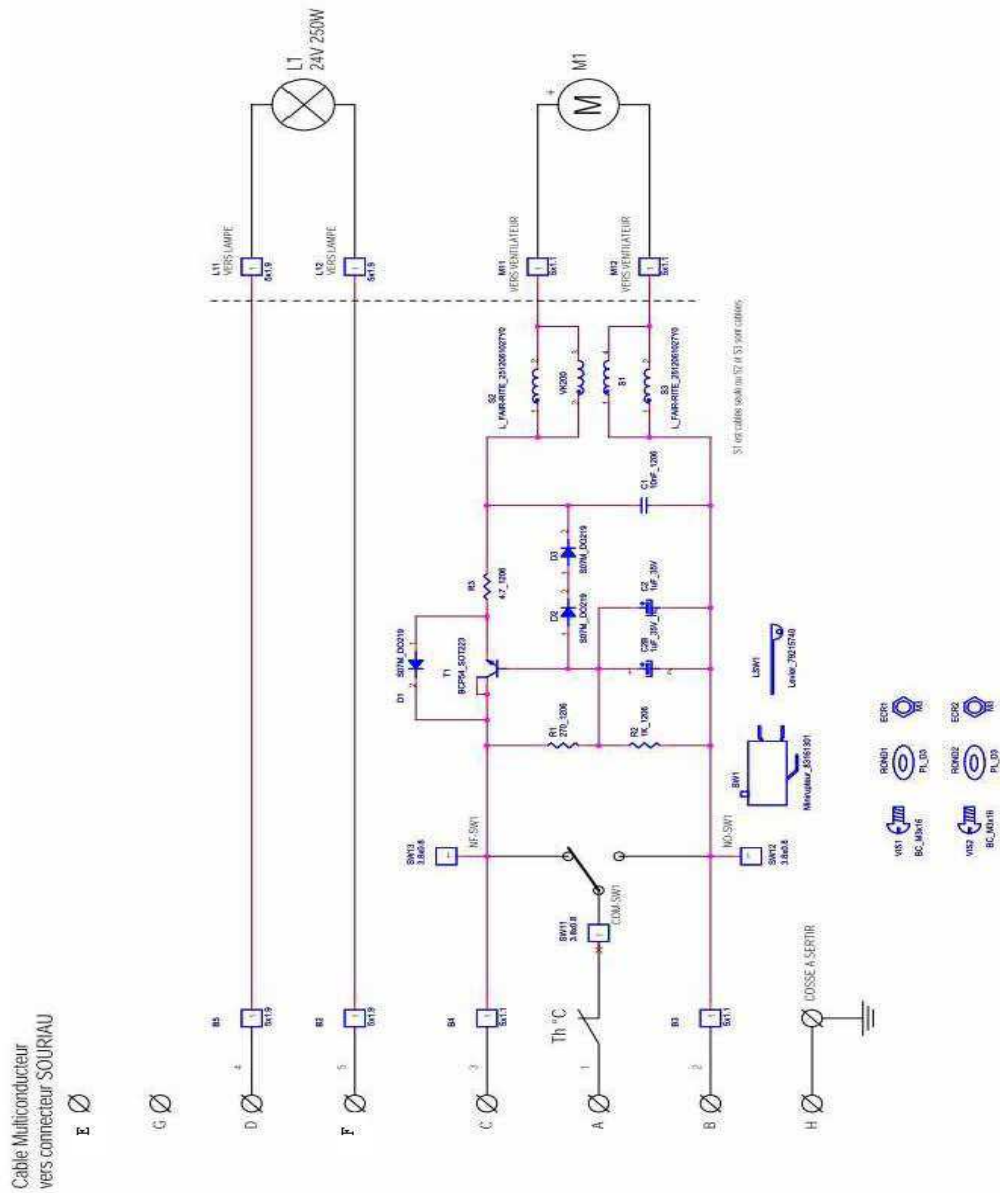
Description	Information	Part No.
<p>NAE-143-3 Lamp 250W, 24V IR-1759, IR-3104</p>		<p>988208-000</p>
<p>AES-IR1759-100-FILTER-DUL Standard Filter*</p>		<p>431468-000</p>
<p>AE-153 Inner Reflector for Large Aperture, (IR-3104)*</p>		<p>988285-000</p>
<p>AE-424 Inner Reflector for Standard Aperture*</p>		<p>547918-000</p>
<p>ED-7-CONT-MK5-PCB Main Controller PCB*</p>		<p>CV4414-000</p>
<p>AE-900 Filter Spring IR-1759*</p>		<p>277774-000</p>

Description	Information	Part No.
<p style="text-align: center;">AE-897 Conversion Kit for Standard to Large Aperture*</p>		966953-000
<p style="text-align: center;">AT-3130 Reflector to Fit Standard Aperture Standard Vee Block*</p>	Image Pg. 18	988299-000
<p style="text-align: center;">AT-3131 Reflector to Fit Standard Aperture for SolderTacts Contacts*</p>	Image Pg. 18	988300-000
<p style="text-align: center;">AT-3132 Reflector to Fit Standard Aperture</p>	Image Pg. 19	988301-000
<p style="text-align: center;">AT-3132-MK31/1 Reflector to Fit Standard Aperture with Clamps*</p>	Image Pg. 19	879865-000
<p style="text-align: center;">AT-3134 Reflector to Fit Large Aperture with Standard Vee Block*</p>	Image Pg. 20	988303-000
<p style="text-align: center;">AT-3147 Reflector to Fit Large Aperture with Clamps*</p>	Image Pg. 20	988328-000
<p style="text-align: center;">AT-3191 Reflector to Fit Standard Aperture Special Vee Block*</p>	Image Pg. 21	588701-000
<p style="text-align: center;">IR-1759-MK5-THRMSW-PLT Thermal Switch with Plate/Tubing</p>		CV4418-000

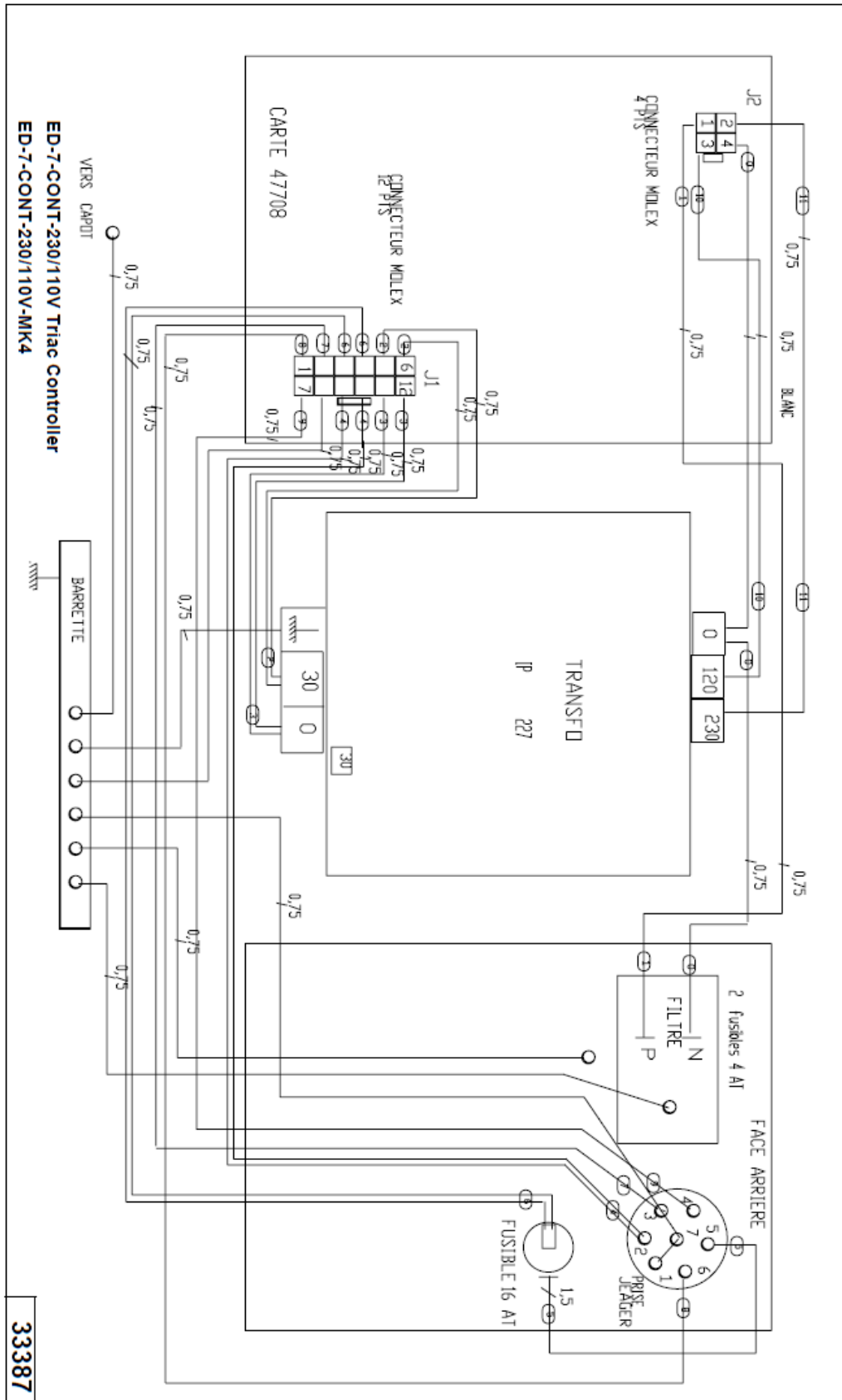
Description	Information	Part No.
<p>IR-1759-MK5-TRIGGER-PCB PCB for Trigger/Handle</p>		<p>CV4416-000</p>
<p>IR-1759/3104-CABLE-ASSY Trigger PCB/Cable/Fan/Lamp Holder/Thermal Switch*</p>		<p>CV4412-000</p>
<p>AE-205 Linear Reflector for Standard Aperture</p>		<p>988596-000</p>
<p>AE-226 Linear Reflector for Large Aperture</p>		<p>988314-000</p>
<p>IR1759-MK5-REPCON-DEPINTL Replacement Connector, De-Pin Tool and Instructions</p>		<p>EG2846-000</p>

8. Wiring/PCB Diagrams

8.1 Trigger PCB



8.2 Electrical circuit





9. Contact

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