

IR-550/ED-7-KIT Product: TE-PCN: CV1032-000 Operation and Maintenance Manual – Issue 1











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Amendment Record

Issue Number	Change request number
1	



IR-550/ED-7-KIT

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Introduction

If a local language translation of this manual is required please contact local TE Technical Service. Original in English.

About this Manual

It is intended for use by trained operating and maintenance staff and assumes the equipment has been supplied complete and is unmodified.

As with all electrical equipment, the, **IR-550-MK3-CE-MINUS** must be operated properly. Carefully read and observe all of the instructions and warnings in this manual.

Incorrect use of the IR-550/ED-7-KIT 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, IR-550/ED-7-KIT must be operated in accordance with safe working practices and local safety codes and regulations.

Do not use the IR-550/ED-7-KIT for any purpose other than its intended function.

IR-550/ED-7-KIT de carries an International Protection (IP) Code of IPX0

Never expose the IR-550/ED-7-KIT to rain or moist.

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 **Section 2. Safety and Section 3. Installation.**



IR-550/ED-7-KIT

FULL POSTAL ADDRESS INCLUDING COUNTRY OF ORIGIN

Tyco Electronics U.K. Ltd Faraday Rd, Dorcan, Swindon, Wiltshire, SN3 5HH, U.K **DESCRIPTION OF PRODUCT** Infra-red heating tool for installing heat shrinkable products and solder sleeves. NAME: MODEL. IR-550/ED-7-KIT Product: TE-PCN: CV1032-000 STANDARDS USED, INCLUDING NUMBER, TITLE, ISSUE DATE AND OTHER RELATIVE DOCUMENTS The Electrical Equipment (Safety) Regulations EN 60335 - 1: 1995, EN 60335 - 1: 1996, 2002 + A2 / 2011 EN 60204 - 1: 2006 / 2009 EN 60742-1:1995EN 292-2/A1 STANDARD DATE DESIGNATION EMC. EN 55011 2009/11 Industrial, scientific and medical (ISM) radio-frequency equipment radio disturbance characteristics Limits and methods of measurement EN 61000-4-2 2009/03 Electrostatic discharge EN 61000-4-3 EN 61000-4-3/A1 EN 61000-4-3/A2 2006/05,2008/02,2010/07 Radiated, radio-frequency, electromagnetic field immunity test EN 61000-4-4, EN 61000-4-4/A1, 2004/12, 2010/03 Electrical fast transient/burst immunity test EN 61000-4-5 2006/11 Surge immunity test EN 61000-4-6 2009/03 Immunity to conducted disturbances, induced by radio-frequency fields EN 61000-4-8 2010/02 Power frequency magnetic field immunity test

2011/65/EU (RoHS Directive) PLACE / DATE OF ISSUE: Swindon Wiltshire Date: MARCH 2014 NAME OF AUTHORISED REPRESENTATIVE (PLEASE PRINT)

Mark Taylor

POSITION OF AUTHORISED REPRESENTATIVE

EPS Systems Group Product Manager for A/E FULL POSTAL ADDRESS IF DIFFERENT FROM MANUFACTURERS Country of origin. As postal address

Report reference: CEM 14003 Date: 2014



IR-550/ED-7-KIT

Disposal: IR-550/ED-7-KIT



This product must not be disposed of as municipal waste.

RoHS. Directive 2011/65/EU IR-550/ED-7-KIT

RoHS T Compliant ROHS Information

TE Connectivity only produces products in conformity with RoHS.

Information on the occurrence and location of substances subject to RoHS guidelines (Restriction on Hazardous Substances) can be found at the following website:

http://www.te.com/customersupport/productcompliance/

Technical Specification: IR-550/ED-7-KIT

IR-550-MK3-CE-MINUS PCN CY8483-000 Input power 230 V, 50 Hz, 4.5 A Normal lamp life More than 1000 hours of intermittent use Weight Approximately 2.5 Kg (5.5 lb) Duty cycle 80%, 90-second max. heating times and 20 s off

ED-7-001-550 Controller PCN CV2777-000 Input power 230 V, 50 Hz, Max load: 2.8A. Short circuit Cap: 40A Weight 6.2 Kilos (13.8 lb)



SYSTEM DESCRIPTION

General

The **IR-550/ED-7-KIT** is an **IR-550-MK3-CE-MINUS** portable electric infrared heating tool connected and controlled by an ED-7-001-550. This system gives reliable installations of (TE) Raychem's Solder Sleeve devices, Mini Seal devices, SolderTacts contacts and TE heat-shrinkable products. The **IR-550/ED-7-KIT** has been primarily designed as a bench top-heating tool. The system start operation is initiated by operating the foot switch connected to the **ED-7-001-550**. This controls the power and time for the installation process.

The ED-7-001-550 Controller can be used in a manual and automatic mode.

Automatic Mode

In the Automatic mode the Controller can be set to control the **IR-550-MK3-CE-MINUS** with one of twenty stored programme sequences. Each sequence controls both the duration and level of the supply voltage to the **IR-550-MK3-CE-MINUS**.

The sequence is started by pressing and releasing the foot switch. Process continues until automatic completion or until the foot switch is pressed again.

The Automatic Mode ensures the same pre-set controlled heating sequence is applied to each installation.

Manual Mode

In the Manual mode the Controller operates as a simple switched supply to the **IR-550-MK3-C-MINUS** and is turned on and off by operating the foot switch. In this mode the Controller always provides full % power that has been set to the Gun when the foot switch is depressed.

Operator Keypad

The operator keypad allows the selection of Controller Mode (Manual or Automatic) and the Selection of programming of the 20 memories.

The IR-550-MK3-CE-MINUS uses a halogen lamp as its radiant heat source. Reflectors focus the heat from the lamp, concentrating heat energy within the work area of the front reflector. An optical filter between the lamp and the work area reduces glare from the lamp, allowing the operator to observe the heating process. The tool is also equipped with a viewing window to assist in operator eye comfort. To further improve operator comfort the tool incorporates a 30 degree base designed to further reduce eye strain and reduce glare to others working nearby.

A number of interchangeable front reflectors are available for the **IR-550-MK3-CE-MINUS** infrared heat gun. These reflectors have been designed for specific product applications. Their use is described in detailed application literature.

The **IR-550-MK3-CE-MINUS** infrared heat gun contains a fan to keep 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 **IR-550-MK3-CE-MINUS** infrared heat gun is also equipped with a thermostatic switch to protect it from overheating. Overheating activates the switch, which disconnects the heat lamp temporarily. The thermostat automatically resets after the tool has cooled to a safe temperature.



IR-550/ED-7-KIT

2 Safety

2.1 Electrical safety



Indicates hazardous electric potential, contact with which would certainly lead to serious or even fatal injury.

The equipment is connected to an AC mains electricity supply. Before undertaking any maintenance or repair, always turn off the equipment and ensure it is isolated from the AC supply.



Note: Disconnect the electrical system from the mains before working on the electrical system.

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.

The equipment input supply has double pole fusing (Line & Neutral) and must be connected to an earthed power supply. The power supply must be protected by a 30 mA residual current device.

Use only specified fuse types and ratings

2.2 Hot surfaces



CAUTION! Risk of burning on hot parts! Care must be taken not to touch any exposed hot metallic surfaces on the tool OR Product.



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



IR-550/ED-7-KIT

2.3 Explosive Environment and Fire.

Do not operate the tool near combustible liquids or gases



The equipment must be operated in accordance with safe working practices - adhere to local safety codes and regulations.

Do not use the 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.

Be careful when using the tool where there may be combustible material.

Do not apply to the same place for a long time in the manual setting.

Heat may be conducted to combustible material which may be out of sight.

Allow the IR-550-MK3-CE-MINUS to cool before storage.

2.4 General

Eye protection must be used when using this tool.



Follow recommendations in product safety data sheets at all times.

2.5 Safety date sheets

Follow recommendations in product safety data sheets at all times when installing products with this system



2.6

Controller: The ED-7-001-550

Controllers carry a label which display the product part number (PCN), product description, electrical rating information and wiring diagram number.

IR-550-MK3-CE-MINUS carries a label which display the product part number (PCN), product description and electrical rating information.

connectivity	DAY ROAD, An, Swindon — UK.
MACHINE TYPE:	SERIAL No.
ED-7-001-550	
SHORT CIRCUIT CAP: 40A @ 230∨	WIRING DIAGRAM No. 43826A
CURRENT - MAX LOAD 2.8A	RATED VOLTAGE: 230V 50Hz
CE 200X	PCN No. CV2777-000

2.7



The IR-550-MK3-CE-MINUS infrared heat gun is also equipped with a thermostatic switch to protect it from overheating. Overheating activates the switch, which disconnects the heat lamp temporarily. The thermostat automatically resets after the tool has cooled to a safe temperature.



3. Installation and set-up

Unpacking

3.1

Remove the **IR-550/ED-7-KIT** from its box and examine for signs of damage. Return the tool to TE if damaged, quoting all delivery and problem information.

Safety

The IR-550/ED-7-KIT must is installed in accordance with established safe working practices. Incorrect use can cause injury.

Installation requirements must conform to local regulations.

3.2 Location/ Positioning.

The IR-550/ED-7-KIT is designed to be installed and operated in industrial environments. 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.

The **ED-7-001-550** has an IP20 rating i.e. Protected from solid objects up to 12mm (e.g. fingers), with no protection against liquids.

The IR-550-MK3-CE-MINUS infrared heat gun assembly carries an International Protection (IP) Code of IP12.5

- The IR-550/ED-7-KIT system should be located on a bench with a level firm surface.
- Mains electrical leads should be routed to prevent damage or entanglement.
- The IR-550/ED-7-KITshould is used in areas with good lighting and adequate ventilation.
- The mains ""ON/OFF "switch is on the rear panel of the ED-7-001-550 Controller, free access should be maintained.



IR-550/ED-7-KIT

3.3 Electrical connections

The **IR-550/ED-7-KI** is a Class I tool designed for operation from a 230V±10% 50Hz mains. **IR-550/ED-7-KIT** is supplied with a European 2 metre power lead with a standard 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 approved mains power supply cord.

- Power connections for the machine must conform to local standards and regulations.
- The mains supply to the equipment must be protected by a 30mA residual current device.

REAR VIEW CONTROLLER fig 1.

ED-7-001-550 Controller connections/Switches.



IR-550/ED-7-KIT

3.4 General:

ED-7-001-550 Controller with foot switch.



Holding fixture allowing to maintain the assembly "hands free" during shrinking



TECHNICAL SPECIFICATION -AD-1319-9Dimensions W x L180 x 150 mm

Weight PRODUCT RANGE 180 x 150 mm 300 g SolderSleeve splices Shield terminators SolderTact contacts

DuraSeal, MiniSeal, One Step D-100-XX, D-144-xx, SO63, SO96 D-602-xx





Image: Contract of the contract

General setup of IR-550-MK3-CE – MINUS and AD-1319 HOLDING FIXTURE

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

The AD-1319-9 holding fixture has been adapted to use with mechanical holding fixture shown above This fixture simplifies and speeds up installation of Raychem SolderSleeve terminations or splices and SolderTact shielded contacts.

General overview of the AD-1319-9

The tool is modular and can be used for the following:

- Splices or terminations
- SolderTact adaptor

As a standard the AD-1319-9 comes with two lateral wire clamps. The user can set the distance between those clamps by adjusting the jaws in the proper alignment. The operator can then centre the product in the fixture and easily install product having the wire or cable secured. To mount a SolderTact contact adaptor, the user has to remove the basic clamp on one side and insert the adaptor (AT-1319-XX). The distance between contact adaptor and cable clamp should be approximately 38 mm (1.5 inch). Adaptor and cable clamp should be adjusted to be in line. Selection and ordering information is on the Page 26

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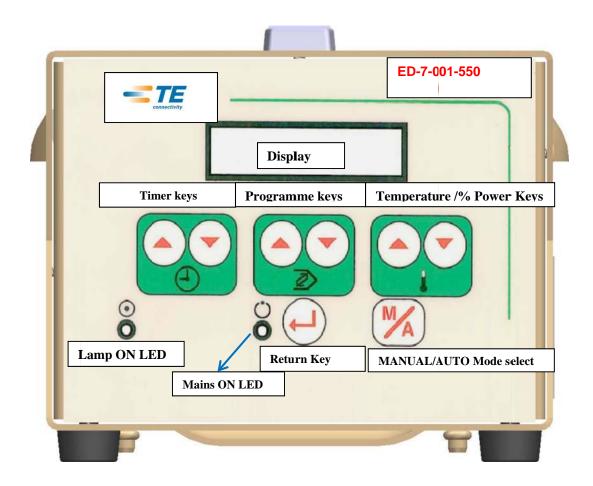
IR-550/ED-7-KIT

4. Operation

Before operating the system, you should ensure you are familiar with the system, Connections **Section 3.3** and the safety requirements detailed in **Section 2.**

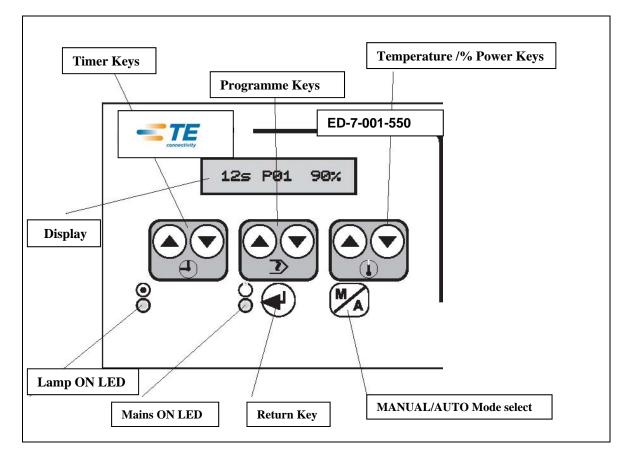
General: Do not look directly into the illuminated lamp at any time.







4.1 *Operation keys for CONTROLLER* : ED-7-001-550



4.2 Key function operation

Manual Mode

1. Press the M/A key on the Controller until MODE MANUEL is displayed.



2. When the FOOT PEDAL is operated, the lamp is energised and the green 'LAMP ON' LED will illuminate and stay lit until the PEDAL is released.

3. The % power output can be adjusted between 0 and 100% by pressing the UP/DOWN arrows on the temperature adjust keypad.



Holding any arrow key pressed for 5 seconds or more will advance the value being adjusted more quickly.





Key function operation continued

Auto Mode

1. Press the M/A key on the controller

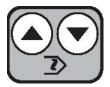


2. The Controller will change from the Manual to the Auto mode, and the display will show one of the available programmes

e.g.



3. It is now possible to scroll through pre-programmed values from P01 to P20 by pressing the UP/DOWN arrow keys on the programme keypad



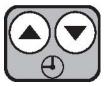
4. To change any values stored in the programme set you must enter a special key combination. Programming Mode

1. Select the Programme you want to change P01 to P20 using the Programme UP/DOWN keys.

2. Press the RETURN and temperature DOWN key simultaneously for a minimum of 5 seconds.

3. When released the left side of the display shows an asterix (*) to confirm that you have entered the Programming mode.

4. Time value can be adjusted using the Timer UP/DOWN keys, from 0.5 to 100 seconds in 0.5s increments.



5. The % Power value can be adjusted using the % Power UP/DOWN keys.

6. When the required values have been set, press the RETURN key to confirm the selection and to exit the Programming mode.

7. Pressing the foot pedal will now operate the Hand tool for the time and power shown on the display.

8. Pressing the foot pedal a second time during the Programme will stop the sequence and the lamp will return to the preheat condition.





4.3 Programming Example

This example explains how to set up Programme set P01 to store the following settings: Time: 15 seconds Power: 80%.

(These values have no particular significance and are used solely as an example.)

1. Using the UP/DOWN arrows on the Programme section of the keypad, set the Programme set to P01.

2. Press the RETURN and Temperature DOWN key simultaneously for a minimum of 5 seconds.

3. When released the left side of the display shows an *asterix* (*) confirming you have entered the Programming mode.

4. Using the UP/DOWN arrows on the Timer section of the keypad, set the time value to 15s.5. Using the UP/DOWN arrows on the % Power section of the keypad, set the Power value to 80%. The display should now be the same as that shown below.



6. When the required values have been set, press the **RETURN** key to confirm the selection and to exit the Programming mode.

Programme P01 has now been set. When that programme is selected and the foot switch is pressed the hand tool lamp will illuminate for 15s at 80% power level.



IR-550/ED-7-KIT

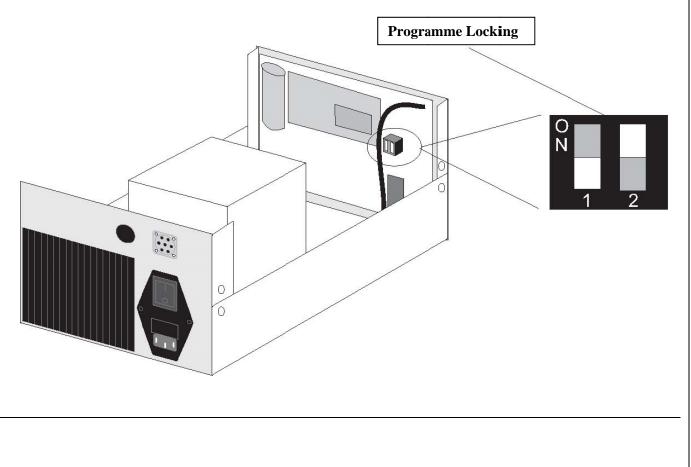
Locking P01 and P02

Once set to the required values, Programmes P01 and P02 can be 'locked' to prevent modification.



The Controller case must be opened to 'lock' P01 and P02.

- 1 Disconnect the controller from the mains supply.
- 2 Place the Controller, with the rear panel nearest you, on a solid, flat surface.
- 3 Remove the four screws securing the upper case.
- 4 Lift the upper case and place it to one side, taking care not to stress or damage the case earthing wire.
- 5 Locate the two small DIP switches on the front panel circuit board. Switch 2 controls the locking of PO1and P02.
- 6 Set the switch as required ON or UP is locked and OFF or Down is unlocked.
- 7 Switch 1 is used to lock/unlock access for setting of the stand-by and maximum voltages. This switch Must remain in the locked position.
- 8 Replace the upper case. Refit the four case securing screws.





IR-550/ED-7-KIT

4.5 Switching Off



Electrical

The IR-550/ED-7-KIT is not equipped with an emergency shut-off switch. To turn the equipment off press the "I / O" switch to the "O" position located at the rear of the ED-7-001-550 controller



Reference FIG 1 Page 11.



Note:

Allow the IR-550-MK3-CE –MINUS fan to run for 5 to 10 minutes before switching off the **ED-7-001-550** controller. This will extend lamp life and the tool will be cool for packing away.



5. Maintenance

5.1 Warnings



The equipment is connected to an AC mains electricity supply. Before undertaking any maintenance or repair, always turn off the equipment and ensure it is isolated from the AC supply.

5.2 Daily inspection prior to use Check for any visual damage to controller and leads.

TE recommends a yearly, or periodic servicing, and EARTH BONDING checks. Use a Portable Appliance Tester (PAT) ref 5.5 Controller maintenance.

IMPORTANT WARNING

Portable Appliance Testing (PAT)

Flash TestDO NOTFlash Test (protection circuits fitted to this
machine may be damaged).

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



5.3 Gun Maintenance GENERAL CLEANING



Failure to disconnect the **IR-550/ED-7-KIT** from the power source before performing maintenance may result in injury.

Front Filter 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 efficiently 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 surfaces should be cleaned with a soft cloth and isopropyl alcohol.

Cleaning Fan and Housing

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.





IR-550/ED-7-KIT 5.4 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.

Step 1

Disconnect the IR-550-300 MARK III-CE from its power source.

Step 2

Remove the front reflector by lifting the upper nose plunger from the hole in the reflector; tilt the reflector away from the tool housing. Lift the reflector off the lower plunger, and slide the reflector out of the housing.

Step 3

Remove the spiral retaining ring from the groove inside the funnel. First lift the narrow end of the spiral retaining ring from the groove with a screwdriver, then remove the remainder of the ring by hand.

Step 4

Remove the lamp filter by holding the heating tool in a vertical position with the front end down. The lamp filter will drop until it is stopped by the reflector nose plunger. Move the top plunger to release the lamp filter.



The lamp filter may be damaged if dropped

Step 5

The lamp is now accessible if replacement is required. Remove the lamp by unscrewing it from the lamp socket.

Step 6

Install the new lamp. Keep the wrapper on the lamp while handling it, to avoid contaminating its surface with oils. Remove the wrapper when the lamp is securely screwed into the lamp socket.

Step 7

Replace the lamp filter. The "bulls eye" coating of the filter should face the lamp.

Step 8

Install the spiral retaining ring.

Step 9

Replace the front reflector by sliding it over the nose plungers on the front end of the tool housing, lifting the top nose plunger, and inserting the reflector onto it.



5.5 Controller Maintenance

3 Monthly

- Check the condition of the power cord leads.
- Check the operation of the LEDs.
- Wipe the Controller front panel with a soft clean cloth.

Annually.

• Check the earth bonding of the system equipment in accordance with EN 60204 Or local regulations for non EEC Countries



IR-550/ED-7-KIT

6 Spare Parts:

COMPLETE SYSTEM: DESCRIPTION IR-550/ED-7-KIT

PART NUMBER CV1032-000

Heat Gun DESCRIPTION IR-550-MK3-CE-MINUS

PART NUMBER CY8483-000

Controller DESCRIPTION ED-7-001-550

PART NUMBER CV2777-000

For ordering IR-550-MK3-CE-MINUS and Foot pedal spares use the following description and part numbers below.

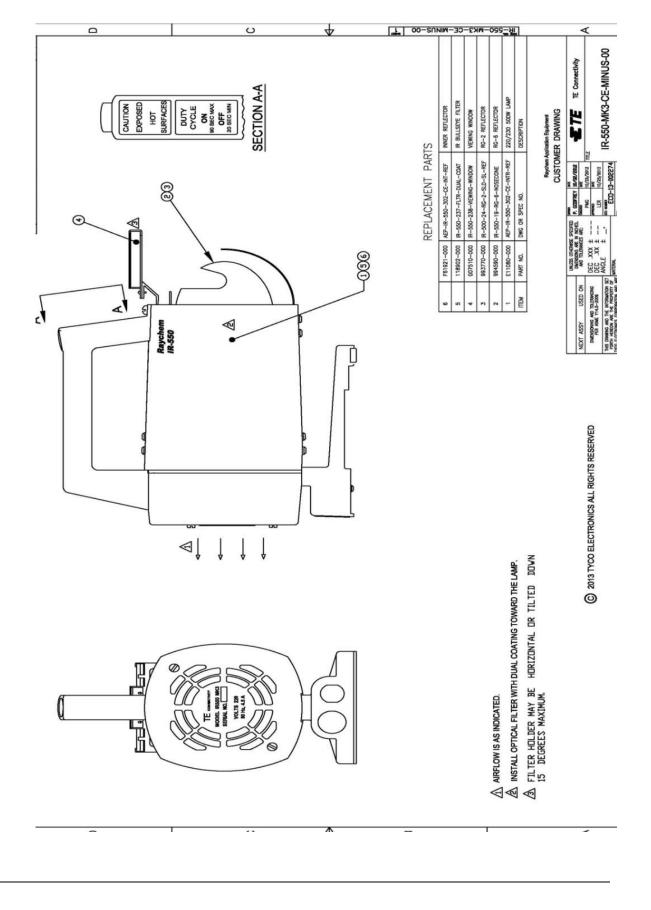
DESCRIPTION	PART NUMBER	
220/230 500W Lamp	F95965-000	
Item 5 Lamp Filter	118902-000	
Foot Switch Assembly	F91912-000	
Viewing Window	007510-000	
RG-2 Reflector	993770-000	
RG-6 Reflector	994590-000	
Item 6 Inner Reflector	F61921-000	

AD-1319-9

	DESCRIPTION	PART NUMBER
Holding fixture	AD-1319-9	993850-000
38999 size 8 SolderTact adaptor	AT-1319-22	395421-000
38999 size 16 SolderTact adaptor	AT-1319-78	413186-000
Submin SolderTact adaptor	AT-1319-12	993872-000
748 SolderTact adaptor	AT-1319-14	993877-000
723 SolderTact adaptor	AT-1319-19	993938-000
482 size 16 SolderTact adaptor	AT-1319-17	993917-000

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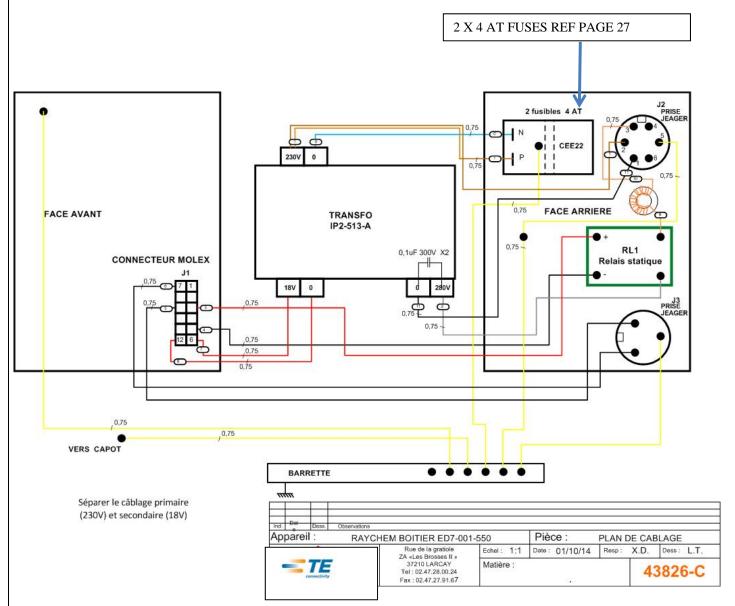
220/230 500W Lamp	220/230 500W Lamp	F95965-000	TE/Tyco Electronics
ED-7-001-550- HOLD-FIX	Mechanical holding fixture	CV4406-000	TE/Tyco Electronics
ED-7-001-550-PCB		CV4408-000	TE/Tyco Electronics





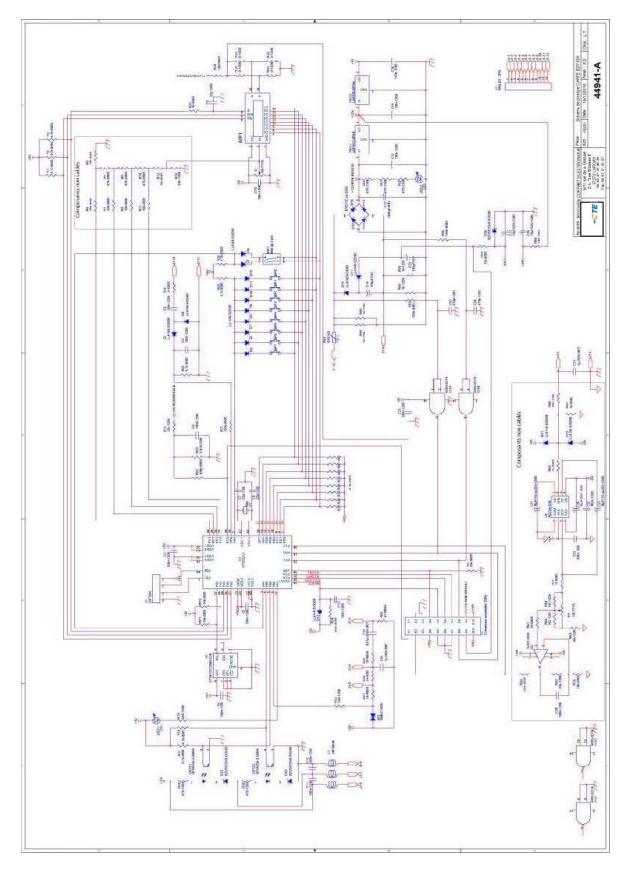
7. Electrical

7.1 wiring diagram for controller ED-7-001-550



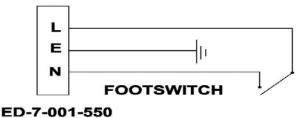




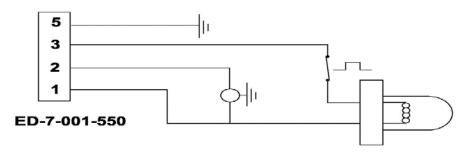




WIRING DIAGRAM FOR IR-550-MK3-CE-MINUS



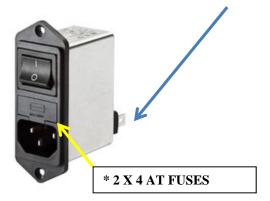




Fault finding:

Check fuses if the ED-7-001-550 controller:

- Fails to switch on.
- 0 volts at the connection at rear of IEC / FILTER.



Reference page 24 electrical drawing

ED-7-001-550 controller switches on and lamp fails to operate when foot pedal is operated.

- Check lamp ref:5.4
- Check operation of foot pedal at J3 (page 24) for volts /Ohms. Switch normally open. Visual damage or broken cable on foot pedal.
- Check Solid state relay operation RL1 page 24.

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IR-550/ED-7-KIT

8. CONTACT INFORMATION

United Kingdom Tyco Electronics UK Ltd. Faraday Road Dorcan SN3 5HH United Kingdom Telephone: 1793-528171 FAX: 1793-572516