

# Temperature Technology Ltd.

*"A Specialist Company supplying Consumable Component Parts  
& Welding/Production equipment  
to the Temperature Sensor Industry Worldwide"*



## **UCES-400** **Ultrasonic Cable End Stripper** Operations & Instruction Manual

*Whatever stage of development your production line is in, TTL have the products to help you produce temperature sensors quicker, easier and more efficiently.*



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# Ultrasonic Cable End Stripper

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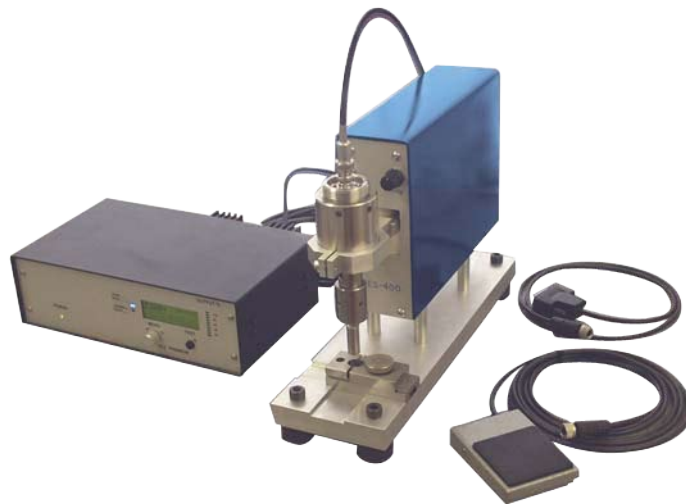
## Introduction

The MEaSA UCES-400 uses powerful pulses of Ultrasonic energy to strip the sheath from mineral insulated cable. The ultrasonic energy transfers to the insulation on contact and de-compacts and liquefies the powder, which escapes from the end of the cable. The result is that all the powder in the stripped section is cleanly removed leaving the conductors completely untouched. The whole action is completed in seconds (in the case of small cables in a fraction of a second).

The only preparation needed prior to stripping is to ring through the sheath at the break point (up to 25mm from the cable end).

All cable sizes can be accommodated up to 6.0mm (or 1/4")

The machine is supplied with a ringing tool and a pair of electronic side cutting pliers for the smaller sizes.



# Ultrasonic Cable End Stripper

## Quick Start Instructions

Warning – Do not handle the Sonotrode during operation. The ultrasonic energy can produce serious burns if the Sonotrode is touched. Treat it as you would a hot soldering iron.

## Connections

Position the motion Head and the generator on a firm benchtop. There will be an accumulation of powder when stripping cables. Make sure the generator is sufficiently spaced from the motion head to avoid powder penetrating the case.

Connect the cable with the D plug to the rear of the Generator and the socket labelled 'To generator' on the motion head.

Connect the footswitch cable to the back of the motion head 'footswitch' socket.

Connect the motion head power supply to the connector marked 'DC 12V'.

Connect the generator power out (BNC connector) to the Sonotrode BNC connector.

## Operation

The machine is simple to operate and retains its settings when switched off. This is useful for batch operation when stripping a large number of similar sized cables.

Plug-in the motion head power supply only. The green led on the front of the motion head will light.

There will be a few seconds delay as the Motion Head Control Program initialises.

Depress the footswitch. The Sonotrode will move down between the jaws of the cable guide. Turn the grip control and observe the position of the Sonotrode. This can be set to just hold the cable being stripped.

The cable guide is not a vice it is used to prevent the cable from jumping out from under the Sonotrode during the stripping action. Set the guide to just wider than the cable diameter. The cable should move freely in and out between the jaws.

When you are satisfied with the grip setting and the guide width turn on the generator.

The Generator is preset with all necessary parameters. The only control that needs altering is the energy 'E' setting.

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With the generator 'on' rotate the control dial until the letter E shows in the top left corner of the display. The energy reading next to the E is the current set level. This will stay at the last value set even if the power is turned off.

To change the setting - push the control in one click. The display will show 'push to conf' (meaning push the button to confirm the new setting)

Turn the control up or down to raise or lower the watts setting. Then push the control in one click again to confirm.

Use the following settings as a target point:

**1.0mm cable use around 40W**

**3.0mm cable use around 100W**

**6.0mm cable use around 300W**

Be careful not to grip the smaller cables too tightly as the sheath will collapse and damage the conductors.

Depress the footswitch with the cable in position. Release the switch when the stripping action is complete.

If required to reset the grip during use, flick the power 'output' switch at the top left of the motion head to 'off'

There are four mechanism affecting the stripping action:-

1. The cable size
2. The length being stripped
3. The powder density (Supplier dependant)
4. The 'grip'

There is a great deal of tolerance in the power settings for the above parameters. It does not damage the cable to use more power than necessary however the cable sheath will distort significantly if the 'grip' is too tight for the cable size in use. This will result in a collapse of the sheath due to ultrasonic impact, which can damage the conductors.

Always use the lowest power setting and 'grip' as the cable will allow.

Cables below 3.0mm will readily strip 25mm or more of sheath in one shot. To strip long lengths of cable above 3.0mm diameter several sections can be removed in successive shots.

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A separate document details the functions and specification of the Ultrasonic Generator. It is not necessary to learn any of the instructions in this document, which is provided for service use and repair only.

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