Temperature Technology Ltd.

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

Warming Oven
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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When making the Measuring (hot) junction of MI Thermocouples and RTD's it is advisable to keep the open end of the cable warm. This avoids the slow ingress of moisture into the cable insulation, which would lower the Insulation Resistance.

This parameter is important for high measurement integrity. Moisture in a closed junction will eventually lead to failure of the thermocouple.

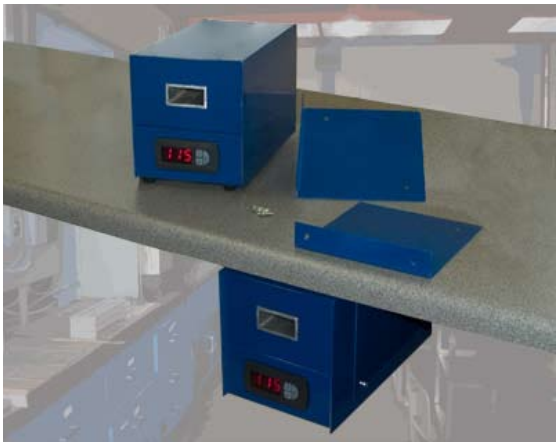
Keeping the cable warm also has a beneficial effect on the welding process. Moisture in the insulation lowers both the resistance and the capacitance. If these two parameters become too low the high frequency component used to start the weld becomes corrupted. In extreme cases the spark will travel across the surface of the insulation and create weld spots and melting of the cable sheath. This is more prevalent with smaller cables which, although they have the same capacitance as their larger counterparts have a much lower dielectric strength.

When making a sheath closure weld any moisture inside the cable begins to expand as the cable heats up. This affects the weld as the water vapour mixes in with the weld gas restricting the ionising process. In the extreme the expanding moisture creates a pressure differential within the weld causing the molten metal to rise up (blown weld).

For both conductor welds and sheath closure welds the starting process is improved if the cable sheath or conductors are hot. This beneficially affects the initial breakdown of the argon gas allowing a smoother more rapid start and less spluttering.

Most MI Thermocouple manufacturers properly store their cable prior to welding in large ovens. However when it comes to some warming facility close to the welding machine there are no proprietary ovens on the market. Subsequently users have adopted a variety of ingenious and novel approaches, from hair dryers to domestic plate warmers.

MEaSA Limited has developed a low cost Cable End Heater especially to fill this gap. The temperature is adjustable between 100°C and 150°C (212°F to 300°F). The heater can be mounted directly on top of the bench either free standing or screwed down using the mounting plates provided. The heater can also be screwed below the bench using reversed mounting plates. The outside temperature of the heater is never greater than 40° C for a 20°C ambient.



The heater is supplied with 2 PTFE (Teflon) powder-dispensing bottles, one for fine powder and one for coarse. These bottles fit into a hole on the top of the heater where they pick-up heat from the main tube to provide a source of warm dry powder for back-filled Thermocouples and RTD's.

The MEaSA Cable End Warming Oven comes complete with an IEC power cable and spare fuse. A manual is provided for setting the set point temperature and changing from °C to °F

The heater runs off 220/240Vac 50/60Hz. Please enquire for other options.

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