

CALPlex

User's Guide

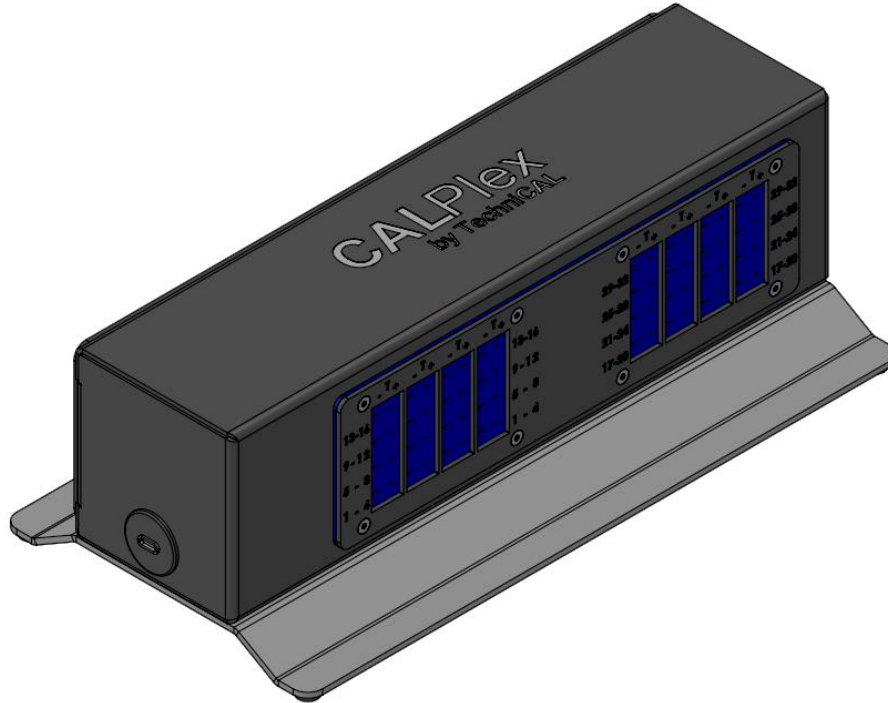


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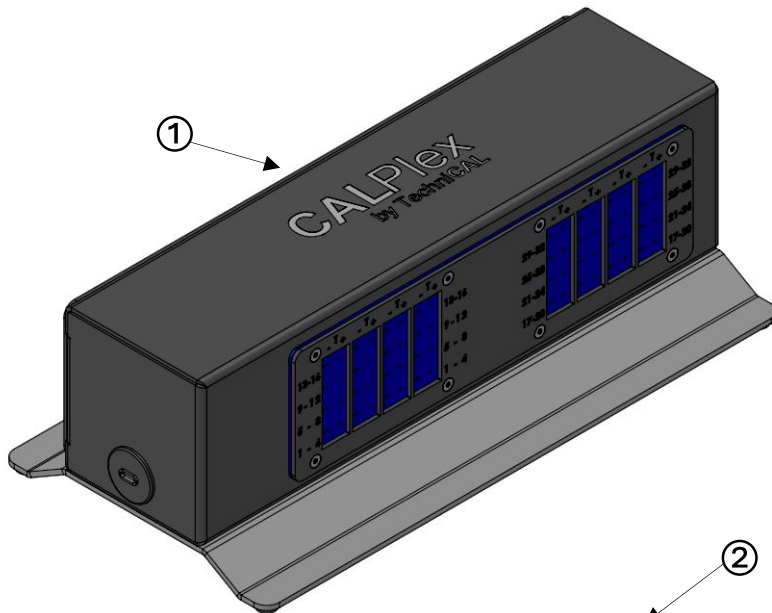
WARNINGS

- (1) A retort is a pressure vessel and may be very dangerous. Take care when working around a pressurized retort.
- (2) The retort shell, piping, valves, and incoming utilities may be extremely hot. Take necessary precautions when working in or around the retort to protect from burns.
- (3) A retort is considered Confined Space. Take necessary precautions when working inside the retort.
- (4) DO NOT install a Packing Gland Flange if the retort is in operation or is pressurized. We recommend the front door of the retort be opened during the installation of the Packing Gland Flange.
- (5) Secure any packing gland flanges or other fittings used to install the wires into the retort, so that there are no leaks. Leaking steam or water may cause severe burns.

Overview of CALPlex

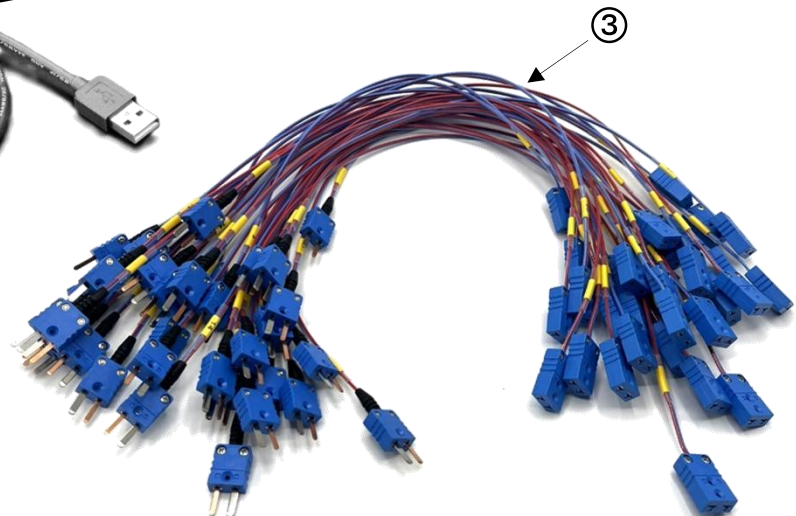
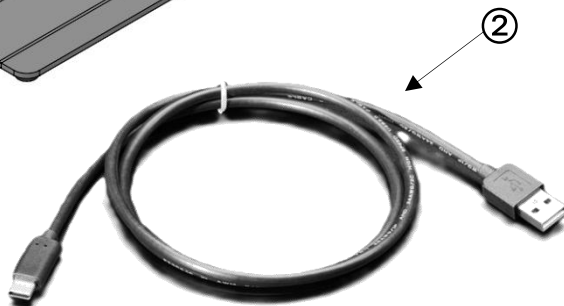
CALPlex is part of TechniCAL's "Wired Data Collection Equipment" system. It is specifically designed for conducting heat penetration and temperature distribution testing on canned foods in retort sterilizers.

CALPlex allows for connection of up to 32 Type T thermocouple wires with male Subminiature Connector inputs. The unit is then connected using a USB Cable (Male USB-A Connector) to a computer with the CALSoft software. The CALSoft software communicates with the CALPlex datalogger, scanning all 32 channels during a test at the pre-determined scan rate and records the data directly to a computer.



What's in the Box?

- ① CALPlex unit
- ② USB-A-to-C Cable (3 feet)
- ③ Jumper wires to help prevent water damage (set of 32 @18" each)



Protecting CALPlex From Water Damage

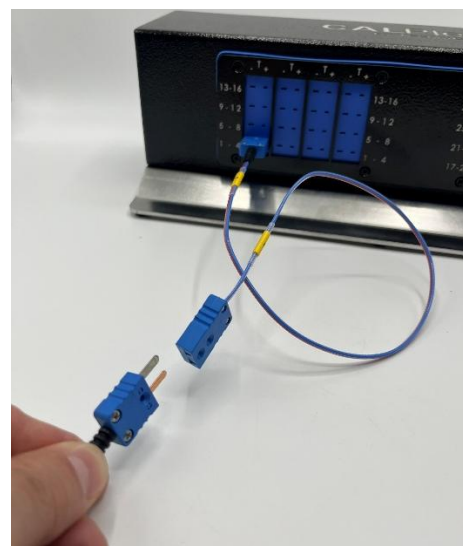
The warranty on CALPlex does not cover damage due to water intrusion into the unit.

The CALPlex is designed to resist water with a robust gasket system at the 32 plugs and on the back-plate. However, water damage may still occur if excess water is introduced onto the unit... either from an external source (a hose/pressure washer or water leaking from retort) or from the thermocouple lead wires connecting to the CALPlex.

If you notice water exiting out of the wires at the “blue” subminiature connectors during a test, this is a condition referred to as “water wicking”. This occurs by water inside the pressurized retort being forced through the overwrap on the thermocouple lead wire, and exiting out of the blue plugs at the end of the wires. Even with our improved waterproofing efforts, excessive water-wicking coming from the lead wires may introduce water into the CALPlex, which may damage the electronics.

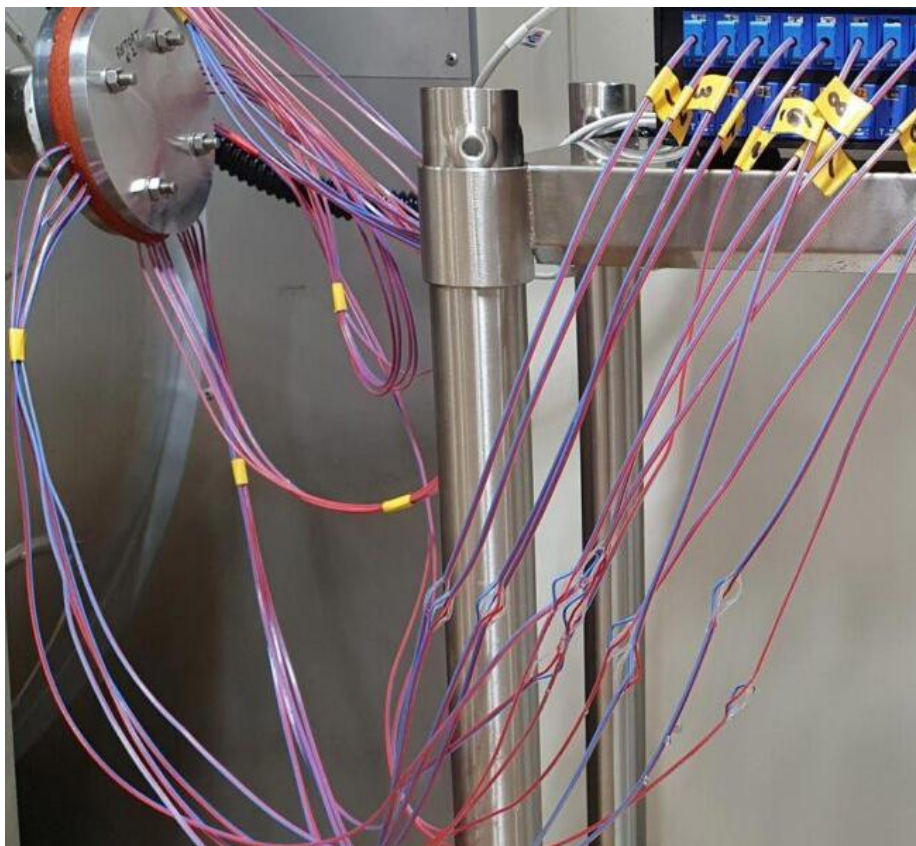
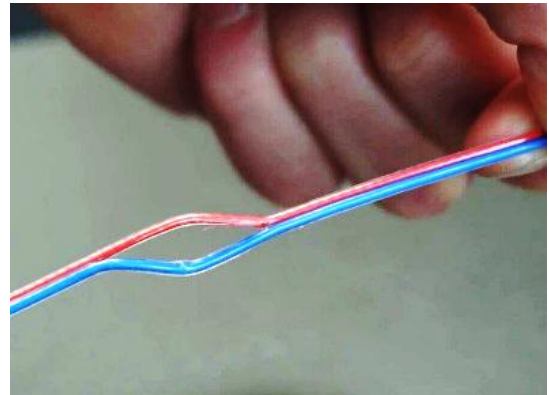
To prevent water damage to the CALPlex due to water-wicking at your wires, we recommend the following:

- (1) **Jumper Wires:** Included with your new CALPlex is a set of 32 short “jumper wires”. These wires can be used as a buffer between your thermocouple lead wires and the CALPlex. Connect the male-end of the jumper wires to the CALPlex, and then connect your lead wires from the retort to the female end plugs on the jumper wires. This will allow any water-wicking to exit at the end of the jumper wire, away from the CALPlex.



- (2) **Split Wires to create drip-spot for water-wicking:** You can also “split” the wires, removing the overwrap a short distance from the CALPlex. This will allow any water due to water-wicking to “drip out” of the wires before the connection to the CALPlex. You can learn more and see a video on how to do this here.. [Splitting Lead Wires to Prevent CALPlex Water Damage - TechniCAL](#)

CAUTION: do not expose the copper or constantan wire when stripping back the overwrap.



(3)

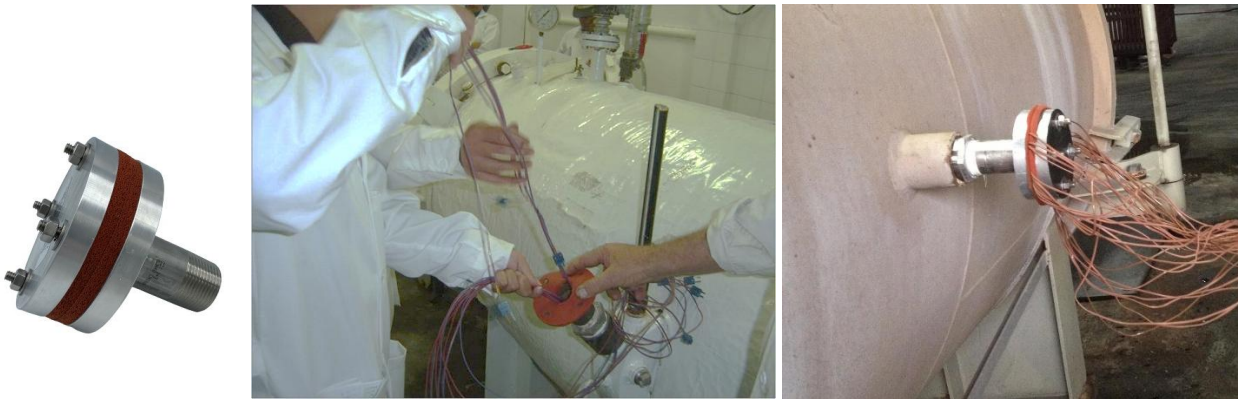
Preventing excess water from coming in contact with the CALPlex will prevent any damage to the unit.

Installing Packing Gland & Thermocouple Wires

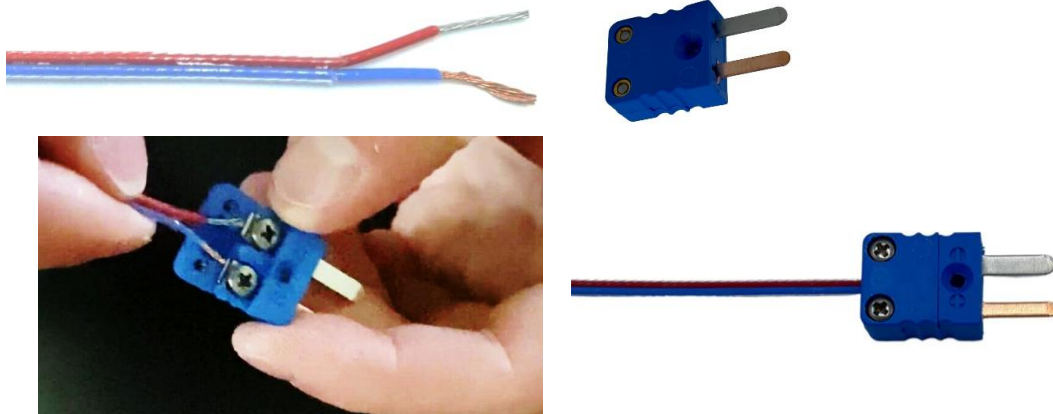
- **WARNING:** A retort is considered Confined Space. Take necessary precautions when working inside the retort.
- Secure any opening tightly to avoid steam or water from leaking out of the retort during operation. Leaking steam or hot water can cause severe burns.

Thermocouple wires are installed in a Retort through an available port on the retort shell, using a packing gland flange.

Install a Packing Gland flange into the port on the retort to install the wires into. You can purchase a Packing Gland flange from TechniCAL... <https://www.tcal.com/product/retort-packing-gland/>.



If the port on the retort is small diameter, you may need to remove the Blue Subminiature Connectors from the wires in order to install the wires through the port. If you do remove the Submini Connectors from the wires, it is important that you reinstall the connector to the appropriate wire. Copper (+) should be installed to the copper terminal and Constantan (-) should be installed to the constantan terminal.



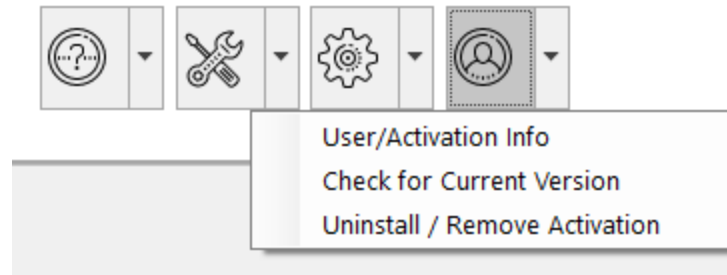
Make sure to secure and protect the wires properly INSIDE the retort to avoid damage to the wires during retort operation.

Leave enough wires out the rear of the retort to connect to the CALPlex.

Connecting CALPlex to computer with CALSoft

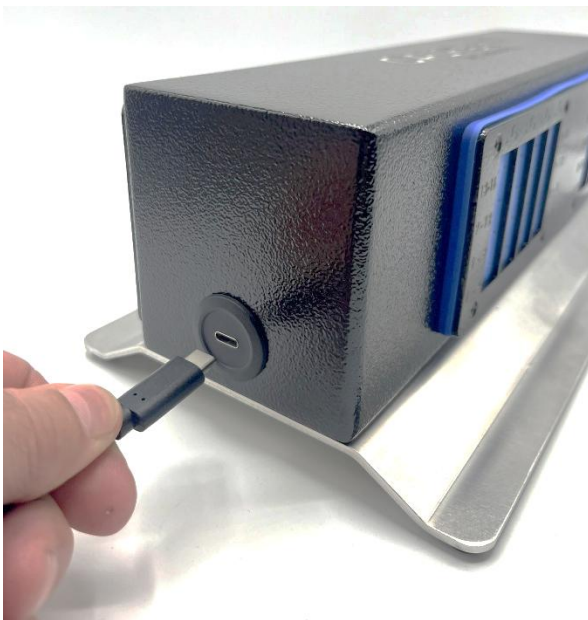
The CALPlex datalogger requires the CALSoft software to operate and collect data to your computer. CALSoft must be installed on the computer connected to CALPlex.

BEFORE YOU CAN USE CALPlex, you must have the most current version of CALSoft. To check for the current version, open the CALSoft software and in the top right of the main CALSoft homepage (dashboard), click the User Info Icon and select "Check for Current Version."



Follow the instructions and install a new version if available.

CALPlex comes with a standard 3 foot USB A-to-C cable. To connect CALPlex to your computer, plug the USB-A connector into an available USB-A port on your computer., and then plug the other end to the USB-C connector on the CALPlex.



Once connected to your computer, you may now use CALSoft to communicate with the CALPlex and collect data to your computer.

Calibration

Your new CALPlex has been calibrated prior to shipping. A Calibration Certificate is provided by TechniCAL with your CALPlex.

It is recommended that you have your CALPlex calibrated annually to confirm that it is reading properly. Calibrations may be done only by TechniCAL. To submit a calibration request, visit our website www.tcal.com/support/#calibration.

Warranty

TechniCAL warrants CALPlex to be free from manufacturing defects for 12 months from date of shipping the new unit.

Warranty does not cover the following:

- Damage to unit due to water intrusion
- Damage caused by misuse of the product
- Damage caused by using the product for something other than its intended design purpose.
- Damage to the USB Cable

TechniCAL reserves the right to determine the cause of the damage.

TechniCAL, at their sole discretion, may choose to either repair or replace the damaged CALPlex under warranty.

User is responsible for shipping costs to TechniCAL's repair center in the United States related to any repair, including repairs under warranty term.