Raychem TraceCalc© Pro Version 2.19
Readme File

Welcome to Raychem TraceCalc Pro, the industry standard for heat tracing design. Chemelex is devoted to delivering quality software and support to make this the best design tool available in the industry today. Your feedback is very important to us. Please feel free to contact us at info@chemelex.com with questions, issues or suggestions for this program.

IMPORTANT: Please check our web site periodically to obtain the latest TraceCalc Pro news and updates.

This Readme covers the following topics:

1. Main new features of version 2.19

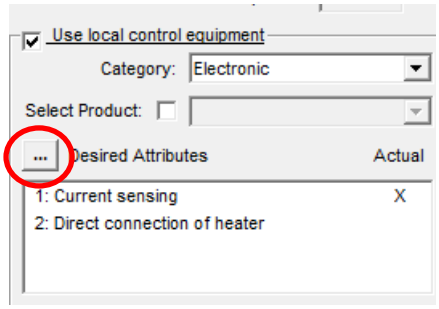
- As recently announced, the heat tracing business segment from nVent has been acquired by Brookfield and operates as an independent company under a new name: Chemelex. Hence where required, the software has been rebranded to reflect this change.

  The most important change for the user is default installation path and storage location of the projects: Previously the default storage location was Documents\nVent. This has now been updated to Documents\Chemelex

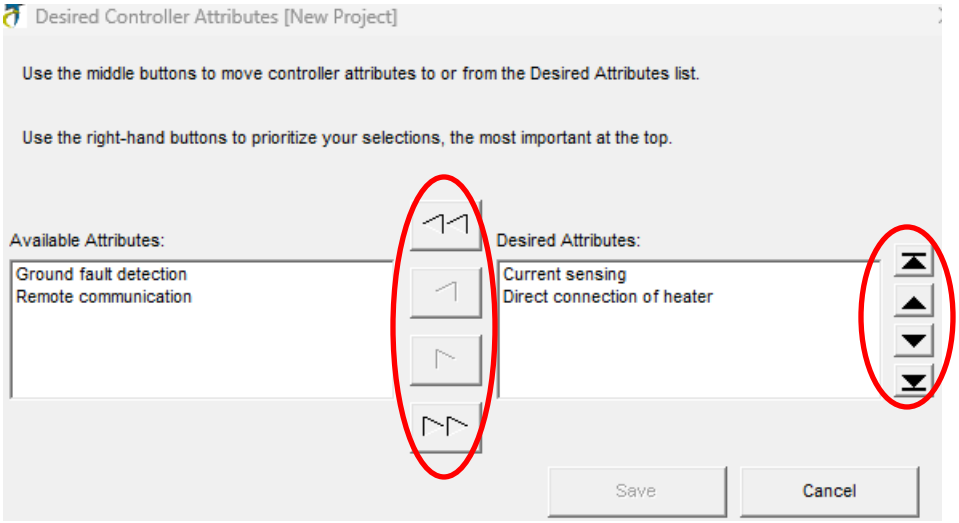
- For the NAM users, a new controller has been added: the Raychem Elexant 3500i. This is a family of compact, full-featured, electronic thermostats for heat tracing control and monitoring in freeze protection and process temperature applications. Designed from a common hardware platform, the Elexant 3500i offers multiple variants with different features to allow the user flexibility in tailoring the control solution to their heat tracing needs. Available features include: alarm relay, RS-485 and Bluetooth connection, load sensing, ground fault detection, automated heat trace system check, mobile app for wireless configuration, and more. The Elexant 3500i is suitable for hazardous and nonhazardous locations, and can be wall mounted or pipe mounted.

- To facilitate the selection of the different permutations of the Elexant 3500i, the selection of desired controller features has been vastly improved. To override the default selection, rather than having to specify the controller, you may now select from a list of available features, even prioritizing which is most important to you. Controller selection is then guided by your preferences whenever possible.

  To do this, one needs to click on the … next to ‘Desired attributes’ on the ‘Controls’ tab

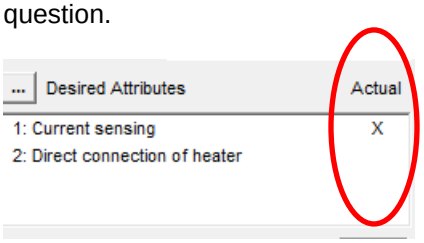


This will open a new UI element that allows to first select the desired controller attributes by using the middle buttons. After selecting the desired attributes, one can also prioritize them by using the right-hand buttons. TraceCalc Pro will then select a controller with as many attributes as possible, considering the attributes on the top of the list as the most important.



In the example above, the user has specified ideally he would like a controller that has current sensing and allows for direct connection of the heating cable. The order of the features suggests that the current sensing feature has been selected as the most important of the two.

To give the user an overview of exactly what attributes are present in the proposed controller, the window with the desired & ordered attributes on the controls tab will, after calculating the line, display an ‘X’ if the proposed controller has the desired attribute in question.



In the above example, TraceCalc Pro could not find a controller that has all desired features. Hence TraceCalc Pro has proposed a controller with the possibility to do current sensing but that does not allow to directly connect the heat tracing cable – as the order of desired attributes suggested.

- Maximum circuit lengths in combination with maximum CB loading settings have been revised for the Raychem XTVR and HTV self-regulating heaters. This can under certain circumstances lead to improved circuit lengths.

2. Known Issues and Limitations

- For designs with European single conductor, polymer insulated (PI) series heater cables, the connection components selected by TraceCalc Pro have the following limitations:

  a. For CS-150-xx-PI connection kits, the specific crimp size is not indicated in the bill of material. You will need to manually select the correct crimp based on data presented in the latest Technical Data Book.

  b. For Power Tee or Power Splice configurations, a JB-EX-20 junction box will be selected by TraceCalc Pro; a JB-EX-21 should be substituted instead.

  c. The last leg of a multi-segment Parent/Child design will include two single conductor segments and a junction box allowed for series connection of the two segments. At this point, TraceCalc Pro does not support a single looped cable as the last segment.

  d. TraceCalc Pro will not support the full application range of the universal connection and splice kit for PI heating cables, reference: CS-150-UNI-PI.
  Its maximum use temperature has been limited to 120°C for simplification of the selection algorithms. If the user plans to select the kit, it is important to verify the maximum allowed wattages for higher temperatures as detailed in our installation instructions (ref. Install-064). In case of doubt, please contact Chemelex or use the kit CS- 150-2.5- PI instead.

- For European series cable designs, TraceCalc Pro will propose a bill of materials for which some components have the quantity set to zero. These are small electrical items required to create the desired electrical configuration and are compatible with the proposed junction box. Users should adjust the quantities of these components to ensure that the requested electrical configuration can be realized. Refer to the individual datasheets of the proposed junction boxes for more information on the exact contents and electrical limitations.

3. System Requirements

The TraceCalc Pro installation package no longer supports installation on Windows XP. Contact Chemelex for more information.

Minimum Requirements:

- Microsoft Windows 10 or later, Server 2012 or later
- At least 25 MB of free hard disk space
- **Internet Explorer 6.0 or later**
- Adobe Acrobat Reader 5.0 or later
- Recommended: 500 MHZ, 2 GB RAM

4. Installation

The program can be downloaded from our website. After downloading, just start the TraceCalc Pro 2.19 Setup.exe program and follow the instructions.

During installation, Setup will detect if an earlier version has been installed. If you have an

earlier version installed, then Setup will uninstall it before continuing. All of your application settings will be retained. Old projects will not be removed and can be used with TraceCalc Pro 2.19.

5. Register for a Validation Code

When you install the TraceCalc Pro software, you are getting a trial version that will only function for 30 days, unless it is registered and a valid registration code entered.

The first time you launch TraceCalc Pro, you will be prompted to register. Register online through our public website. Once you register, we will send you the validation code. To enter the code, launch TraceCalc Pro, click **Register** on the main menu and type the code in the pop-up window.

6. Technical Support

For help using TraceCalc Pro, first check the extensive on-line help in the program.

- To contact your local Chemelex representative, visit our website, click on the 'Support' menu, then choose 'Where to Buy'
- To view Frequently Asked Questions, visit our website, click on the 'Support' menu, then choose 'Frequently Asked Questions (FAQ)'
- To contact Technical Support, send email to info@chemelex.com and indicate your country and preferred language.
- To download the latest version of TraceCalc Pro or the user manual, go to the TraceCalc Pro page.

Thanks for reporting any issues to us.

7. Change history

Version 2.19

New	Default storage locations for user data has changed from Documents\nVent folder to Documents\Chemelex
Fixed	When creating a circuit with a power splice in parallel, using parallel heating cables, and forcing the sensor to be located on that line segment, the software would not allow to save the circuit.
Fixed	For vessel designs using the North American product database, the software erroneously did not allow to select the sensor type RTD4/7. This has been corrected
Fixed	DT 920 controller T-rating has been updated to T3A consistent with the latest Approvals Certificate.

Version 2.18

New	A user may now specify desired controller attributes, allowing the software to select the best controller based on user preferences.
New	HBTV and HQTV heaters are now obsolete, as BTV and QTV heaters now have Class I Division 1 approvals based on United States standards.
New	Users may now specify Class III Division 1.
Fixed	Combining lines with XTV & XTVR revealed some bugs which prevented these combinations when in fact technically acceptable.
Fixed	The max exposure temperature for the Raystat-V5 controller when pipe mounted was erroneously set to 215°C. This has been corrected to 260°C.
Fixed	The max exposure for the Raychem connection kits for XPI heaters, CS-150-xx-PI, were erroneously limited to 200°C. This has been corrected to 260°C
Fixed	The PI direct connection kits were not allowed in zone 21 & 22 whilst they had the required approvals. This has been corrected.
Fixed	The Hot Resistance Temperature field on the Vessel Detail Report has been widened to allow users to see temperatures above 100°.
Fixed	JBM-PI-EP and JBS-PI-EP approvals have been corrected to allow them in Zone 21 and Zone 22.
Fixed	The controller maximum switching current used for validation was erroneously low when Imperial units were being used.
Fixed	The heater-related line error message for a multi-line design was sometimes being assigned to the wrong line.
Fixed	JBU maximum allowed voltage was corrected to 480 V (NAM).