

TraceCalc® Pro Version 2.4
Readme File

Welcome to TraceCalc® Pro, the industry standard for heat-tracing design. Tyco Thermal Controls 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 TraceCalc@tycothermal.com with questions, issues, or suggestions for this program.

For any questions, please also refer to the online-help of the program or the user manual, which can be downloaded at www.tycothermal.com/tracecalc

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

This Readme covers the following topics:

- 1. Installing TraceCalc Pro 2.4 on machines with earlier versions of TraceCalc Pro**
- 2. Main New features of version 2.4**
- 3. Known Issues and Limitations**
- 4. System Requirements**
 - Special note regarding Windows 2000 Professional / ME compatibility**
- 5. Installation**
- 6. Register for a Validation Code**
- 7. Technical Support**
- 8. Change History** (new features and fixed issues)

1) Installing TraceCalc Pro 2.4 on machines with earlier versions of TraceCalc Pro

During installation, Setup will detect if an earlier version has been installed. If you have a 1.x version installed, then it is incompatible with this release and Setup will uninstall it before continuing. All of your application settings will be migrated to the new version. Old projects will not be removed and can be used with TraceCalc Pro 2.4.

2) Main new features of version 2.4

• **User files moved to user directories**

User data files are no longer stored under the Program Files directory to avoid permission and other issues. The default location for project files is: for Windows Vista and 7 users, Documents\Tyco Thermal Controls\TraceCalc Pro2\Projects. For Windows XP users: My Documents\Tyco Thermal Controls\TraceCalc Pro2\Projects. If you are upgrading from an earlier version, your projects will not be moved. If you are storing your projects under the Program Files directory, it is recommended that you move them under your Documents folder to avoid further issues.

• **Added ability to copy and paste an entire pipe group**

Making a copy of a group of lines is now easily done. Just select any line in the group and perform the Copy command. You will then have the option to Paste Append just that line, or the entire line group.

- **Stripping tool for BTV, XTV and QTVR heaters is now available (North America only)**
- **Removal of the option to use historical MI Sheath Temperature calculation algorithms**

Previous versions of TraceCalc Pro have incorporated a hidden option which could be used to specify that an older, historical sheath temperature algorithm be used when updating legacy heat trace designs using MI cable. Version 2.4 of TraceCalc Pro removes this option and all MI heater designs now use Tyco Thermal Controls' most current algorithm consistent with the latest international standards.

3) Known Issues and Limitations

- **Notice for Windows XP users outside of North America:** There is a known Windows issue that causes column totals in the Line List Summary Report to be summed and displayed incorrectly, Microsoft has released a Windows Update that will correct this issue. You may find information on the issue and the downloadable Update by searching for Knowledge Base article 951978 on the Microsoft website.
- Upgrading your project from an earlier version will mark all lines for recalculation. When compared with versions earlier than 1.4, CALCULATED HEAT LOSS VALUES MAY BE DIFFERENT UNDER CERTAIN CONDITIONS. If you are upgrading from any version after 1.4, there should be no changes in heat loss.
- 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, however you should substitute a JB-EX-21 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. However; if the user plans to use the kit anyway, it is important to verify the max. allowed wattages for higher temperatures as detailed in our installation instructions for the kit (ref. Install-064). In case of doubt, please contact Tyco Thermal Controls or use the kit CS-150-2.5-PI instead.
- When you make a change in a text entry field (such as Maintain temperature), you need to "tab" out of the field or hit <Enter> before it is saved to the project.
- When designing series heaters on vessels, TraceCalc Pro will not limit the cable selection to designs that meet the user specified maximum circuit breaker (CB) size. Instead, TraceCalc Pro will optimize the design based on the least amount of cable, then

issue a warning if the cable set CB amperage exceeds the Max. CB size.

- For European serial cable designs, TraceCalc Pro will propose a bill of material of 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. It up to the user to 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.

4) System Requirements

Minimum Requirements:

- Microsoft Windows 2000, NT4-SP5, ME, XP, Vista, 7, Server 2003, Server 2008
- 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, 128 MB RAM

Upgrading Internet Explorer (Windows 2000, ME and earlier users)

If your operating system is Windows 2000 Professional, ME or earlier, you may have to upgrade your version of Internet Explorer. If your version of Internet Explorer is earlier than version 6.0, you may download version 6.0 Service Pack 1 from the Microsoft website.

If you have an older version of windows such as Windows 95, 98 or NT4, you may also need to install some Microsoft supplied database access components (commonly referred to as MDAC – Microsoft Data Access Components). Don't install MDAC unless instructed to do so during the TraceCalc Pro installation or during the program startup.

Installing MDAC

If you install the program from the TraceCalc Pro CD, the required version of MDAC is included on the CD. However, if you download the program, MDAC is not included so you will need to obtain it from the Microsoft web site at <http://www.microsoft.com/data/>. The minimum required version of MDAC is 2.5 SP1 (2.51.5303.5). If you are running Windows 2000 SP1 or Windows XP or later, you should already have the correct version of MDAC installed. If not, you will need to install the latest service pack in order to upgrade MDAC.

Installing the Microsoft Access drivers for MDAC

Please note that there are newer versions of MDAC available and if you choose to install MDAC 2.6 or later, then you must ensure that the Microsoft Access (also called Microsoft Jet) drivers are installed as well.

Please refer to the Microsoft Knowledge Base article at <http://support.microsoft.com/default.aspx?scid=kb;en-us;239114> for additional information about downloading and installing the latest Microsoft Jet drivers.

5) Installation

Installation should start automatically after placing the TraceCalc Pro CD in your CD-ROM drive. Just follow the on-screen instructions. If you downloaded the program, just start TraceCalc Pro Setup.exe and follow the instructions.

If installation from the CD doesn't automatically begin:

- Double-click the **My Computer** icon on your desktop
- Right-click the CD-ROM drive icon
- Select **Explore** from the pop-up menu
- Double-click on **Setup.exe**

6) Register for a Validation Code

When you install the TraceCalc Pro software (whether from CD or download), you are getting a trial version which will only function for 30 days, unless it is registered and a valid registration code is entered.

The first time you launch TraceCalc Pro, you will be prompted to register. 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.

7) Technical Support

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

- If you are installing from a CD, a user guide (in printable Adobe Acrobat format) is also installed and located in the TraceCalc Pro directory.
- If you are installing from a downloaded setup file, the user guide is not automatically included. If desired, the user guide can be separately downloaded from the same location as the setup file.

To contact your local Tyco Thermal Controls representative, go to www.tycothermal.com, select your country, choose "Heat Tracing", then select "Sales Representatives" from the top menu.

To view Frequently Asked Questions, visit www.tycothermal.com/TraceCalcFAQ

To contact Technical Support, send email to TraceCalc@tycothermal.com and indicate your country and preferred language.

To download the latest version of TraceCalc Pro, go to www.tycothermal.com/TraceCalc

Thanks for reporting any issues to us.

8) Change history

Version 2.4

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| New | When designing with SC cable, a circuit tag is now added to the bill of materials for each power kit. |
| New | Limiters lockout (Europe): the Controls tab now has an option to indicate that a limiter lockout will be used.. If this option is used, warning W1215 "Temperature limited design in Zone 1 (Zone 21) requires the use of an approved temperature limiter." will not appear. |
| New | Changed order of MI cables (Europe): The selection order of the different available sheath materials for mineral insulated heating cables has been altered. The stainless steel cables – reference HSQ – have been put further down the list just before the Inconel cables (HIQ) whereas it was previously just after the Cupro nickel heating cables (HDF/HDC) |

New	E-50 heat shrink end seal for VPL2 & VPL4 heating cables added to product database (Europe).
New	(Europe) The LAB-I-35 warning label, required when using VPL in hazardous areas, now appears on the bill of materials when needed.
New	When using the filter function, users are now allowed to filter based on control method.
New	(Europe) The MONI-PT100-EXE sensor is always used as the control limiter sensor with the NGC20.
New	RMI tie wire is now allowed as an attachment method for HIQ and HSQ heaters.
New	(Europe) New JB-21 junction boxes are now available for higher current applications.
Fixed	The reported sheath temperature of 10VPL2-CT was higher than calculated under certain calculation conditions. Actual sheath temperatures were calculated and validated but under certain conditions incorrect values were reported.
Fixed	When using a different attachment type on a loop or continuation than on its parent, and using parallel heater technology, the circuit electrical totals could be wrong, failing to reflect the loop or continuation attachment type.
Fixed	When creating a vessel with a slab support, the initial slab thermal conductivity could differ from the default value.
Fixed	When designing a vessel with 1-conductor cable and forcing the segment length, if multiple circuits are required the wrong circuit current was shown.
Fixed	Under certain conditions the warning W1001 "Circuit current exceeds the Max. Allowed value for the specified CB size. was missing.
Fixed	When designing a multiple-segment circuit using two-conductor factory-terminated cables, every end segment is given a D configuration, so if too many end segments are assigned to a single parent, it was possible to get cable sets that cannot be electrically connected in a circuit.
Fixed	When globally editing the 'miscellaneous heat sink type', the option 'Allow fixed heater length' was missing.
Fixed	When filtering on Miscellaneous Sink Type, the option 'Allow fixed length of heater' was missing.
Fixed	The Bill of Materials 'Add Item' button was enabled when using custom filter settings, but should only be enabled at the line, area or total level.
Fixed	When using the Find form, the Criteria pull-down selection sometimes changed after setting a custom filter.
Fixed	When using the JBS-100-ECP-A on a small pipe, the pipe adapter (SPA) was missing from the bill of materials.

Fixed	On a single line design when using parallel heater technology, if multiple circuits are created, too few power junction boxes could appear on the bill of materials.
Fixed	When designing a power tee, the bill of materials could contain too few connection and insulation entry kits for the power termination if they are required.
Fixed	In rare cases an error could occur when designing with series heater technology and it would prevent the Save function and cause TraceCalc Pro to crash when exiting.
Fixed	When designing a vessel with 1-conductor cable, the number of heater entries required for the power connection was mis-counted, possibly resulting in too few glands or too few junction boxes to be added to the bill of materials.
Fixed	When using a control limiter on tank designs, the uncontrolled temperature was not saved.
Fixed	Under certain conditions, changes to vessel heater options were not saved.
Fixed	When doing parallel designs, the warning W1042 "Heater wattage too high at Max. Controlled temperature. Line Sensing control is required." sometimes appeared when the warning was actually not necessary.
Fixed	The units reported for the oversized insulation size were incorrect if the project is set to metric units and the pipe schedule is in English units, or if the project is set to English units and the pipe schedule is in metric units.
Fixed	(Europe) The support bracket for the MONI-PT100-EXE was missing from the bill of materials when used with the NGC20.
Fixed	Under certain conditions the default cold lead gland was not selected (MI cables). In some cases, the junction box heater entries were not compatible with the proposed glands of the cold lead cables (MI)
Fixed	(Europe) The sensors selected for use with a controller were sometimes incompatible with the controller (some sensors must be directly connected in the controller, but some controllers cannot take a direct connection).
Fixed	Sometimes parts required by the sensor were left off of the bill of materials for sensors selected for use with a central controller.
Fixed	Global edit of chemical exposure was properly applied to child lines.
Fixed	For factory-terminated heaters, if the price of a component part is missing, the cable set price would not be correct, Now, if any cable component price is missing, the entire cables set price will be set to zero.
Fixed	In rare cases the cold lead length listed on the bill of materials for a factory-terminated single-conductor cable would be too low.

If you need help in evaluating your design for this issue, please contact

software@tycothermal.com (in Europe: softwareEur@tycothermal.com)

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