General Information

This update can exclusively be used for the **PSS®SINCAL Platform 18.5**. It can't be used with other product versions!

Procedure for Installation

- Close all running PSS SINCAL Platform applications
- Decompress the Zip archive
- Start the installation using AutoRun.exe or Sincal\SincalSetup.exe. The setup automatically detects the existing PSS SINCAL Platform installation and updates all components.

If you have any questions, please contact **PSS SINCAL Platform Support** (fon +43 699 12364435, e-mail sincal.support.it@siemens.com).

Additions/Corrections Update 8 (August 7, 2023)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Insert Netpoint
  Correction of an error when inserting a net point on a switched element.
- Graphic Element Container
  When performing UNDO operations, the graphical element container was not properly created, because of which the elements were no longer displayed in the reduced form (without text, suppression of symbols, ...)
- Copy & Paste
  Correction of an error when copying and pasting from previous PSS SINCAL versions or catalogs, which caused the data to be incorrectly updated when changes were made to the data model for protection devices (DI, OC).
- Evaluation of the Supply
  The evaluation "Supply" in district heating networks did not work correctly.
- Catalogue
  Fixed an error when inserting images with the same names from the catalog, which overwrote existing images in the IMG folder.
- Protection Device Pop-up Menu
  Correction of an error when opening the diagrams via the pop-up menu of a protection device for the first time, which caused the diagram view to be activated incorrectly.
- Interactive Diagrams Three-Winding Transformer
  Correction of an error in the interactive diagrams, which caused the damage curve to be incorrectly referenced to the internal voltage value.

- Workspace
  Fixed an error when importing workspaces, which caused the visibility control for labels to be imported incorrectly and therefore the corresponding field could no longer be displayed in the network graphic.
- Include Networks
  Fixed an error when synchronizing the results in the open views and include networks. In case of multiple views and include networks, synchronizing the results triggered an infinite loop.
- Import Results
  Importing tap positions is now also possible when unbalanced power flow results are active.
- Import Network Graphic
  Correction of an error when importing the network graphic from an XML file.
- Excel Import
  Automatically determine or manually specify the view mode (Geographical/Schematic) when importing "GraphicAreaTile".
- Standard Type Dialog Box
  Correction of a problem with filter functions.

PSS SINCAL Electrical Networks

- Power Flow
  Correction of an error in the operating point determination of network elements with an active power control in unbalanced calculations.
- Protection Coordination
  - Area pickup – polygon shape A: Correction of a problem in the determination of the points for the pickup area shape A. An incorrect limitation in the forward direction was carried out for the RLF setting value.
  - Correction of an error in the determination of the protection devices which are allowed to trip. Different pickup zones (with tripping) were not correctly checked.
  - Improved display of tripped protection devices in the message window.
- Backup Protection
  - Correction of an error when deleting protection devices. Here the devices were not deleted from the backup protection, which could lead to the abortion of the calculation.
  - Display of erroneous backup protection data in the dialog box so that it can be deleted via the GUI.
  - Warning when loading invalid backup protection records in the calculation.
- Dynamics
  When calculating with negative time offset, the signals in the diagrams were not assigned correctly.
- CIM16 Import
  Improved determination of VoltageLevels at ConnectivityNodes outside the substation when using line containers in CIM.
- PSS E Import
  Correction when importing graphic data from DRW file.

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- Three-Winding Transformer Input Data
  More error-tolerant reading of vector groups of three-winding transformers. Here it was assumed that the vector groups are always entered left-justified. If this was not the case, a read error occurred and the calculation was aborted.
- PLOT Definition
  Correction of an error when resolving variables in PLOT definition lines.

Multi-User Master Database

- Corrections to the "History" and "Undo Publish" functions. After the release by the administrator, it was no longer possible to check the changes of the check-in via HTML log. As a result, it was also no longer possible to roll back the changes correctly using the "Undo" function.
- Fixed a bug when converting the current network to a master database. Directly after the conversion some functions were not available via the administration page (Show Changes, Publish All, ...).

Additions/Corrections Update 7 (December 27, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Diagrams
  Correction of an error when displaying and processing signal labels in diagrams when a manual reference axis was specified.
- Heat-Map
  Correction of an error in the determination of media quality in pipe networks. Instead of the quantity from the network tracing results, an incorrect result value was used to determine the colors for the heat map.

PSS SINCAL Electrical Networks

- Power Flow
  Warnings are now generated for converters in island mode when limits are activated, as they then operate as "swing bus" and limits are not considered.
- Load Allocation
  For profiles with the type "Measured current", the characteristic values of cosphi were erroneously multiplied by 1E-3.
- Protection Coordination
  - Correction of an error in the determination of loop impedances in rail networks.
  - Recloser: Correction of an initialization problem. For earth steps, the switching sequences from the phase setting were always used.
- Protection Analysis

  - Correction of a problem with protection devices placed on connectors.
  - Correction in the details dialog of the result view. Ik''max was always output with 0.0 kA.

- Arc Flash (AFH)
  The error messages for the "Time steps" method in Arc Flash calculation have been added.

- CIM Import
  Automatic correction of faulty vector groups for two-winding transformers. A valid vector group is now automatically set in case of missing/incorrect rotation.

- CIM Export
  Additional parameters at CIM export for ModelSet attributes via automation (Simulation.SetParameter): "md:Model.modelingAuthoritySet".

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- Model Editor (GMB)
  Performance improvement when zooming/scrolling in the models with many take-off points.

- Variant Calculation
  Correction of a problem with MEMORY blocks in connection with variant calculation. The blocks were not reinitialized when changing variants.

PSS SINCAL Merge

- New Version 18.5.2
  Corrections in the handling of neutral point impedance.

Additions/Corrections Update 6 (October 31, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Copy and Paste Two-Winding Transformers
  Correction of an error during pasting, whereby the voltages on side 1 and side 2 were not taken from the copied transformer, but the voltages of the nodes were entered.

- Transformer Symbol
  Correction of an error while drawing the overlays (controllers) at the transformer.

- Protection Documentation
  Correction of an error when saving the network graphic in the protection documentation. The node positions were not saved correctly.

- Catalogues and Copy/Paste
  Updating database values when copying/pasting from old PSS SINCAL versions or old catalogues.

- Diagrams
  Correction of an error when loading the diagram information, which caused the position of the

legend to be loaded incorrectly.

- Export Network Archive
  Fixed a bug with date attributes when exporting a SQLite network to an XML network archive.

PSS SINCAL Electrical Networks

- Power Flow
  Correction of a problem with control of shunt reactors and shunt capacitors. Reactive power/cosφ control at the terminal did not work properly if the terminal used for control was not connected to the node with side 1.
- Power Flow with Load Assignment
  Correction of an error in the power balance results (input data). In calculations with "Consider load assignment", the power balance was determined and added up several times.
- Overcurrent Time Protection
  Correction of an error when determining the tripping time for OC protection devices. Thermal tripping according to Ferraris principle was performed for wrong protection devices.
- Protection Coordination with Stability
  Correction of an error when binding the protection calculation with stability, which caused the time domain simulation not to be executed and to be aborted after the initial LF.
- Harmonics
  Correction of an error in converting the rated voltage for the "phase-ground voltage (180°)" type of voltage.
- Arc Flash
  The set short-circuit norm was not correctly considered for transformers.
- Load Assignment
  Correction during trimming with input format "S, cosφ and u" or "I, cosφ and u". The reactive power was always set to 0.0 by mistake.
- Extended Serial DC Element
  Enhancement of the input field "Qpcc" and also the implementation that now both working methods (consumer/network feeder) are supported.
- Corrections for Converter
  - Correction of an accuracy problem with superimposed control and converter with voltage-dependent active power control.
  - BOSL model: In unbalanced networks, converters with type U (P and Q) did not behave properly.
- Transformer Control
  Correction of a problem with the control. In multiple calculations (time series, operating points, etc.), the start control for the various power flows was not correctly taken into account.

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- MEMREAD/MEMWRITE Block
  Correction of an initialization problem with the MEMORY blocks.

- Plotting Signals
  Correction of a problem when saving signals if the "old" plot definition was used.

Additions/Corrections Update 5 (September 30, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Three-Winding Transformer
  Correction of an error during copying. Here the symbol alignment (terminal 2-3) was not correctly considered so far.
- Multi-User Master Database
  Correction of an error in the processing of characteristic data, as a result of which the existing data was not deleted, but constantly expanded.
- DI Protection Settings Determination
  Editing the selected protection device was not possible from the pop-up menu of the result browser.
- OLE Objects
  In PSS SINCAL, OLE objects are no longer supported in the graphics editor since version 18.0. When opening old networks, a program abort occurred if OLE objects were included. This problem has been corrected.

PSS SINCAL Electrical Networks

- Short Circuit
  Correction of a problem with generating the short-circuit results when connections were used.
- TSDI
  1-phase network feeders could not process the voltages from the TSDI database correctly. This problem has been corrected.
- Serial DC Element
  Correction of an error explicitly for the working method "Current DC-Line". Active powers P1ac and P2ac were incorrectly determined due to incorrect consideration of losses + DC power. Improvements for the negative flow direction of Idc were also made.
- CIM 16.0 Import and Export
  - Enhanced import of lines: Determination of Ith based on OperationalLimits
  - Enhanced graphic import: Improved busbar/node detection in node/branch networks
  - Keeping the UUIDs at OperationalLimits (Ith) when exporting lines.
  - Suppression of the EquipmentContainer at cim:Line
  - Correction when exporting cim:Line Container (cim:VoltageLevels without substation affiliation)
  - Empty/invalid reference at SynchronousMachine.InitialReactiveCapabilityCurve
  - Correction of incorrect field definition during export for OperationalLimitType

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- Controller Debug
  Correction of UI errors for interactive debugging of controllers.
- Plot Header
  Correction of an error when processing relative position information.

Additions/Corrections Update 4 (August 31, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Diagrams
  Correction of an error when changing the variant, which caused the diagram data not to be reloaded and thus the wrong variant characteristics were displayed.
- Network Browser – Topology
  Correction of an error when grouping the elements based on the network zone, which caused the network zone names not to be displayed in the list.
- Standard Type and Protection Databases
  A problem with considering the relative paths of the assigned default type and protection databases when moving/copying the PSS SINCAL network in Windows Explorer was fixed.
- Embedded Images in the Graphics Editor
  Correction of an error when loading embedded EMF files. Only BITMAP formats were processed correctly, therefore EMF files were not displayed.

PSS SINCAL Electrical Networks

- Power Flow
  Correction of convergence problems with converters with load flow type "P and |v|" in unbalanced networks.
- Harmonics
  The display of the result field Vn has been enhanced for node results and branch results. The voltage type is now considered based on the input data from the Network Level. Depending on the definition, Vn is now provided as Line-Line or Line-Ground voltage.
- Load Group with Profile
  Correction of a problem when assigning multiple profiles to a load group.
- Protection Coordination
  Correction of an error in UI pickup for ground faults. Here the wrong voltage was used (displacement voltage V0 instead of conductor-ground voltages V1, V2 and V3).
- CIM Import
  - ExternalNetworkInjection – Import as "P and Q", consideration of SSH data
  - Extended SSH import at AsynchronousMachine

- Improved graphic import of nodes (busbars)
- Breaker typing (Breaker, Power-Circuit Breaker, Disconnector)

PSS SINCAL Pipe Networks

- District Heating – Profile Curve Diagrams
  Correction of a problem with routes that were only created as returns. Here the profile curve diagram could not be created correctly.

PSS SINCAL Automation

- Automation of the Calculation
  Performance improvement at CreateGraphic.

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- Universal Line Model
  Correction of a problem that caused transients to occur at the beginning of the simulation for voltages and currents in all conductors.

Additions/Corrections Update 3 (July 29, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Inserting Bitmaps in the Graphics Editor
  Fixed a problem with pasting bitmaps from the clipboard into the graphics editor.
- Embedded Images in the SIN File
  When updating old networks, images directly embedded in the SIN file are now automatically converted to "linked images".
- Diagrams for Input Data of Protection Devices
  Out-of-service" protection devices are now no longer considered by default. With the registry setting "Simulation\Interactive_ConsiderOutOfService" = 1 these devices can be considered again.
- Diagrams for Harmonics
  Correction of an error in the default formatting (position of the legend) for the harmonic diagrams Node Level.
- Importing Extended Settings
  Extension of the allowed length for setting names from 12 to 50 characters.

PSS SINCAL Electrical Networks

- Power Flow
  - Correction of an error when taking over source voltages from BOSL GNE-V models in unbalanced networks.

  - Correction results for switches: I3/In was erroneously generated with I1/In.

- Load Assignment
  When trimming in an unbalanced network, the power was not divided properly.

- BOSL
  Correction of an error when setting the internal model parameters.

- TSDI
  For network elements with a profile of the type "Factor V and P", assigned TSDI data were not considered.

- Protection coordination
  Protection device pickup (ground): Correction of an initialization error for UI pickup and undervoltage pickup. For earth tripping the two pickup settings were not processed/considered correctly.

- Short Circuit
  Correction of an error in the rotation of currents in two-phase networks.

- Dynamics
  - In unbalanced networks, the direction of power was reversed for signals in stability.
  - The parameter KNO1 was written twice with different values for unbalanced converters.
  - With unbalanced converters, the power was not displayed correctly in PSS SINCAL.

- CIM16 Import
  Using the node data of the ConnectivityNode class instead of the parent TopologicalNode CIM class.

PSS SINCAL Pipe Networks

- Contingency Analysis
  Correction of a problem with reactivation of disabled network elements.

- Diagrams
  The performance of diagram generation has been improved.

- TSDI
  Heat networks: The pressure was not transferred correctly from the DataSupply table to the element.

PSS SINCAL Automation

- Calculation Automation
  GetCommonObject: fixed an error when searching network elements by name.

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- PSS E Import
  Correction of a processing error in the DYR file when an unsupported standard model is included in the file. This caused the next model to be overread.

Additions/Corrections Update 2 (July 5, 2022)

This update contains all the additions of the previous updates and on top of that the following error corrections and additions.

PSS SINCAL User Interface

- Multi-User Master Database
  Correction of an error in the metamodel, which caused setting values of protection devices to be synchronized incorrectly.
- Restore Backup Copies
  Extended diagnosis (via registry setting DEBUG\ExtendedRecoveryCheck = 1) if the backup copies cannot be restored. With the registry setting, all files are checked individually and output in the error message.
- Automation of the Calculation Methods
  CreateElement(): Correction of an error related to virtual databases when searching the elements/nodes by name.
- Annotations in Network Diagram
  Correction of an error in the visualization of Ti (establishment date) and Ts (shutdown date) in pipe networks.
- Diagram View
  Correction of an error processing the diagram data when using custom data series.
- Graphic Element Container
  Improved performance when filling the dialog in large networks.
- Import Network State
  Enhancement when importing network states that the symbols of the elements are automatically updated and visualize changed element data, e.g. types at the converter or the valve position in pipe networks at the valve.
- Synchronize in Views
  Fixed a problem with synchronizing changes in open views.

PSS SINCAL Electrical Networks

- Protection Coordination
  - Correction of an error in determining converter currents on terminals.
  - Correction of an error in determining loop impedances for train networks.
- Short Circuit
  - Correction of an error in the rotation of currents in two-phase networks.
  - Extension of dynamic voltage support with input data characteristic I = f(V). Balanced elements feed unbalanced if all connected elements are unbalanced and connected to the same phases.
- Harmonics
  When using impedance characteristic with absolute values, the shunt branches of lines were not initialized.

- Dynamics Simulation
  Correction of an error in the output of signals, which caused the plots of "All signals of a controller", "All machine variables" and "All network variables" not to output information about the underlying signal.

- BOSL Models
  Correction of a problem with the binding of the unbalanced dynamic power flow results for models with type "BOSL(dyn)".

- Distance Protection Devices SEL311L1 & EASERGY P3
  Correction of a problem when determining the tripping area for SEL311L1 and EasergyP3. The tripping area was adjusted with an incorrect transformer factor.

PSS SINCAL Pipe Networks

- Multiple Calculations
  Correction of a problem with license verification in district heating and gas networks.

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- Project
  Correction of an error when loading project files.

PSS SINCAL Merge and PSS SINCAL Merge Pipe

- New Version 18.5.1
  The overview of all changes can be found in the version log directly in the installation directory of the tool.

Additions/Corrections Update 1 (May 31, 2022)

This update contains the following error corrections and additions.

PSS SINCAL User Interface

- Report View
  Correction of an implementation problem with the report control.

- Thermal Destruction Analysis
  Advanced context menus in the results view.

- Dialog Plot Definition for Dynamics
  - Correction of a display error when resizing the dialog.
  - Correction when filling the topology lists for voltage signals.

- Visibility and coloring of network elements based on establishment and shutdown dates
  - Fixed a performance issue when determining which elements to update.
  - Change the processing order for coloring/visibility with the following priority: Shutdown elements, future elements, elements out of service (incl. consideration of all stored in/out of service states).

- Element symbols in the network diagram
  Fixed a bug when drawing symbols that caused all symbols to always be rotated, even if they were defined as "fixed".

- Catalogues
  Fixed an error when processing node positions in catalogue entries, which caused nodes to always be positioned at 0/0.

- Multi-User Master Database
  Correction of an error in the metamodel, which caused setting values of protection devices to be synchronized incorrectly.

PSS SINCAL Electrical Networks

- Contingency Analysis
  - Resupply: If there were no valid resupply actions, an incorrect network state was used for result generation.

- Operating Point Calculation
  Correction of an error when calculating operating points. The power flow data of controlled elements was not reset correctly.

- Time Series Calculation
  - Correction of an error when generating results for breakers. No results were generated when calculating the worst cases.
  - Correction of a problem with using the "Marked" option for result storing. If only one terminal of the network elements was configured to store results, the results were not deleted after processing.

- Network development
  - Correction of an initialization error when activating island mode. For supply sources with power flow type P and Q, source voltage and voltage angle were not initialized.
  - Correction of an error whereby supply sources that have not yet been established with the islanding option have also been switched to "slacks".

- Harmonics
  For coupling data with predefined frequency dependence, a quality of X/R constant = 5.0 was not used – as described in the documentation.

- Fuse Dimensioning
  Correction of a program abort caused by faulty protection devices.

- Protection Coordination
  Correction of a problem with tripping of UI-pickup in undirected time.

- Protection Routes
  Correction of an initialization error in the protection route calculation. Line subdivision ratios were not set/updated. Due to the wrong factors, the voltage adjustment was not performed correctly.

- Coupling Data
  - Extended checks for lines coupling data and enhanced messages in case of modeling

problems.
  - Correction of display problems in the protection route diagrams for lines with coupling data.
  - Correction of a problem in protection coordination whereby a fault on a line with coupling data was shown as "isolated".

- Continuous Transformer Control
  Correction of a problem in determining the desired voltage with controller at the end node and upper limit voltage identical lower limit voltage.

- VoltVar Optimization
  When calculating with factors/operating points not equal to 1, there were errors in the calculation.

- Dynamics Simulation/Dynamic Power Flow
  - Global models were initialized multiple times, which led to errors.
  - Inherent models were incorrectly used when calculating the power flow help in the PSS SINCAL power flow.

- CIM Import
  Correction of an error while determining the controller data of ShuntCompensator.

- CYMDIST Import
  Fixed a problem when format tokens were not defined in uppercase.

PSS SINCAL Pipe Networks

- Standard Types
  The "Diameter" field was not synchronized to the browser when it was changed.

- Steady-state calculation
  Correction of a problem with pressure regulator with specification of an internal pressure drop characteristic.

- Valves in Heating Networks
  Closed valves have given implausible results when a subnetwork was isolated.

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- IEC DLL
  Correction of a problem when creating the interface MAC file for IEC DLLs. For DLLs with inputs/outputs in arrays, the parameters in the MAC file were not generated correctly.