General Information

This update can exclusively be used for the **PSS®SINCAL Platform 21.0**, not for 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 (December 22, 2025)

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

- PSS NETOMAC Log Result View
  Correction of a program crash when a line in the LOG exceeded the length of 256 characters.
- Tabular View
  Correction of a captioning problem with some attributes in external databases (e.g., ResultElement_ID).

PSS SINCAL Electrical Networks

- Distance Protection Devices
  If the final time is 0.0 s but a proper time has been entered, the protection device has triggered incorrectly with the end time instead of the stages.
- Switch
  A problem with the processing of switching actions has been fixed. If switches with individual phases had switched off all phases, they could not be switched back on again. This could occur, for example, during contingency analysis or resupply.
- Protection Routes
  Correction of an error in the display of zone details for multiple selections in the result browser. Previously, the tripping time of the zone from the first device was displayed. However, this can vary from device to device and should therefore not be displayed.
- Arc Flash (AFH)
  Fixed a bug that occurred when protection devices were installed directly on network elements such as serial reactors.

PSS NETOMAC

- Graphical Model Editor (GMB)
  Correction of incorrect help link when editing blocks in the Parameter dialog boxes.

Additions/Corrections Update 7 (November 2, 2025)

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

- Variant Comparison – Create Scenario
  Correction of an error when creating scenario files from a variant comparison, which resulted in new network elements of the type "Switch" not being exported correctly.
- Import Network State
  Fixed a bug when converting invalid date values, which could cause the program to crash.
- Diagrams
  - Improved performance when creating/updating diagrams after opening the network model. Previously, all interactive diagrams were completely updated after opening the network model; now only the missing diagrams are generated.
  - Fixed a bug in the display of user-defined signals in diagrams, which meant that depending on the configuration, they were no longer displayed correctly.
- Network Browser
  Fixed a problem with updating the pop-up menu when switching between electrical and pipe networks.
- Supplementary graphics object Line
  Correction of an error in drawing the arrowheads.
- Copy Add-Symbols
  Correction of an error when copying and pasting additional symbols (protection devices, fault observations, etc.) from other views, where an incorrect graphic layer and object type were stored in the database.
- Heat-Map
  The visualization types "Power Flow V/Vn" and "Power Flow Deviation V/Vn" were only available if branch results were available in the network model. However, these visualizations only require node results.
- Database Manager
  Correction of an error when creating pipe networks via automation using the database manager. This always set the network type to "water".

PSS SINCAL Electrical Networks

- Protection Devices
  - When copying a DI setting via the dialog box, the pickup data was not copied.
  - For devices with multiple protection functions (DI, OC, DIFF), the loop impedances detected

by the DI function were recalculated without ground factors.

- Resupply
  An error in the algorithm has been corrected that caused the calculation to run in an endless loop and had to be aborted.
- Limits with Characteristic Curves
  Limits with a voltage greater than 100% were not limited correctly.
- Power Flow (PF)
  Correction of a convergence problem in converters in unbalanced networks.
- Hosting Capacity (ICA)
  Correction of an error with parallel processing enabled. Renewable energies were not considered in the slow voltage change.
- Optimal Branching (OT)
  Improvement in the algorithm for unbalanced networks in "voltage-based" mode. The maximum voltage is still used for comparison, but the smallest total current (of all phases) is also considered.
- Operating Point Calculation (LP)
  Corrected an error when creating diagram pages for voltage profile diagrams when operating points were calculated.
- Operating Point and Time Series Calculation (LP)
  Asynchronous machines and variable shunt elements did not always behave correctly during time series and operating point calculations. Errors occurred when changing the power.
- Protection Simulation (OC)
  - A bug in the recloser has been fixed. The parameter for selecting the ground was not being considered correctly.
  - In the results of the fault observations, it could happen that the fastest tripping time was not reported for the protection device.
- Protection Analysis (PSA)
  Correction of an error in the output of currents when frequency protection is considered.
- Arc Flash Calculation (AFH)
  Correction of a problem with calculations using the DGUV standard, whereby the entered limitation of the clearing time was not taken into account.
- Voltage Curve Diagrams
  Correction of an error that caused incorrect nodes to be included in the route diagram that were not actually part of the route.
- CIM Import/Export
  - Corrections when processing dynamic data from CGMES 2.4.15:
    CIM export: Duplicate controller values
  - CIM import: User-defined controllers were not assigned to the machine
  - CIM Export Geographical (GL-profile)
    Correction converting coordinates to Lat/Long when exporting from CIM16 using a background map.

PSS SINCAL Pipe Networks

- Time series data interface for gas networks (TSDI)
  Correction of an initialization problem with the TSDI data.

PSS SINCAL Automation

- Automation of the User Interface
  Automatic updating of drop-down lists in the toolbar when calling the automation function Reload() for graphic layers, object types, network levels, etc.
- Automation of the Calculation Modules
  An error has been corrected that occurred when switching multiple times between the physical and virtual databases.

PSS NETOMAC

- Graphical Model Builder (GMB)
  Fixed an issue with license verification.

Additions/Corrections Update 6 (April 29, 2025)

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

- Switch Update
  Improvement in recognizing the symbol position of breakers when converting a line to a switch. If additional components are detected on the terminal or element, the symbol position is no longer corrected.
- Result View
  Extended CSS styles so that the data displayed in the results view can also be printed.
- Input Dialog Box Load
  Correction of visibility/input option in fields for loads with type "Z constant".

PSS SINCAL Electrical Networks

- Load Allocation (LA)
  Operating points were not assigned correctly to the loads, so the initial power was incorrect. It worked when calculating a power flow with operating point and load determination activated.
- Operating Points
  Tap positions of transformers and shunt capacitors changed by operating points were not considered correctly.
- Check OC-Settings
  Correction of an error when checking settings based on feeders. Here, the feeders were not determined correctly in the calculation, which meant that no valid results were generated for the

check.

- Grid Code Compliance Renewables (EEG)
  Correction of an error in the Word documentation. The information about exceeding the limits for harmonics was incorrect.

Additions/Corrections Update 5 (March 28, 2025)

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

- Network Area Dialog Box
  Fixed an error in the dialog for filling the list, which caused not all network areas to be displayed.
- Evaluation and Filter
  Fixed an issue with the filter for choice values in input data. Although the filter could be defined, the elements were not colored accordingly.
- Excel Import
  Extension to allow reference to characteristic curves and operating points already in the network model during import. Previously, it was only possible to access these when importing the characteristic curve tables at the same time.
- Decimal Separator in Dialog Select und Update
  Queries with decimal numbers only worked with the set locale of the Windows user interface.

PSS SINCAL Electrical Networks

- Power Flow (PF)
  Operating points with apparent power were not correctly considered for measuring devices.
- Time Series (LP)
  When using include networks with profiles, the calculation was aborted with an error.
- Time Series Data Interface (TSDI)
  The status of the switch was not considered in the power flow.
- Converter
  Converters with sub-network models were calculated with the wrong sign in the PSS SINCAL power flow.
- Hosting Capacity (ICA)
  Correction of an error in the reporting of elements limiting the thermal load on network elements (ith).
- CIM Import
  Correction of an error in the creation of lines in line containers, which caused station/field references to be generated incorrectly.

PSS NETOMAC

- Electromagnetic Tranisents (EMT)
  - Fixed a bug in the way nodes are processed in EMT that caused branches not to be found correctly.
  - Correction of an error in the processing of LOOP blocks in models.

Additions/Corrections Update 4 (February 27, 2025)

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

- Automatic Graphic Layout/Supplement Graphics
  - The node level limit was also considered in the "Connected" mode.
  - Default settings for nodes were not considered.
  - When supplementing graphics that had already been partially created, previously positioned nodes were also repositioned.
  - Node types were not recognized correctly.
- Importing PSS SINCAL Network Models
  Fixed an error in the processing of dynamic data connections in the network model (e.g. Master Resource). The data connections, which can refer to any data record in the network model using RowType and RowID, were not updated correctly during import.
- Insert Switch
  Correction of an error when creating a switch and synchronization of changes in all open views. In doing so, a new switch was created in all open views instead of graphically placing the switch that had already been created.
- Setup Page
  Fixed a bug in the page size adjustment (the bug was caused by changes in Update 3).
- Set Network Data
  The Set Network Data dialog did not open in pipe networks.

PSS SINCAL Electrical Networks

- Short Circuit
  - In the case of partial short-circuit results at connections, the Ik"PFO of the connection node was used instead of the Ik" when determining the utilization Ik"/Ik"max.
  - G74: In unbalanced networks, consumers were not modeled correctly when calculating with symmetrical components.
- Protection Routes
  Intermediate feed-in effects were not correctly considered in the protection routes.
- Protection Coordination
  Impedance pick-up with times of 0.0s could cause the tripping to not work properly.
- Power Flow on Connectors

Correcting the power flow for connectors that are connected to inverters with PV-dependent behavior.

- Arc Flash (AFH)
  When calculating according to IEEE, the set short-circuit data was not correctly taken into account. When calculating the maximum and minimum short circuit, the current reduction was not carried out correctly. With the correction, it is again possible to calculate with the set short-circuit data. If Maximum or User-defined is set, it is also possible to calculate with the minimum short-circuit option and the maximum energy is provided as the result.

PSS NETOMAC

- MIMO Models
  Fixed a bug when saving a MIMO controller.
- Disturbance Criteria 04
  Correction of an error in disturbance criteria 04, which caused the assignment of the source output to a slack voltage to malfunction.
- M-Line
  Correction of an error in the calculation of the zero-sequence system data for YD/DY transformers with simplified input.

Additions/Corrections Update 3 (January 31, 2025)

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 network point at the 2nd terminal of a network element if bend points are present.
- Screen Forms
  Fixed a bug in the asynchronous machine where a changed input unit for the attributes P and Q was not saved correctly.
- Page Setup
  Corrects a bug in the dialog box when the page is switched from schematic to geographical (scale).

PSS SINCAL Electrical Networks

- Dynamics
  Fixed a bug in the creation of NETOMAC files that caused global network models with the position ‘default’ to no longer be exported.
- Load Allocation
  When using the coincidence factors in combination with this function, the calculation was aborted without an error message.

PSS NETOMAC

- M-Line
  When the EMT zero-sequence system is being modeled, a zero impedance must be considered for transformers, which depends on the vector group. This is defined in the fields Hz7 and Hz8 of the M line. If fields Hz7 and Hz8 are left blank, the calculation is carried out automatically based on the input positive-sequence no-load data for two-winding transformers with vector groups YD/DY.

Tools

- Synergi-PSS®SINCAL Interface
  New version 21.0.1. An overview of all changes can be found in the version log directly in the installation directory of the tool.
- SpatialDB-PSS®SINCAL Interface
  New version 21.0.1. An overview of all changes can be found in the version log directly in the installation directory of the tool.
- ESRI Shape - PSS®SINCAL Interface
  New version 21.0.1. An overview of all changes can be found in the version log directly in the installation directory of the tool.

Additions/Corrections Update 2 (December 27, 2024)

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

- GDI Rendering
  - Fixed a bug in the automatic scrolling when dragging a selection rectangle, which could cause the program to crash. The problem only occurred when advanced graphics rendering was disabled.
  - Correction of a bug in the automatic text wrapping in text fields, when advanced graphics rendering has been disabled.
- Nodes in the Network Diagram
  Improved behavior when connecting to a transparent node with a circle and rectangle symbol.

PSS SINCAL Electrical Networks

- Network Feeder
  Correction of an error when processing zero-phase sequence data with input format "Z0/Z1 and R0/X0".
- Switch
  When updating networks, breakers at the connections of unbalanced transformers are now converted to switches with L123 conductors.
- Protection Coordination

Protection devices on parallel connections were not taken into account correctly.

- Protection Analysis (PSA)
  The pickup security violation was only checked on the start and end device. Now the check is carried out for all valid devices.
- Thermal Destruction Analysis (TDA)
  - For machines with activated decay behavior, currents were determined to be too high due to an error in determining the capping factors.
  - For branch elements, the determination of the current angle could lead to incorrect results at the connections in the case of very small currents (at the limit of numerical accuracy).
- Hosting Capacity (ICA)
  Correction of an error in determining the loading of power units with a real transformer.
- Short Circuit (SC)
  Modified treatment of converters when they do not contribute to grid support during a fault.
- Contingency Analysis (CA)
  In the contingency analysis, empty contingencies (without actions) are now deactivated during loading and no longer considered in the calculation.
- Distance Protection Setting Calculation (DI)
  Fixed an issue with the "medium-voltage networks" mode. No settings were calculated.
- Grid Code Compliance Renewables (EEG)
  When performing the test according to VDE-AR-N 4110, the option for the individual procedure was considered, although it is not available for this guideline. This has been corrected.

Additions/Corrections Update 1 (November 28, 2024)

This update contains the following error corrections and additions.

PSS SINCAL User Interface

- Line Segments
  Correction of an error when taking over the temp. coefficient from the line sections to the line data.
- GDI Rendering
  Fixed an issue when restoring DC settings.
- Printing Diagrams
  Correction of an error when printing diagrams.
- Date Input
  - 2-digit year dates are now handled according to locale settings.
  - Month entry with long/short names according to system format is supported.
  - Support for 12-hour time format (am/pm).
- Generation of Network Graphics
  When creating graphics (e.g. Excel import), an extended determination of the connection positions of network elements to busbars is available. The network elements are now connected

graphically correctly even if the positions in the Excel file are not correct.

PSS SINCAL Electrical Networks

- Power Flow (PF)
  If the View Date was earlier than the Load Data Date, the system erroneously used the Load Data Date instead of the View Date to determine the active elements.
- Short Circuit (SC)
  Correction of results output. In the short circuit, the dynamic voltage support was not considered for the voltage at the neighboring node, i.e. the voltages without dynamic network support were output.
- Time Series Data Interface (TSDI)
  Correction of a problem with data connection from the TSDB. For asymmetrical measuring devices in TSDI, the data was not processed correctly if the phase information in the TSDB was single-phase.
- Protection Analysis (PSA)
  Correction of an error when calculating with different types of short-circuit if a protection device in a zone had only DIFF settings and other protection devices had DIFF + further settings.
- Network Feeder
  In the automation, multiple calculations for network feeder with internal reactance xi != 0.0 resulted in a fatal program abort.

PSS NETOMAC

- Plot Output
  Fixed a bug in the plot output of the terminal voltage, which caused it to be too large by a factor of 3.
- Power Flow Results for Nodes
  Fixed an error in the output of power flow results, where some network nodes were interpreted as internal nodes and the results were therefore not output.