

Solar Analytics for Home Assistant - List of Sensors

Version: 7

Author: Peter Hormann
Date: 30-Jun-24

Note: sensors shown in *italised text* are raw/source sensors. They are generally not used for display in Lovelace and modifying the state units will cause calculation errors.

| TYPE | SENSOR UNIQUE_ID | FRIENDLY NAME / ALIAS | YAML SOURCE | STATE UNITS | Attributes | DESCRIPTION |
|---------------------|---|--|-------------|-------------|---|--|
| STATUS SENSORS | | | | | | |
| site | sa_dashboard_status | Dashboard Status | all | text | none | Shows the Dashboard Status |
| site | sa_mer_status | System Status | all | text | none | Shows the system Status |
| site | sa_mer_percentage | PV Performance | all | % | none | Shows the PV Performance percentage as reported by SA (Efficiency of Solar System) |
| POWER SENSORS (W) | | | | | | |
| consumed | sa_consumption_power | Power Consumption | all | W | time_stamp | Reports current consumption data, updated every 30 seconds |
| generated | sa_generation_power | Power Generation | all | W | time_stamp | Reports current power generated, updated every 30 seconds |
| import_export | sa_import_export_power | Power Import Export | all | W | time_stamp | Calculates the current consumption minus the power generated to give you a positive or negative power usage, updates every 30 seconds. (positive means you have surplus solar, negative means you are importing from grid) |
| ENERGY SENSORS (Wh) | | | | | | |
| consumed | sa_todays_energy_consumed_total | Total Energy Consumed | all | Wh | time_stamp | Reports accumulated daily total of Todays Consumed Energy (Total house usage grid and solar) |
| generated | sa_todays_energy_generated_total | Total Energy Generated | all | Wh | time_stamp | Reports accumulated daily total of Todays Generated Energy (Solar Production) |
| generated | sa_todays_energy_consumed_solar | Total Energy Consumed Solar | all | Wh | time_stamp | Reports accumulated daily total of energy consumed from Solar Production |
| generated | sa_todays_energy_generated_expected_total | Total Energy Generated Expected | all | Wh | time_stamp | Repots accumulated total of expected solar generation, updated hourly. |
| import_export | sa_todays_energy_imported | Total Energy Imported | all | Wh | time_stamp | Reports accumulated daily total of energy imported form the grid. (Import) |
| import_export | sa_todays_energy_exported | Total Energy Exported | all | Wh | time_stamp | Reports accumulated daily total of energy exported to the grid (Export or Feed in) |
| AC | sa_todays_air_conditioner_total | Heating Cooling Energy | not 3phase | Wh | time_stamp | Used if you have monitoring on certain SA Channels |
| EV | sa_todays_electric_vehicle_total | Electric Vehicle Energy | not 3phase | Wh | time_stamp | Used if you have monitoring on certain SA Channels |
| HW | sa_todays_hot_water_total | Hot Water Energy | not 3phase | Wh | time_stamp | Used if you have monitoring on certain SA Channels |
| ST | sa_todays_stove_oven_total | Stove Oven Energy | not 3phase | Wh | time_stamp | Used if you have monitoring on certain SA Channels |
| Consumed | sa_todays_energy_other_total | Todays Energy Other Total | not 3phase | Wh | time_stamp | Balance of total consumed energy that's not heating-cooling, EV charging, hot water or stove-oven. |
| AC | sa_todays_heating_cooling_generated | Heating Cooling Energy Generated | not 3phase | Wh | time_stamp ac_energy_last5min percentage_of_total | Heating-cooling energy from generated sources. |
| AC | sa_todays_heating_cooling_imported | Heating Cooling Energy Imported | not 3phase | Wh | time_stamp ac_energy_last5min percentage_of_total | Heating-cooling energy imported from the grid. |
| AC | sa_todays_heating_cooling_generated_percentage | Heating Cooling Energy Generated Percentage | not 3phase | % | time_stamp | Same as Heating Cooling Energy Generate percentage_of_total attribute. |
| EV | sa_todays_electric_vehicle_generated | Electric Vehicle Energy Generated | not 3phase | Wh | time_stamp ev_energy_last5min percentage_of_total | EV charging energy from generated sources. |
| EV | sa_todays_electric_vehicle_imported | Electric Vehicle Energy Imported | not 3phase | Wh | time_stamp ev_energy_last5min percentage_of_total | EV charging energy imported from the grid. |
| EV | sa_todays_electric_vehicle_generated_percentage | Electric Vehicle Energy Generated Percentage | not 3phase | % | time_stamp | Same as Electric Vehicle Energy Generate percentage_of_total attribute. |
| HW | sa_todays_hot_water_generated | Hot Water Energy Generated | not 3phase | Wh | time_stamp hw_energy_last5min percentage_of_total | Hot water energy from generated sources. |
| HW | sa_todays_hot_water_imported | Hot Water Energy Imported | not 3phase | Wh | time_stamp hw_energy_last5min percentage_of_total | Hot water energy imported from the grid. |
| HW | sa_todays_hot_water_generated_percentage | Hot Water Energy Generated Percentage | not 3phase | % | time_stamp | Same as Hot Water Energy Generate percentage_of_total attribute. |

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| TYPE | SENSOR UNIQUE_ID | FRIENDLY NAME / ALIAS | YAML SOURCE | STATE UNITS | Attributes | DESCRIPTION |
|----------------------------------|---|--|-------------|-------------|---|---|
| ST | sa_todays_stove_oven_generated | Stove Oven Energy Generated | not 3phase | Wh | time_stamp st_energy_last5min percentage_of_total | Stove-oven energy from generated sources. |
| ST | sa_todays_stove_oven_imported | Stove Oven Energy Imported | not 3phase | Wh | time_stamp st_energy_last5min percentage_of_total | Stove-oven energy imported from the grid. |
| ST | sa_todays_stove_oven_generated_percentage | Stove Oven Energy Generated Percentage | not 3phase | % | time_stamp | Same as Stove Oven Energy Generate percentage_of_total attribute. |
| GENERATED SOLAR % SENSORS | | | | | | |
| generated | sa_todays_generated_consumed_percentage | Percentage Generated Energy Consumed | all | % | time_stamp | Reports the accumulated daily percentage of generated energy vs consumed, higher the value the more solar energy you have used, lower means more exported. |
| generated | sa_todays_consumed_generated_percentage | Percentage Consumed Energy Generated | all | % | time_stamp | Reports the accumulated daily percentage of energy consumed from Solar vs total consumption i.e. percentage of solar use vs grid use, higher the value the more you used of your solar. |
| ENERGY COST RELATED SENSORS (\$) | | | | | | |
| import_export | sa_todays_energy_imported_cost | Todays Energy Imported Cost | all | \$ | last_reset | As defined by HA energy dashboard - not in solar_analytics.yaml |
| import_export | sa_todays_energy_exported_compensation | Todays Energy Exported Compensation | all | \$ | last_reset | As defined by HA energy dashboard - not in solar_analytics.yaml. |
| import_export | sa_todays_energy_total_net_cost | Todays Energy Total Net Cost | all | \$ | time_stamp | Reports the net cost (imported cost minus exported revenue) |
| import_export | sa_todays_energy_import_rate | Todays Energy Import Rate | all | \$/kWh | time_stamp | Import rate in cost / kWh |
| import_export | sa_todays_energy_export_rate | Todays Energy Export Rate | all | \$/kWh | time_stamp | Export rate in cost / kWh |
| HISTORY SENSOR | | | | | | |
| time | sa_todays_energy_history | Total Energy History | all | date-time | times times_simple energy_consumed energy_generated energy_load_air_conditioner energy_load_ev_charger energy_load_hot_water energy_load_stove | Used for plotting a graph - e.g. using Apex Charts |

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|----------------------------|--|--|--|-------------|--|--|
| TYPE | SENSOR UNIQUE_ID | FRIENDLY NAME / ALIAS | YAML SOURCE | STATE UNITS | Attributes | DESCRIPTION |
| REST (HTTP) SENSORS | | | | | | |
| api | sa_auth_token | sa_auth_token | all | seconds | token expires | Get an refreshed authentication token every 2 hours (typically won't have changed) or whenever triggered by the sa_token_expiry_timer automation. State value is the duration until token expires in seconds. Attributes include the token itself, and the date-time of next expiry. |
| api | sa_site_list | sa_site_list | all | date-time | ... | Get the site details and status, updated every 24 hours. State is date-time of last update. Various attributes as provided by Solar Analytics. |
| api | sa_status | sa_status | all | text | ... | Shows the status of site updated every hour. State is text label - e.g. "good". Various attributes as provided by Solar Analytics. |
| api | sa_status_log_entry | sa_status_log_entry | all | text | ... | Get the site fault status log entry for the specified site_id updated every 5 minutes. State is short text description of any fault, normally "Good". Various attributes as provided by Solar Analytics. |
| api | sa_data_by_5min... | | | | | Get used to retrieve energy related sensor data every 5 mins. The retrieved sensor data is considered as "raw", where it's typically not used display or historic data purposes. |
| time | sa_data_by_5min_time_stamp | sa_data_by_5min_time_stamp | all | date-time | none | Solar Analytics timestamp of the provided data. |
| time | sa_data_by_5min_meter_reset | sa_data_by_5min_meter_reset | all | true/false | | Derived true/false sensor indicating true for 5 minutes at the start of the day (past midnight). Useful for triggering resetting cost related sensors. |
| consumed | sa_data_by_5min_energy_consumed | sa_data_by_5min_energy_consumed | all | Wh | none | Last 5 minutes energy consumed. |
| generated | sa_data_by_5min_energy_generated | sa_data_by_5min_energy_generated | all | Wh | none | Last 5 minutes energy generated. |
| AC | sa_data_by_5min_load_air_conditioner | sa_data_by_5min_load_air_conditioner | not 3phase | Wh | none | Last 5 minutes energy for an "air conditioner" load (channel as labeled by Solar Analytics). |
| EV | sa_data_by_5min_load_ev_charger | sa_data_by_5min_load_ev_charger | not 3phase | Wh | none | Last 5 minutes energy for an "EV charger" load (channel as labeled by Solar Analytics). |
| HW | sa_data_by_5min_load_hot_water | sa_data_by_5min_load_hot_water | not 3phase | Wh | none | Last 5 minutes energy for a "hot water" load (channel as labeled by Solar Analytics). |
| ST | sa_data_by_5min_load_stove | sa_data_by_5min_load_stove | not 3phase | Wh | none | Last 5 minutes energy for a "stove oven" load (channel as labeled by Solar Analytics). |
| consumed | sa_data_by_5min_energy_consumed_total | sa_data_by_5min_energy_consumed_total | all | Wh | none | Daily total of 5 minute energy consumed. |
| generated | sa_data_by_5min_energy_generated_total | sa_data_by_5min_energy_generated_total | all | Wh | none | Daily total of 5 minute energy generated. |
| AC | sa_data_by_5min_load_air_conditioner_total | sa_data_by_5min_load_air_conditioner_total | not 3phase | Wh | none | Daily total of 5 minute energy air conditioner load. |
| EV | sa_data_by_5min_load_ev_charger_total | sa_data_by_5min_load_ev_charger_total | not 3phase | Wh | none | Daily total of 5 minute energy EV charger load. |
| HW | sa_data_by_5min_load_hot_water_total | sa_data_by_5min_load_hot_water_total | not 3phase | Wh | none | Daily total of 5 minute energy hot water load. |
| ST | sa_data_by_5min_load_stove_total | sa_data_by_5min_load_stove_total | not 3phase | Wh | none | Daily total of 5 minute energy stove-oven load. |
| import_export | sa_data_by_5min_imported_total | sa_data_by_5min_imported_total | all | Wh | none | Daily total of 5 minute energy imported (calculated). |
| import_export | sa_data_by_5min_exported_total | sa_data_by_5min_exported_total | all | Wh | none | Daily total of 5 minute energy solar exported (calculated). |
| generated | sa_data_by_5min_consumed_solar_total | sa_data_by_5min_consumed_solar_total | all | Wh | none | Daily total of 5 minute energy solar consumed (calculated). |
| AC | sa_data_by_5min_load_air_conditioner_generated | sa_data_by_5min_load_air_conditioner_generated | not 3phase | Wh | none | Daily total of 5 minute energy air conditioner load that was generated. |
| AC | sa_data_by_5min_load_air_conditioner_imported | sa_data_by_5min_load_air_conditioner_imported | not 3phase | Wh | none | Daily total of 5 minute energy air conditioner load that was imported. |
| EV | sa_data_by_5min_load_ev_charger_generated | sa_data_by_5min_load_ev_charger_generated | not 3phase | Wh | none | Daily total of 5 minute energy EV charger load that was generated. |
| EV | sa_data_by_5min_load_ev_charger_imported | sa_data_by_5min_load_ev_charger_imported | not 3phase | Wh | none | Daily total of 5 minute energy EV charger load that was imported. |
| HW | sa_data_by_5min_load_hot_water_generated | sa_data_by_5min_load_hot_water_generated | not 3phase | Wh | none | Daily total of 5 minute energy hot water load that was generated. |
| HW | sa_data_by_5min_load_hot_water_imported | sa_data_by_5min_load_hot_water_imported | not 3phase | Wh | none | Daily total of 5 minute energy hot water load that was imported. |
| ST | sa_data_by_5min_load_stove_generated | sa_data_by_5min_load_stove_generated | not 3phase | Wh | none | Daily total of 5 minute energy stove-oven load that was generated. |
| ST | sa_data_by_5min_load_stove_imported | sa_data_by_5min_load_stove_imported | not 3phase | Wh | none | Daily total of 5 minute energy stove-oven load that was imported. |

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|-----------------------------------|--|--|-------------|-------------|----------------|---|
| time | sa_data_by_5min_history_time_stamp | sa_data_by_5min_history_time_stamp | all | array | none | Array of 5 minute timestamps for the recent history. |
| time | sa_data_by_5min_history_time_stamp_count | sa_data_by_5min_history_time_stamp_count | all | number | none | Count of entries in the history array. |
| consumed | sa_data_by_5min_history_energy_consumed | sa_data_by_5min_history_energy_consumed | all | array | none | Array of 5 minute consumed energy. |
| generated | sa_data_by_5min_history_energy_generated | sa_data_by_5min_history_energy_generated | all | array | none | Array of 5 minute generated energy. |
| AC | sa_data_by_5min_history_load_air_conditioner | sa_data_by_5min_history_load_air_conditioner | not 3phase | array | none | Array of 5 minute air conditioner load energy. |
| EV | sa_data_by_5min_history_load_ev_charger | sa_data_by_5min_history_load_ev_charger | not 3phase | array | none | Array of 5 minute EV charger load energy. |
| HW | sa_data_by_5min_history_load_hot_water | sa_data_by_5min_history_load_hot_water | not 3phase | array | none | Array of 5 minute hot water load energy. |
| ST | sa_data_by_5min_history_load_stove | sa_data_by_5min_history_load_stove | not 3phase | array | none | Array of 5 minute stove-oven load energy. |
| api | sa_live_site_data... | | all | | | Get used to retrieve power related sensor data every minute. The retrieved sensor data is considered as "raw", where it's typically not used display or historic data purposes. |
| time | sa_live_site_data_time_stamp | sa_live_site_data_time_stamp | all | date-time | none | Solar Analytics timestamp of the provided data. |
| consumed | sa_live_site_data_consumed | sa_live_site_data_consumed | all | W | none | Average consumption power (previous minute) |
| generated | sa_live_site_data_generated | sa_live_site_data_generated | all | W | none | Average generation power (previous minute) |
| import_export | sa_live_site_data_imported_exported | sa_live_site_data_imported_exported | all | W | none | Average net imported (+ve) or exported (-ve) power (previous minute). |
| api | sa_data_by_hour... | | all | | | Get used to retrieve energy related sensor data every hour. The retrieved sensor data is considered as "raw", where it's typically not used display or historic data purposes. |
| time | sa_data_by_hour_time_stamp | sa_data_by_hour_time_stamp | all | date-time | none | Solar Analytics timestamp of the provided data. |
| generated | sa_data_by_hour_generated_expected | sa_data_by_hour_generated_expected | all | Wh | none | Expected generated energy to the current hour for the day. |
| AUTOMATIONS | | | | | | |
| auth | sa_token_expiry_update | SA Token Expiry update | all | on/off | last_triggered | Automation to restart timer when the authentication token is refreshed. |
| auth | sa_token_refresh_on_timer_expiry | SA Token refresh on Timer expiry | all | on/off | last_triggered | Automation to refresh the token when the timer expires. |
| auth | sa_refresh_all_rest_gets | SA Refresh all REST data gets | all | on/off | last_triggered | Manually initiated automation for force refresh of all rest gets. |
| TIMERS | | | | | | |
| auth | sa_token_expiry_timer | sa_token_expiry_timer | all | seconds | none | Timer for triggering refresh before token expiry. |
| TEXT SENSORS | | | | | | |
| site | sa_site_id | sa_site_id | all | text | none | Site identifier as defined from the secrets.yaml file. |
| SECRETS (defined in secrets.yaml) | | | | | | |
| site | !secret sa_site_id | na | all | text | none | User site identifier defined in secrets.yaml file. |
| site | !secret sa_username | na | all | text | none | User username defined in secrets.yaml file |
| site | !secret sa_password | na | all | text | none | User password defined in secrets.yaml file. |