Solar Analytics for Home Assistant - List of Sensors

Version: 8

Author: Peter Hormann
Date: 12-Oct-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)					**Used for display purposes. Units and number of decimal points can be changed in Lovelace.**
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)					**Used for display purposes. Units and number of decimal points can be changed in Lovelace.**
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 from 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	SA Channel data as labelled "load_air_conditioner".
EV	sa_todays_electric_vehicle_total	Electric Vehicle Energy	not 3phase	Wh	time_stamp	SA Channel data as labelled "load_ev_charger".
HW	sa_todays_hot_water_total	Hot Water Energy	not 3phase	Wh	time_stamp	SA Channel data as labelled "load_hot_water".
ST	sa_todays_stove_oven_total	Stove Oven Energy	not 3phase	Wh	time_stamp	SA Channel data as labelled "load_stove".
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					**Used for plotting a graph - e.g. using Apex Charts**
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	

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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 authenticion 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 (post midnight). Useful for triggering reseting 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 "load_air_conditioner" (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 "load_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 "load_hot_water" (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 "load_stove" (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.*
api	*sa_data_by_5min_trigger*	*SA Data by 5min Trigger*	*all*	*on/off*	*last_triggered*	*Automated trigger for sa_data_by_5min_... sensors - fires every 5 minutes.*
api	*sa_live_site_data_trigger*	*SA Live Site Data Trigger*	*all*	*on/off*	*last_triggered*	*Automated trigger for sa_live_site_data_... sensors - fires every minute.*
api	*sa_data_by_hour_trigger*	*SA Data By Hour Trigger*	*all*	*on/off*	*last_triggered*	*Automated trigger for sa_data_by_hour_... sensors - fires every hour.*
	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.*