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where Ppv-out represents the power output of the PV, Ppv-rated; the PV rated power at reference test condition, G; the solar radiation (W/m2), Gref; the solar radiation at standard temperature condition (Gref = 1000 W/m2), Tref; the cell temperature at reference conditions (Tref = 25 ?C), KT; the temperature coefficient of the PV module.

Where, PWECS is the Output power of WECS; r is the air density; A is the area swept by rotor blades; Vs is the velocity of wind; Cp is the performance coefficient of wind turbine; l is the tip-speed ratio of blade; v is the blade pitch angle; it and ig are respectively the wind turbine and generator efficiency.

where PG-rated represents the nominal power of the diesel generator, PG-out; the output power, while AG and BG represent the coefficients of the fuel consumption curve defined by the user (Liter/kWh).

where EL represents the daily average load, AD; the number of autonomy days, iinv and ibatt are respectively the battery and the inverter efficiency, and DOD is the battery"s depth of discharge.

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