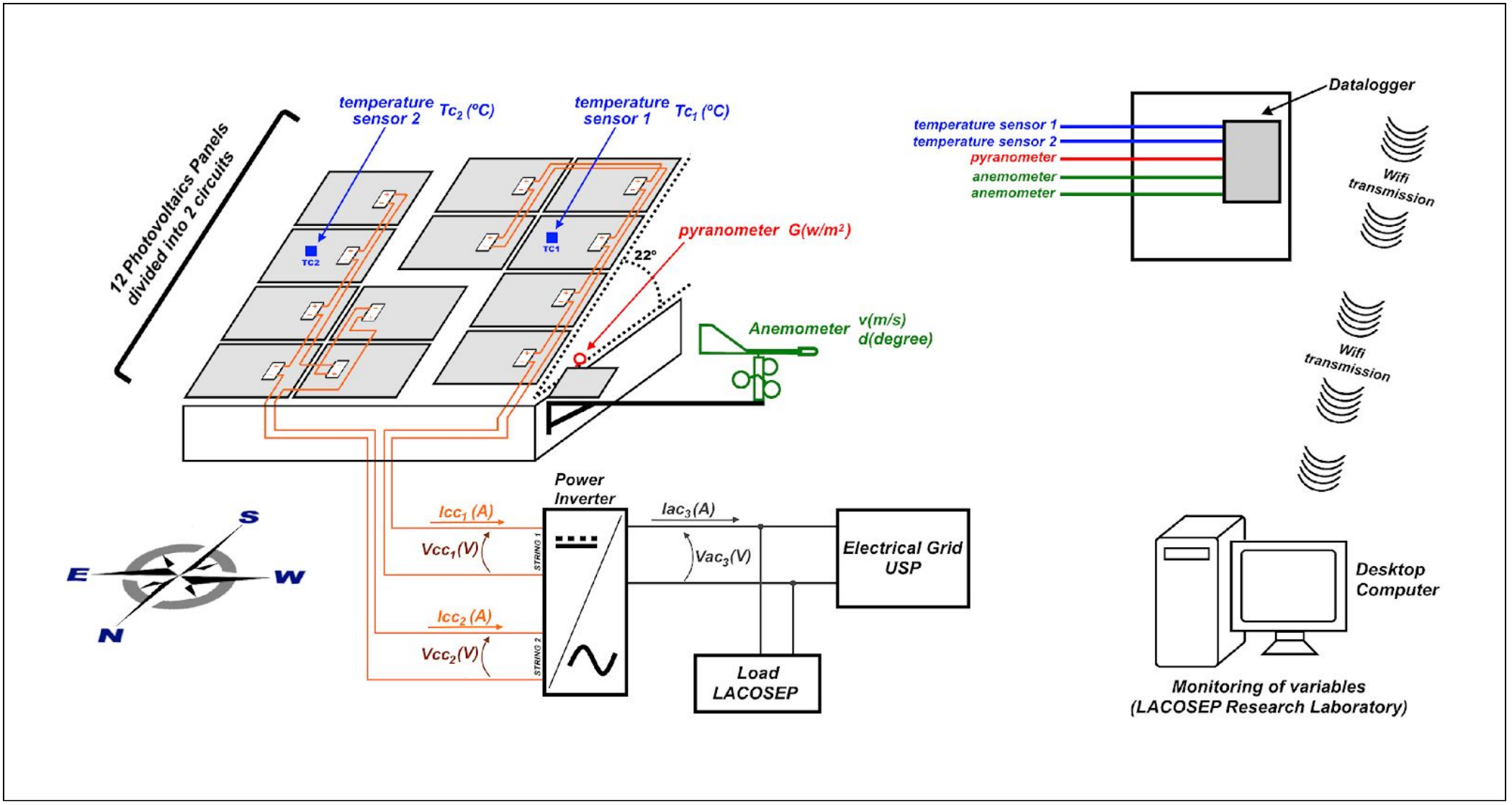

Schematic Photovoltaic Power and Meteorological Monitoring System USP

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Nomenclature:

t = tempo (s)

Tc_1 = Photovoltaic electric temperature of circuit 1 (ºC)

Tc_2 = Photovoltaic electric temperature of circuit 2 (ºC)

v = Wind speed (m/s)

d = Wind direction (degree)

G = Solar radiation (W/m^2)

Icc_1 = DC Current circuit 1 (A)

Icc_2 = DC Current circuit 2 (A)

Vcc_1 = DC Voltage of circuit 1 (V)

Vcc_2 = DC Voltage of circuit 2 (V)

*Pcc_1 = (Vcc_1 * Icc_1) DC Electric Power of circuit 1 (W)*

*Pcc_2 = (Vcc_2 * Icc_2) DC Electric Power of circuit 2 (W)*

E_{c1} = Power Energy of circuit 1 (Wh)

E_{c2} = Power Energy of circuit 2 (Wh)

E_{ct} = (E_{c1} + E_{c2}) Total Power Energy (Wh)

Iac_3 = AC Current of Power inverter (A)

Vac_3 = AC Voltage of Power inverter (V)

Sac = Apparent power output

Qac = Reactive power output

*Pac = Real power output (Sac*fp)*

fp = power factor between Iac_3 and Vac_3

T = Ambient temperature (ºC)

RH = Relative Humidity (%)

INMET = National Institute of Meteorology

Meteorological Measurements of Photovoltaic System of LACOSEP

t(s)	Tc_1 (ºC)	Tc_2 (ºC)	v (m/s)	d (degree)	G (W/m^2)	Icc_1 (A)	Icc_2 (A)	Vcc_1 (V)	Vcc_2 (V)	Pcc_1 (W) = Vcc_1 * Icc_1	Pcc_2 (W) = Vcc_2 * Icc_2	E_{c1} (Wh)	E_{c2} (Wh)	E_{ct} (Wh) = (E_{c1} + E_{c2})	Iac_3 (A)	Vac_3 (V)	Sac (VA)	Qac (var)	fp	Pac(W) =Sac*fp

Measurements of INMET

T (ºC)	RH