

List of Symbols

Symbol	Description
β	constant even number
C	Capacitance
C_{FC}	Capacitance of film capacitor
D_{st}	Shoot-through duty cycle
$D_{st,ss0}$	Steady-state shoot-through duty-cycle without SHC ripple
$D_{st,ss}$	Steady-state shoot-through duty-cycle with SHC ripple
E	Input DC voltage
G_c	Transfer function of current controller
G_v	Transfer function of voltage controller
i_{ac}	Instantaneous value of AC current
i_{FC}	Instantaneous current through film capacitor
I_{max}	Maximum value of i_{ac}
L	Inductance
λ	Eigen value
ω	Angular frequency of inverter
2ω	Angular frequency of second-order ripple
P_o	Average value of power at input of inverter
p_{ripple}	2ω –Ripple component in average power
p_{ac}	Instantaneous value of AC power
φ	Phase-shift angle between AC voltages
$Q, \Gamma, \gamma, \psi, \mu, \nu, \eta$	Positive constant values
QF	Quality Factor
ρ	Uncertainty in system parameters
σ	Switching function
θ	Power factor angle
x_1	Instantaneous value of DC current through Inductor
x_2	Instantaneous value of DC voltage across DC-link capacitor
x_o	Instantaneous value of DC load current
x_{1r}	Reference value of x_1
x_{2r}	Reference value of x_2
x_{1i}	Initial value of x_1
x_{2i}	Initial value of x_2
x_{1f}	Final value of x_1
x_{2f}	Final value of x_2
v_{ac}	Instantaneous value of AC voltage
V_{max}	Maximum value of v_{ac}
V_{PV}	Output voltage of solar PV
V_o	Average DC voltage at DC-link
v_{FC} or v_c	Instantaneous voltage across film capacitor

Symbol	Description
u	Control input
u_{eqv}	Equivalent control input
u_n	Discontinuous control input
Z_{out}	Output impedance