D.3. PV Power Plant parameters

Model parameters of a generic 3-MW photovoltaic power plant with monocrystalline silicon solar cells manufactured by JA-Solar, JACM6SR-3.

Table D.4: Parameters of a generic 3-MW photovoltaic power plant with cells manufactured by JA-Solar (JACM6SR-3)

Symbol	Value	Unit	Description
α_T	$0.06 \cdot 10^{-2}$		temperature coefficient on PV current
β_T	$-0.36 \cdot 10^{-2}$		temperature coefficient on PV voltage
A_n	1.374		diode ideality factor in the single diode model
$i_{ph,sc,STC}$	9.272	A	short-circuit current of the diode model at STC
$i_{s,STC}$	$1.1004 \cdot 10^{-7}$	A	diode's saturation current at STC
$N_{cell,p}$	1		PV cells per module connected in parallel
$N_{cell,s}$	72		PV cells per module connected in series
$N_{mod,p}$	336		number of PV modules connected in parallel
$N_{mod,s}$	27		number of PV modules connected in series
N_p	336		total number of PV cells connected in parallel
N_s	1944		total number of PV cells connected in series
P_{MPP}	3.0450	MW	total power of PV power plant at the maximum power point at the STC
$P_{MPP,c}$	4.72	W	PV power of one cell at the maximum power point at the STC
R_h	10.196	V/A	shunt resistor of the single diode model
$v_{oc,STC}$	0.644	V	PV open-circuit voltage at STC

D.4. VSC parameters

D.5. Benchmark Grid parameters