

Canadian Solar 450w TOPcon Solar Panel
5S2P
18.9 kWh/day

ELECTRICAL DATA STC*	
CS6.1-54TM	450H
Nominal Max. Power (Pmax)	450 W
Opt. Operating Voltage (Vmp)	33.0 V
Opt. Operating Current (Imp)	13.66 A
Open Circuit Voltage (Voc)	38.9 V
Short Circuit Current (Isc)	14.55 A
Module Efficiency	22.0%

String #1
VoC 194.5 V
13.66 A

String #2
VoC 194.5 V
13.66 A

~300ft. trench from panels to inverter in house
conduit size 2" to allow future expansion
SCH 40 under ground / SCH 80 above ground
pull box accessible by an in-ground access hatch every 100'
18" deep

PV IN

EG4 12000xp

GRID IN

L1 3 AWG

L2 3 AWG

neutral 3 AWG

ground 8 AWG

BAT

LOAD OUT

4/0 AWG

EG4-LifePower4 Server Rack Batteries
Nominal Voltage: 51.2V
Charge capacity: 100Ah
Energy capacity: 5.12kWh

Total: 400ah, 20.48kWh

2/0 AWG
between batteries
(100A per battery)

parallel

diagonal configuration

Total current capacity = 100A × 4 = 400A

Voltage remains at 51.2V

AC INPUT DATA	
NOMINAL AC VOLTAGE (GRID GENERATOR)	120/240VAC; 120/208VAC (L1/L2/N required)
FREQUENCY (GRID GENERATOR)	60 Hz (Default) 50 Hz (Configurable)
GRID MAX. CONTINUOUS AC CURRENT	100A @ 240VAC
MAX. AC INPUT POWER	24000W
GENERATOR MAX. CONTINUOUS CURRENT	62.5A @ 240VAC
RECOMMENDED GENERATOR CAPACITY	6000W – 15000W
AC BYPASS (GRID GENERATOR)	100A 90A
AC OUTPUT DATA	
OUTPUT VOLTAGE	120/240VAC; 208VAC
OUTPUT FREQUENCY	60 Hz (Default) 50 Hz (Configurable)
MAX. CONTINUOUS OUTPUT CURRENT	50A @ 240VAC 57.7A @ 208V
NOMINAL POWER OUTPUT	w/ PV: 12000W @ 240V 12000W @ 208V
MAX. CONTINUOUS WATTAGE	12000W (L1-L2) 6000W (L1-N or L2-N)
PEAK POWER (SURGE CAPACITY)	18000W for <5 seconds 15000W for >10s
POWER FACTOR VALUE	.99
THD (V)	<3%
SWITCHING TIME	<10 ms @ Single / <20 ms @ Parallel
PV INPUT DATA	
NUMBER OF MPPTS	2
INPUTS PER MPPT	2/2
MAX. USABLE INPUT CURRENT	35A/35A
MAX. SHORT CIRCUIT INPUT CURRENT	44A/44A
DC INPUT VOLTAGE RANGE	100 – 480 VDC
MIN. STARTUP VOLTAGE	100 VDC
MPPT OPERATING VOLTAGE RANGE	120 – 385 VDC
NOMINAL MPPT VOLTAGE	320 VDC
MAX. UTILIZED SOLAR POWER	24000W (12000 per MPPT)
MAX. RECOMMENDED SOLAR INPUT	28000W (14000 per MPPT)

external disconnect
100A breaker

100A
double pole breaker
feeder to inverter

MAIN PANEL

50A
double pole breaker
accept power from inverter

SUB PANEL