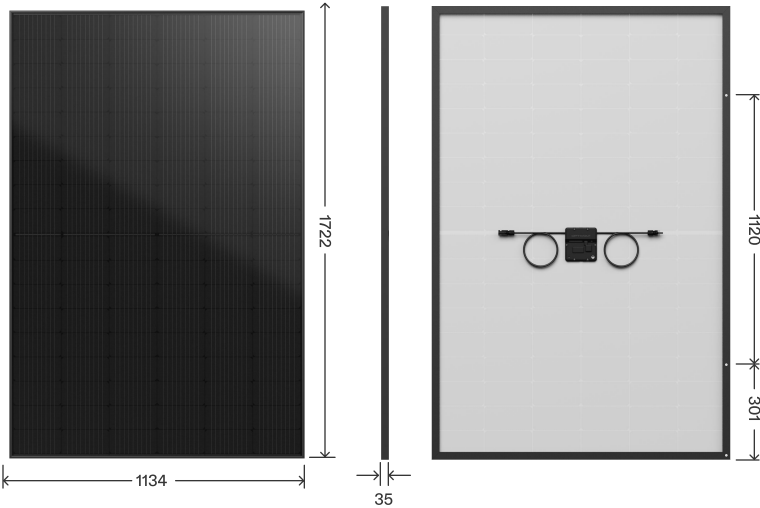


450 Watt Balanced Module Specifications

Electrical tested at STC 1000 W/m² 25°C AM 1.50		OPT10M450W	OPT10M445W	OPT10M440W	OPT10M435W
Rated Power +3% -0%	P _{MP}	450 W	445 W	440 W	435 W
Maximum Power Voltage	V _{MP}	33.51 V	33.44 V	33.37 V	33.31 V
Maximum Power Current	I _{MP}	13.44 A	13.31 A	13.19 A	13.07 A
Open Circuit Voltage	V _{OC}	39.75 V	39.69 V	39.62 V	39.56 V
Short Circuit Current	I _{SC}	14.14 A	14.02 A	13.90 A	13.79 A
Efficiency		23.1%	22.8%	22.5%	22.3%

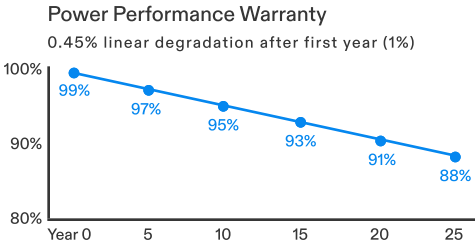
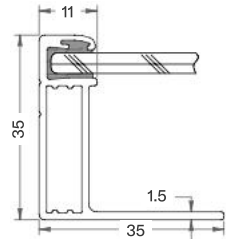
Mechanical Characteristics

Dimensions	67 13⁄16 X 44 5⁄8 X 1 3⁄8 in 1722 X 1134 X 35 mm
Weight	47 lbs 21.3 kg
Frame	Black Anodized Aluminum
Glass	3.2mm Anti-Reflective
Backsheet	Black
Solar cells	108 N-type Mono M10 HC
Junction Box	IP68
Cable	60 in, Staubli MC4



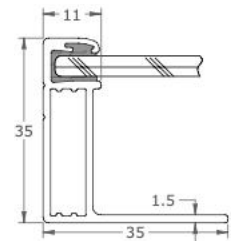
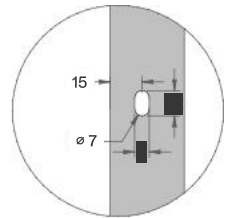
Maximum Ratings

Max System Voltage	1500 VDC
Series Fuse Rating	20 A



System Design

Temperature Range	-40-85°C
Mechanical Load Wind	5,400 Pa
Mechanical Load Snow	5,400 Pa
Certifications	UL61730 / UL1703
Module Fire Performance	Type 1



Temperature Coefficients

NOCT	45°C
I _{SC} / °C	+0.05%
V _{OC} / °C	-0.25%
P _{MP} / °C	-0.29%

Packaging

Modules Per Pallet	34 Modules
Pallet Weight	1667 lbs 756 kg
Pallet Dimensions	72 1⁄2 X 48 1⁄16 X 51 7⁄8 in 1842 X 1236 X 1317 mm
Container	25 Pallets (850 Modules) per 53'

Power Balancer Specifications

Input

Rated Input DC Power	450 W
Rated Module Power at STC Will Not Exceed	
Maximum Input Voltage	46 V
V _{OC} at Lowest Temperature	
MPPT Operating Range	26–46 V
Maximum Short Circuit Current	15 A
Maximum Efficiency	99.6%
Weighted Efficiency	99.4%
Overvoltage Capacity	Class II

Output

Maximum Output Current	13.75 A
Maximum Output Voltage	46 VDC
Safety Output Voltage Disconnected from Inverter	0 V

Standard compliance

EMC	FCC Part 15 Class C
Safety	UL1741

Install specs

Maximum Allowed System Voltage	1500 V
Dimensions	128 X 121 X 22 mm
Weight	400 g
Output Connector + Cable	MC4, 1.5m
Operating Temperature Range	-40–65°C
Protection Rating	NEMA4X
Relative Humidity	0–100%
Maximum String Length	25 Modules



Hub Specifications

Electrical

Input Voltage	12 VDC
Input Current	0.5 A
Power Consumption	2 W avg 5 W peak

Mechanical characteristics

Operating Temperature Range	-20 – 65°C -4 – 149°F
Dimensions	100 X 170 X 45 mm 4 X 5 1/16 X 1 13/16 in
Weight	675 g
Environmental Rating	NEMA 3R

Communication

Protocols	Bluetooth Low-Energy Mesh Ethernet Wi-Fi 2.4 GHz 802.11b/g/n
Maximum Distance to Balancer	100 m 300 ft
Maximum Capacity Supported	200X Balancers
Configured Via	Optivolt Install App
LED Indicator	Hub Power Array Status Internet Connectivity Status Rapid Shutdown Staus Fault Codes

Compliance

EMC	FCC Part 15 Class C
Bluetooth Rapid Shutdown	NEC 2023
Safety	UL1741

