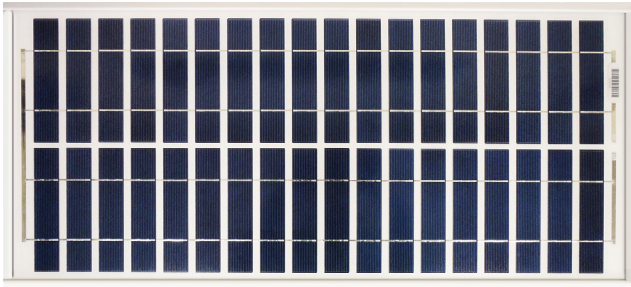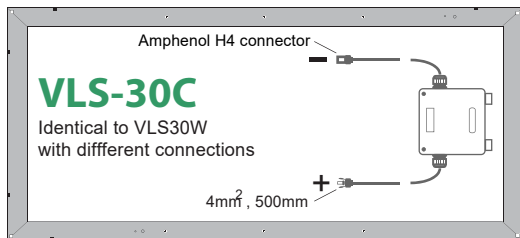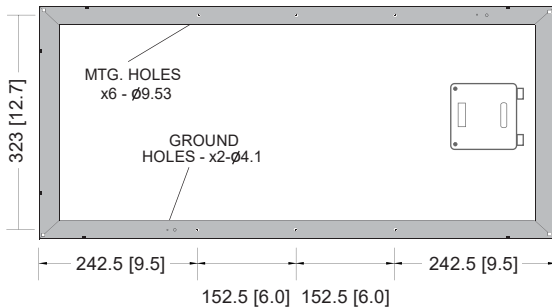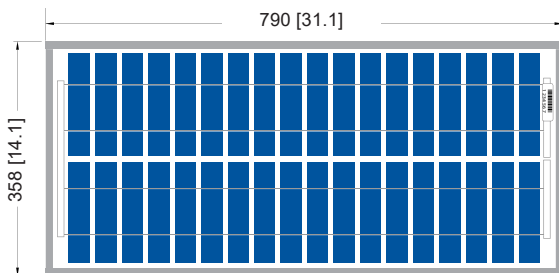# VLS
Value Line Series

Value Line Series (VLS) 30W Panel - VLS-30 and VLS-30C
The Value Line Series (VLS) family of solar modules, offered by Ameresco Solar, is a reliable, rugged, and economic panel engineered for off-grid solar applications.

Electrical characteristics

	(1) STC 1000W/m^2	(2) NOCT 800W/m^2
Maximum power (P_{max})	30W	22W
Voltage at P_{max} (V_{mpp})	18.2V	16.3V
Current at P_{max} (I_{mpp})	1.65A	1.32A
Short circuit current (I_{sc})	1.75A	1.43A
Open circuit voltage (V_{oc})	22.1V	20.0V
Module efficiency	10.5%	
Tolerance (P_{max})	-0/+3%	
Nominal voltage	12V	
Efficiency reduction at 200W/m^2	<5% reduction (efficiency 10%)	
Limiting reverse current	1.75A	
Temperature coefficient of I_{sc}	0.105%/°C	
Temperature coefficient of V_{oc}	-0.360%/°C	
Temperature coefficient of (P_{max})	-0.45%/°C	
(3) NOCT	47±2°C	
Maximum series fuse rating	5A	
Maximum system voltage	80V (U.S. NEC)	

1: Values at Standard Test Conditions (STC): 1000W/m^2 irradiance, AM1.5 solar spectrum and 25°C module temperature 2: Values at 800W/m^2 irradiance, Nominal Operation Cell Temperature (NOCT) and AM1.5 solar spectrum 3: Nominal Operation Cell Temperature: Module operation temperature at 800W/m^2 irradiance, 20°C air temperature, 1m/s wind speed

Mechanical characteristics

Solar cells	36 crystalline silicon cells in series
Front cover	High transmission 3.2mm (1/8th in) glass
Encapsulant	EVA
Back cover	White polyester
Frame	Silver anodized aluminum
Junction box	IP65 with 4 terminal screw connection block; accepts PG 13.5, M20 13mm (½") conduit, or cable fittings
Cable (-C)	500mm, PV1-F/PV Wire, 4mm2/12AWG,DO:6±0.2mm
Connector (-C)	Amphenol H4
Dimensions	790 x 358 x 50mm / 31.1 x 14.1 x 2in
Weight	3.9kg / 8.6lbs

All dimensional tolerances within ±1% unless otherwise stated.

DIMENSIONS

790 [31.1]
358 [14.1]
50 [2.0]

323 [12.7]
MTG. HOLES x6 - Ø9.53
GROUND HOLES - x2-Ø4.1
242.5 [9.5]   242.5 [9.5]
152.5 [6.0]   152.5 [6.0]

VLS-30C
Identical to VLS30W with diffferent connections

Amphenol H4 connector
4mm^2, 500mm

Dimensions in mm [in].

Warranty*

► Free from defects in materials and workmanship for 2 years
► 90% minimum power output over 10 years

* Refer to warranty document for terms and conditions.

Certification

ISO 9001   ISO 9001 factory certification ensures that our manufacturing facilities use proven manufacturing and quality control processes.