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Solar Panel Guide Specification Data Sheet

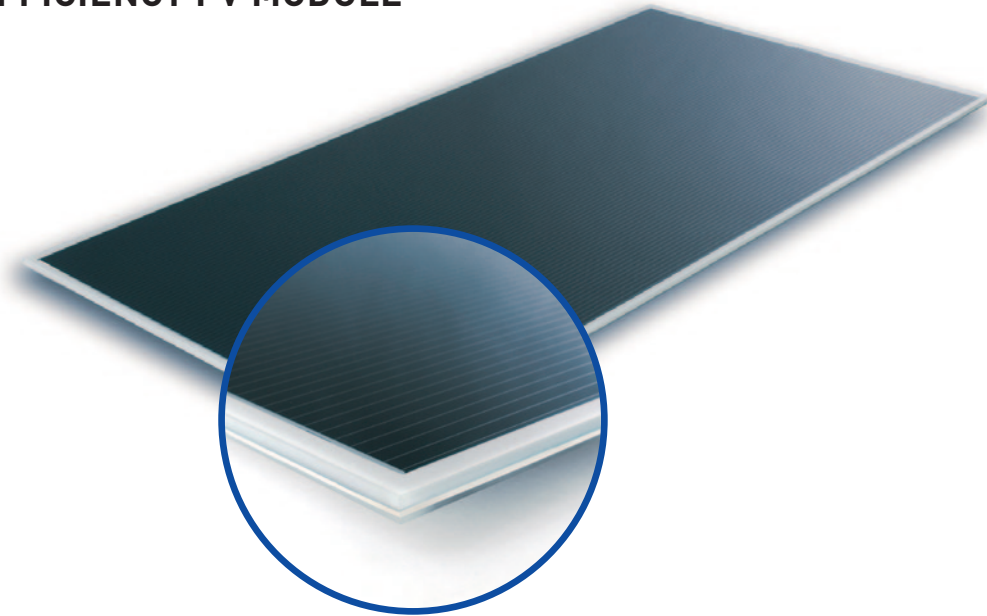
Soltecture GmbH

LINION L

LINION 95 L

Also available on the web at
EnergyPal.com/soltecture-gmbh-solar-panels/linion-95-l

HIGH EFFICIENCY PV MODULE



- High yields** · Thin-film module with maximum efficiency thanks to CIGSe absorbers
· Positive output tolerance (+5/-0 W) and verified low-light performance

- Attractive** · Anthracite with pinstripes: The elegant alternative for solar construction

Quality made in Germany

Solteature's production follows the high quality standards ISO 9001. The company manufactures exclusively CIGSe-based thin-film solar modules and has its headquarters in Berlin.

The uniformly black glass surfaces provide visible proof of the quality and make the modules among the most attractive on the market. As a German quality manufacturer, we have been producing and selling our solar modules since 2005. We place particular importance on the reliability and long-term stability of our solar modules and subject our products to quality tests that are more stringent than those required by the commonly applied IEC standard 61646.

Our modules are particularly suitable for:

Solar power system operators with demanding architectural requirements and high quality awareness.

About Solteature GmbH

Based in Berlin, Solteature is a leading manufacturer of CIGSe-based thin-film solar modules and a provider of comprehensive system solutions for solar construction. Whether for large commercial roofs or single-family homes, Solteature offers suitable modules and systems for all kinds of roofs. The company is the exclusive partner of the Helmholtz Centre Berlin, Europe's largest research institute for thin film photovoltaics.



Module	LINION 90 L	LINION 95 L	LINION 100 L
Electrical characteristics at 1000 W/m²; 25 °C; AM1.5			
Rated power P _{max}	90.0 W	95.0 W	100 W
Tolerance (P _{max})	+5/-0 W	+5/-0 W	+5/-0 W
Module efficiency	11.1%	11.7%	12.3%
Rated voltage ¹⁾ U _{mpp}	56.2 V	57.2 V	58.2 V
Rated current ¹⁾ I _{mpp}	1.64 A	1.67 A	1.70 A
Open circuit voltage ¹⁾ U _{oc}	72.2 V	73.1 V	74.0 V
Short circuit current ¹⁾ I _{sc}	1.80 A	1.82 A	1.83 A
Maximum system voltage	IEC 61730	1000 V	1000 V
	UL 1703	600 V	600 V
Reverse current rating	3 A	3 A	3 A
Max. no. of modules connected in series per string +10% toL., 1000 V, -10 °C [IEC] [600 V, 14 °F [UL]]	11 (UL: 6)	11 (UL: 6)	11 (UL: 6)
Maximum no. of modules in parallel ²⁾	Individual strings connected to a blocking diode in (+) and 3 A fuse in (-).		

Electrical characteristics at 800 W/m²; NOCT; AM1.5			
Power ¹⁾ P _{max}	65.2 W	67.8 W	70.5 W
Voltage ¹⁾ U _{mpp}	49.6 V	50.8 V	51.9 V
Current ¹⁾ I _{mpp}	1.31 A	1.34 A	1.36 A
Open circuit voltage ¹⁾ U _{oc}	64.7 V	65.9 V	67.1 V
Short circuit current ¹⁾ I _{sc}	1.44 A	1.45 A	1.47 A

Electrical characteristics at 200 W/m²; 25 °C; AM1.5			
Maximum absolute reduction of efficiency	0.8%	0.8%	0.8%

Thermal behavior			
Working temperature (NOCT)	49 °C [120 °F]	49 °C [120 °F]	49 °C [120 °F]
Power temperature coefficient T _c (P _{max})	-0.45%/K	-0.43%/K	-0.41%/K
Voltage temperature coefficient T _c (U _{oc})	-0.35%/K	-0.33%/K	-0.31%/K
Current temperature coefficient T _c (I _{sc})	+0.01%/K	+0.01%/K	+0.01%/K

Operating conditions			
Temperature range	-40 °C to +85 °C [-40 °F to 185 °F]		
Maximum mechanical load ³⁾	IEC 61730	2400 Pa; 245 kg/m ²	
	UL 1703	1600 Pa; 33 lbs/ft ²	
Maximum torsion	1.2°		
IP code (to IEC 60529)	IP65		
Protection class (to IEC 61140)	II		
Application class (to IEC 61730)	A		
Fire rating (to IEC 61730)	C		

Notes

- ¹⁾ Tolerance of the electrical parameters ± 10%
- ²⁾ Limited: See explanation in the Electrical Configuration section in the installation instructions for Soltecture PV modules.
- ³⁾ See Soltecture GmbH's independent manufacturer warranty for Linion PV modules (last revised October 2011).

The modules are not suitable for mobile or maritime applications. Please note that if the Linion PV modules are stored in dark spaces for long periods, they must then be exposed to sufficient solar radiation to attain their rated output. **Please refer to our user information at www.soltecture.com/download-centre. As we continually optimize our solar modules, related data pertinent to these changes will be cited in the technical data sheet.** All information applies exclusively to modules produced during the most recent product revision. The modules are certified for use in the following countries: EU countries, Switzerland, Norway, Turkey, Liechtenstein, Israel, Lebanon, Croatia, Bosnia and Herzegovina, Serbia. [09/2010]

For technical questions, please contact us at: service@soltecture.de

Dimensions

Height / Width / Thickness	1250 / 650 / 7 mm [49.2 / 25.6 / 0.28 in]
Thickness with junction box	23 mm [0.91 in]
Weight	12.6 kg [27.8 lbs]

Additional data

Maximum string fuse	3 A (e.g. Socomec 60PV0003)
Included bypass diode	1 x Diotec BY550-1000
Connection cable	2 x 1000 mm [39.4 in] / 4 mm ² [AWG 11]
Plug connector	Y-SOL 4
Cell type	CIGSe thin-film
Front glass	3 mm [0.12 in] tempered safety glass
Rear glass	3 mm [0.12 in] float glass
Encapsulation	EVA

Certificates and warranties

TÜV certificates:
IEC 61646, IEC 61730
Manufactured in the EU
CE-marking



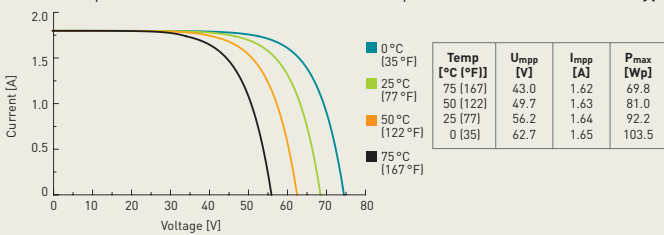
- Qualified, IEC EN 61646
- Safety tested, IEC 61730
- Periodic Inspection



Further information at
www.tuv.com ID: 000033202 and
www.soltecture.com/download-centre

Independent product warranty	10 years (for Linion L modules) ³⁾
Independent output warranty	25 years (for Linion L modules) ³⁾

Example characteristic curves at various temperatures – Linion 90 module type



Example characteristic curves at various irradiances – Linion 90 module type

