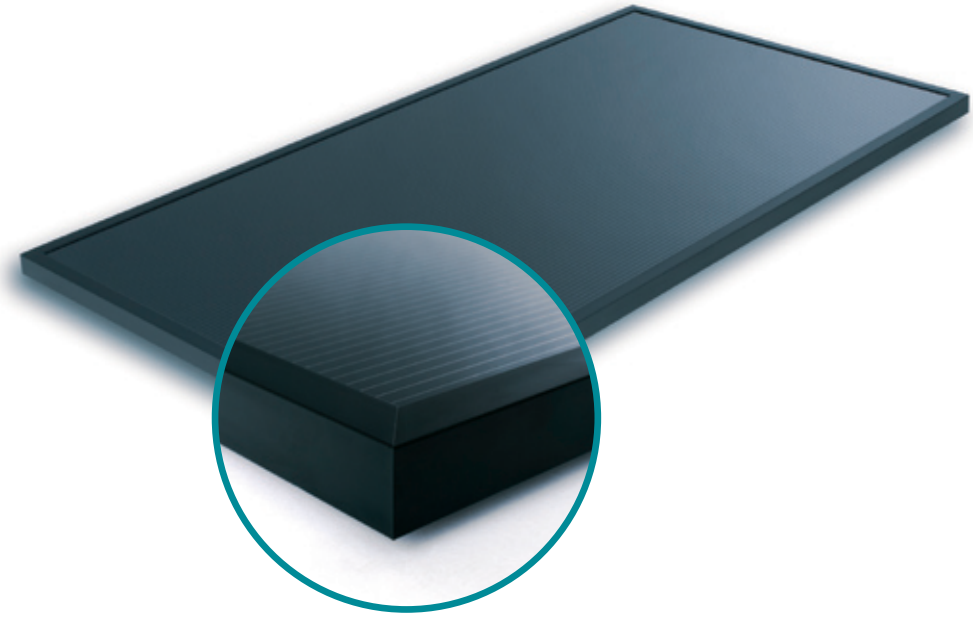
THE POWERFUL ALLROUNDER



Resilient
- Excellent load capacity (snow loads up to 5 400 pa)
- Universal use

Attractive
- Many of our customers consider it the »most attractive module on the market«
- Ideal for solar power systems on visible areas of buildings

High yields
- Positive output tolerance (+8/-2 per cent)
- Excellent temperature coefficient also ensures high yields at hot locations

Quality made in Germany

Sulfurcell's production accords with the high quality standards of the semiconductor industry and it manufactures its CIS-based thin-film solar modules solely in Germany. The uniformly black glass surfaces provide visible proof of the quality and make the modules amongst the most attractive on the market. Sulfurcell products are fully mature: they were already launched on the market in 2005 and have been continually improved since then. The modules are IEC-certified and more than meet this standard: for example, they maintain their performance capability not only when they are aged for the standard 1 000 hours at 85 °C and 85 % humidity but also after 2 000 hours. This durability is reflected in the comprehensive warranty: Sulfurcell not only grants its end customers an independent product warranty lasting 10 years for all modules but also grants an output warranty for 25 years***.

Framed modules are particularly suitable for:

- Solar power systems in regions with high snow loads or on roofs with low rigidity
- Solar power system operators with demanding architectural requirements and high quality awareness
- Or as construction elements for facade systems or for visual protection and solar shading panels

About Sulfurcell Solartechnik GmbH

The Sulfurcell technology company is one of the leading manufacturers of CIS-based thin-film solar modules and is the exclusive partner for the Helmholtz Centre Berlin, Europe's largest research facility for thin-film photovoltaics. Its shareholders and owners include Intel Capital, Vattenfall Europe and Gaz de France Suez.

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FRAMED MODULE SCG-HV-F

SULFURCELL

Module	SCG57-HV-F	SCG60-HV-F	SCG62-HV-F	SCG65-HV-F
Electrical Characteristics at 1000 W/m², 25 °C, AM1.5				
Rated power**	57.5 W	60 W	62.5 W	65 W
Tolerance	+8/-2%	+8/-2%	+8/-2%	+8/-2%
Module efficiency	7.0%	7.3%	7.6%	7.9%
Voltage at V_{mpp}*	39.7 V	40.3 V	41.5 V	42.2 V
Current at I_{mpp}*	1.45 A	1.49 A	1.51 A	1.54 A
Open-circuit voltage* V_{oc}	51.4 V	52.1 V	53.7 V	53.9 V
Short-circuit current* I_{sc}	1.71 A	1.74 A	1.76 A	1.78 A
Max. system voltage	1000 V	1000 V	1000 V	1000 V
Reverse current load	5 A	5 A	5 A	5 A
Electrical Characteristics at 800 W/m² and NOCT				
Voltage at V_{mpp}*	36.7 V	36.7 V	36.9 V	37.3 V
Current at I_{mpp}*	1.20 A	1.22 A	1.24 A	1.26 A
Open-circuit voltage* V_{oc}	47.1 V	47.7 V	47.8 V	48.5 V
Short-circuit current* I_{sc}	1.41 A	1.42 A	1.43 A	1.44 A
Power at 800 W/m² and NOCT	44.1 W	44.7 W	45.9 W	47.0 W
Electrical Characteristics at 200 W/m², 25 °C, AM1.5				
Absolute efficiency reduction (from 1000 W/m² to 200 W/m²)	0.8%	0.8%	0.8%	0.8%

Notes
* Tolerance of the electrical parameters ± 10%
**Determined under standard test conditions: 25 °C, 1000 W/m², AM1.5
The modules are not suitable for mobile and maritime applications. Please note that if the modules are stored in darkness for longer periods of time, they only attain their rated output once they have been exposed to sufficient solar radiation. **Please refer to our user information, which is available at www.sulfurcell.com. Since we continually optimise our solar modules, this can lead to changes in the technical data specified in the data sheet.** All data applies exclusively to modules produced from the given date.
*** See Sulfurcell Solartechnik GmbH's independent manufacturer's warranty for end customers for SCG-type PV modules (as of July 2010). The modules are currently permitted for use in the following countries: EU Member States, Switzerland, Norway, Turkey, Liechtenstein, Israel, Lebanon, Croatia, Bosnia-Herzegovina, Serbia. (09/2010)

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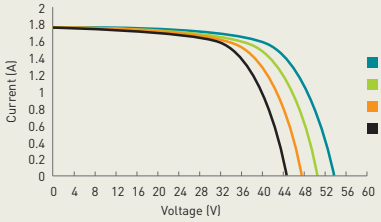
- Qualified, IEC EN 61646
- Safety tested, IEC EN 61730
- Periodic Inspection
- Salt corrosion resistance tested, IEC EN 61701
- Ammoniac-tested in accordance to DIN 50916:1985

Thermal Parameters	
NOCT	47 °C
Temperature coefficient of (I_{sc}) in %/K	0.04%
Temperature coefficient of (V_{oc}) in %/K	-0.26%
Temperature coefficient of (P_{max}) in %/K	-0.30%
Operating Conditions	
Temperature range	-40 °C/+85 °C
Static load	5400 Pa/550 kg/m²
Max. torsion	1.2°
Hail test	passed

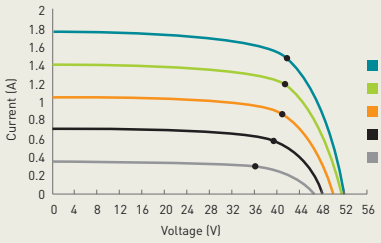
Mechanical Characteristics			
Length	1258 mm	IP Code	65
Width	658 mm	Cell type	CIS thin-film technology
Thickness	30 mm	Cover pane	4 mm tempered glass
Weight	14.6 kg	Rear pane	2 mm float glass
Output cables length (mm)	(+) 1000; (-) 1000	Encapsulation	EVA
Connector	Y-SOL 4	Frame type	Anodized aluminium
Bypass diode	1 x Diotec BY550-1000	Certification	IEC EN 61646, IEC EN 61730, IEC EN 61701, Protection Class II

Dependence of power output and temperature **Module Type SCG60-HV-F**

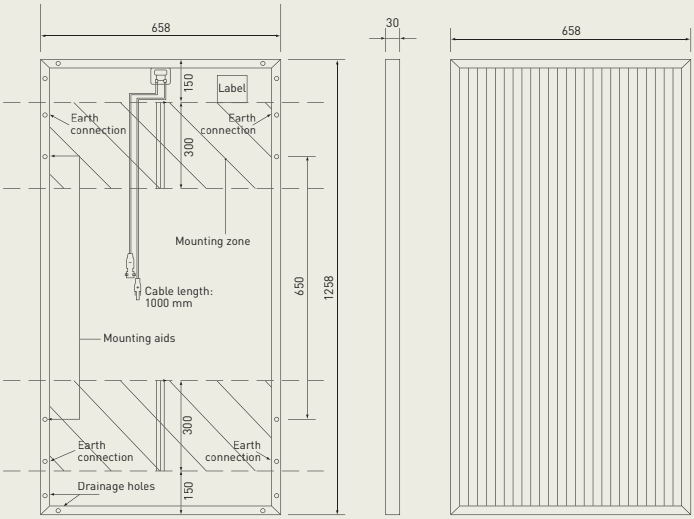


Temp	I_{mpp} (V)	V_{mpp} (A)	Power (Wp)
75 °C	34.3	1.5	52.2
50 °C	36.3	1.6	56.3
25 °C	39.3	1.5	60.3
0 °C	42.3	1.5	64.3

Dependence of power output and irradiance **Module Type SCG60-HV-F**



E (W/m²)	V_{mpp} (A)	I_{mpp} (V)
1000	1.49	40.30
800	1.19	40.06
600	0.89	39.49
400	0.60	38.25
200	0.30	35.60



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SCG-HV-F_ENG_REV 1.0