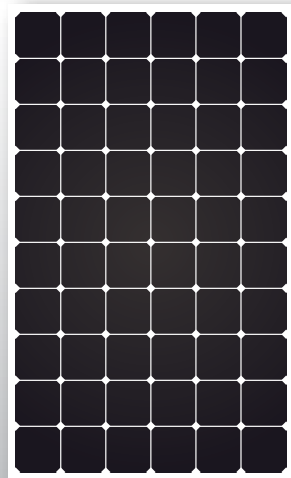


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Ex Solar Module



Swift Energy zone 1 certified solar module consists of 36 / 60 / 72 series connected mono crystalline solar cells which provide options for customer to design 12V/24V/48V rated solar power system. It is suitable for both type of PWM or MPPT solar charge controller. Higher current can be obtained by connecting multiple solar modules in parallel. Bypass diode is incorporated in each solar module to minimize power reduction caused by shading effect.

Mechanical Construction

The front of the Ex solar module is a high impact resistant, highly transparent tempered glass offering the solar module excellent protection against environmental hazards such as hail, snow, ice and storms.

The solar cells are embedded in ultraviolet stabilized ethyl vinyl acetate (EVA). The self-supporting, highly corrosion-resistant anodized aluminum frame is designed to allow easy mounting either from the front or from the backside. The solar module is IP66 rated and suitable for outdoor use.

Junction Box

Each module is fitted with an increased safety glass fiber polyester junction box that contains terminal blocks and bypass diodes. The junction box is provided with M20 cable glands entry.

Ex Execution

The solar equipment shall be labeled as follow:

⚡ II 2 G
Ex eb mb IIC T4 Gb

Ingress Protection : IP66
Ambient temperature range : -40°C to +55°C

Electrical Ratings

	SM90Ex	SM110Ex	SM125Ex	SM190Ex	SM250Ex	SM320Ex	SM380Ex
Power @mpp	90 W (±3%)	110W (±3%)	125 W (±10%)	190 W (±10%)	200 W (±10%)	320 W (±10%)	380 W (±10%)
Number of cells	36	36	36	36	72	60	72
Configuration	4 x 9	4 x 9	4 x 9	4 x 9	6 x 12	6 x 10	6 x 12
Nominal Voltage	12.00 V dc	12.00 V dc	12.00 V dc	12.00 V dc	24.00 V dc	24.00 V dc	24.00 V dc
Voltage @open circuit	22.20 V	22.50 V	24.40 V	23.32 V	48.30 V	39.20 V	46.65 V
Voltage @mpp	17.65 V	20.00 V	21.55 V	20.00 V	42.70 V	33.00 V	40.00 V
Current @mpp	5.10 A	5.50 A	5.80 A	9.60 A	5.80 A	9.39 A	9.60 A
Current @short circuit	5.57 A	6.00 A	6.10 A	10.45 A	6.10 A	10.33 A	10.45 A
Cell Efficiency (η_m)	17.8%	15.4%	22%	21.7%	22%	21.7%	21.7%
Maximum system voltage	275 V	275 V	352 V	352 V	352 V	352 V	352 V
Weight (kgs)	10	10	10	12	15.8	18.5	24
Module Size (±1mm) (Include Aluminum Frame)	1206 x 539 x 55mm	1206 x 539 x 55mm	1206 x 539 x 55mm	1500 x 680 x 55mm	1580 x 808 x 55mm	1665 x 1002 x 55mm	1980 x 1002 x 55mm
Temperature Coefficient of ISC	- 0.06% / °C	- 0.06% / °C	- 0.06% / °C	- 0.06% / °C	- 0.06% / °C	- 0.06% / °C	- 0.06% / °C
Temperature Coefficient of VOC	- 0.34% / °C	- 0.34% / °C	- 0.34% / °C	- 0.33% / °C	- 0.33% / °C	- 0.33% / °C	- 0.33% / °C
Power Temperature Coefficient of Pmpp	- 0.37% / °C	- 0.37% / °C	- 0.45% / °C	- 0.45% / °C	- 0.45% / °C	- 0.45% / °C	- 0.45% / °C
NOCT	45 ± 1 °C	45 ± 1 °C	45 ± 1 °C	45 ± 1 °C	46 ± 1 °C	45 ± 1 °C	45 ± 1 °C
Ex Certificate	DEK 13ATEX0108 IECEX DEK 13.0030			CML 19ATEX3187X IECEX CML 19.0063X			

The specification in this Data Sheet is subject to change without notice due to continuous research and product improvement. Specifications can vary slightly. For installation and operation instructions, see the applicable manuals. No rights can be derived from this Data Sheet and Swift Energy Sdn Bhd assumes no liability whatsoever connected to/or resulting from the use of any information contained herein.



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