# **HYUNDAI SOLAR MODULE**



# **Mono-Crystalline Type**

HiS-S345RI HiS-S350RI HiS-S355RI HiS-S360RI HiS-S365RI HiS-S370RI





For Commercial & **Utility Applications** 



Generation In Low Light



Hyundai Cell



# **PERL Technology**

PERL technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.



Both LID(Light Induced Degradation) and PID(Potential Induced Degradation) are strictly eliminated to ensure higher actual yield during lifetime.



# **Mechanical Strength**

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow and strong wind.



# **Reliable Warranty**

Global brand with powerful financial strength provide reliable 30-year warranty.



# **Corrosion Resistant**

Various tests under harsh environmental conditions such as ammonia and salt-mist passed.



# **UL / VDE Test Labs**

Hyundai's R&D center is an accredited test laboratory of both UL and VDE.

#### **Hyundai's Warranty Provisions**



- 12-Year Product Warranty
- · On materials and workmanship



- 30-Year Performance Warranty
- · Initial year: 97.6%
- · Linear warranty after second year: with 0.6%p annual degradation, 80.2% is guaranteed up to 30 years

#### **About Hyundai Solar**

Established in 1972, Hyundai Heavy Industries (HHI) is one of the most trusted names in the heavy industries sector with 48,000 employees and more than 40 Billion USD in annual sales (2015). As a global leader and innovator, Hyundai Heavy Industries is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

Started as a core business division of HHI, Hyundai Solar (Hyundai Heavy Industries Green Energy) now stands as an independent company and an affiliate of HHI as from December 2016. We have strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

#### Certification

















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<b>Electrical Characteristics</b>		Mono-Crystalline Module (HiS-SRI)					
		345	350	355	360	365	370
Nominal Output (Pmpp)	W	345	350	355	360	365	370
Open Circuit Voltage (Voc)	٧	46.9	47.1	47.3	47.4	47.6	47.8
Short Circuit Current (Isc)	Α	9.6	9.6	9.7	9.8	9.9	9.9
Voltage at Pmax (Vmpp)	V	38.6	38.7	38.9	39.1	39.3	39.5
Current at Pmax (Impp)	A	9.0	9.0	9.1	9.2	9.3	9.4
Module Efficiency	%	17.6	17.9	18.1	18.4	18.7	18.9
Cell Type	-	6", mono-crystalline silicon					
Maximum System Voltage	٧	1,000					
Temperature coefficient of Pmax	%/K	-0.386					
Temperature coefficient of Voc	%/K	-0.31					
Temperature coefficient of Isc	%/K	0.031					

<sup>\*</sup>All data at STC (Standard Test Conditions). Above data may be changed without prior notice.

# **Mechanical Characteristics**

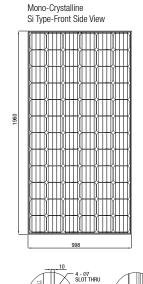
Dimensions	998 mm (39.29´)(W) x 1,960 mm (77.17´)(L) x 40 mm (1.57´)(H)			
Weight	Approx. 22.9 kg (50.5 lbs)			
Solar Cells	72 cells in series (6 × 12 matrix) (Hyundai cells, Made in Korea)			
Output Cables	4 mm² (12AWG) cables with polarized weatherproof connectors, IEC certified (UL listed and UL 4703 certified), Length 1.2 m (47.2')			
Junction Box	IP67, weatherproof, IEC certified (UL listed)			
Bypass Diodes	3 bypass diodes to prevent power decrease by partial shade			
Construction	Front : Anti-reflection coated glass, 3.2 mm (0.126´´) Encapsulant : EVA   Back Sheet : Weatherproof film			
Frame	Clear anodized aluminum alloy type 6063			

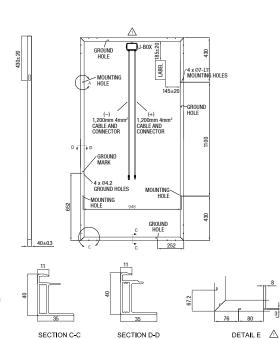
# **Installation Safety Guide**

- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

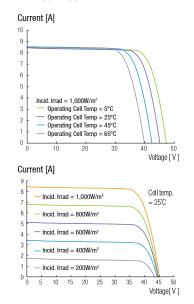
Nominal Operating Cell Temperature	46°C ± 2
Operating Temperature	-40 - 85°C
Maximum System Voltage	DC 1,000 V (IEC) DC 1,000 V (UL)
Maximum Reverse Current	<b>15A</b> (Up to 350W) <b>20A</b> (Above 355W)

# Module Diagram (unit:mm)





### **I-V Curves**







DETAIL A

DETAIL B