

— BUILDING-INTEGRATED —  
PHOTOVOLTAIC

# GSE IN-ROOF SYSTEM™

BIPV system for traditional photovoltaic panels

320240259P

**Simple, Quick, Aesthetic,  
Lightweight,  
Waterproof  
and Cost-Competitive**

More than  
4 500 000 m<sup>2</sup>  
installed over  
10 years



CHUBB



[www.gseintegration.com](http://www.gseintegration.com)

# GSE IN-ROOF SYSTEM™

## BENEFITS

- Economic: the most competitive system for roof renovations and new constructions.
- Easy to install: 10 to 16 panels installed in 6 hours.
- Completely waterproof: ensures complete watertightness of the PV system and the roof.
- The system may be installed in portrait or landscape format.
- Flexible: achieve any desired configuration type (U-Shape, pyramid, etc...).
- Compatible with roof windows.
- Impact resistance.
- Very important mechanical resistance:

Downward pressure: **5400 Pa** (IEC 61215)

Upward pressure: up to **5500 Pa** (NF EN 12179)

### PORTRAIT:



**19 available references\***

**Module width:** 803 to 1055 mm

**Module length:** 1535 to 1780 mm

### LANDSCAPE:



**21 available references\***

**Module width:** 768 to 1120 mm

**Module length:** 1554 to 1740 mm

\* Detailed list available on our website:

[www.gseintegration.com/media.html](http://www.gseintegration.com/media.html)

" Eurocode design values: Snow: 1800 Pa, Wind: 1700 Pa "

## TECHNICAL SPECIFICATIONS



**All types**  
Roof covering



**Slope**  
12° to 60°



**Portrait & Landscape**



**Color**  
Alu / Black



**Weight**  
2 to 3 kg/m²



**Temperature range**  
-30°C to 100°C



**Material**  
PP - Aluminum -  
Stainless steel  
(100% Recyclable)

## COMPATIBILITY WITH THE NEW MODULE TECHNOLOGIES:



**Half cells**



**Shingled cells**



**New size of Wafer**



**Splitted junction box**



**Support bars**



**Frame thickness**  
from 30 to 50 mm



**AC module**

## AVAILABLE FLASHINGS:

- **Kit universal**
- **Kit v.A-2:** for traditional slates
- **Kit v.TS-2:** for curved tiles
- **Kit v.TN-1 (2020):** for flat interlocking tiles
- **Kit v.TP-1 (2020):** for traditional flat tiles

## COMPATIBILITY WITH ROOF WINDOWS:



## OUR TESTS & CERTIFICATIONS

CHUBB

- **Liability insurance trading and product** Liability insurance - CHUBB / 10 years product guarantee insurance: EPERS



- **CCFAT-CSTB:** ATEC N°21/16-57 V4 - « In Roof System »



- **FIRE TESTS EXPOSURE:** Compliance BROOF T1, T2 (in progress), T3, T4



- **ALPES CONTROLES:** ETN 010T170F Many modules approved (list available on our website)



- **BBA:** MCS 012 certificate no. "MCS BBA 0156" - compatible with more than 30 PV panels - maximum wind load: 2.71 kN/m²



- **DIBt:** Allgemeine bauaufsichtlichen Zulassung no. Z-14.4-817

CONTACT

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SUN  SYNK®

320240259P

**SUNSYNK-L5.1**



## DATASHEET

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[www.sunsynk.com](http://www.sunsynk.com) / [sales@sunsynk.com](mailto:sales@sunsynk.com)



Main Parameter		SUNSYNK-L5.1
Battery Chemistry		Lithium Ferro Phosphate (LifePO4 or LFP)
Capacity (Ah)		100
Scalability		Max. 32 pcs in parallel (163.8kWh)
Nominal Voltage (V)		51.2
Operating Voltage(V)		43.2~57.6
Energy (kWh)		5.12
Usable Energy (kWh) <sup>[1]</sup>		4.61
Charge/Discharge Current (A)	Recommend <sup>[2]</sup>	50
	Max. <sup>[2]</sup>	100
	Peak(2mins,25°)	150
Other Parameter		
Recommend Depth of Discharge		90%
Dimension (W/H/D, mm)		440*620*135
Weight Approximate(kg)		50
Master LED indicator 3 LED (working, alarming, protecting)		5 LED (SOC 20%~100%)
IP Rating of enclosure		IP65
Working Temperature		Charge: 0°C ~ +55°C Discharge: -20°C ~ +55°C
Storage Temperature		-20°C ~ +35°C
Humidity		5% ~ 95%
Altitude		≤2000m
Installation		Wall Mounted or 19-inch standard cabinet
Communication Port		CAN2.0, RS485
Certification		IEC62619, CE, UN38.3

[1] DC Usable Energy, test conditions: 90% DOD, 0.5C charge & discharge at 25°C. System usable energy may vary due to system configuration parameters.

[2] The current is affected by temperature and SOC.





## HIGH PERFORMANCE MONOCRYSTALLINE PERC MODULE



G5.3



★ As there are different certification requirements in different markets, please contact your local Risen Energy sales representative for the specific certificates applicable to the products in the region in which the products are to be used.

### RISEN ENERGY CO., LTD.

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy's total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

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Tel: +86-574-59953239 Fax: +86-574-59953599  
E-mail: marketing@risenenergy.com Website: www.risenenergy.com



## RSM40-8-385MB-405MB

**120 CELL**

Mono PERC Module

**385-405Wp**

Power Output Range

**1500VDC**

Maximum System Voltage

**21.1%**

Maximum Efficiency

# 320240259P

## KEY SALIENT FEATURES



Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing



Industry leading lowest thermal co-efficient of power



Industry leading 15 years product warranty



Excellent low irradiance performance



Excellent PID resistance



Positive power tolerance of 0~+3%



Dual stage 100% EL Inspection warranting defect-free product



Module Imp binning radically reduces string mismatch losses



Excellent wind load 2400Pa & snow load 5400Pa under certain installation method

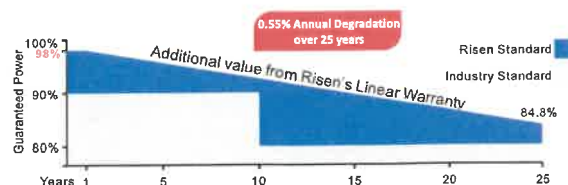


Comprehensive product and system certification

- ♦ IEC61215:2016; IEC61730-1/-2:2016;
- ♦ ISO 9001:2015 Quality Management System
- ♦ ISO 14001:2015 Environmental Management System
- ♦ ISO 45001:2018 Occupational Health and Safety Management System

## LINEAR PERFORMANCE WARRANTY

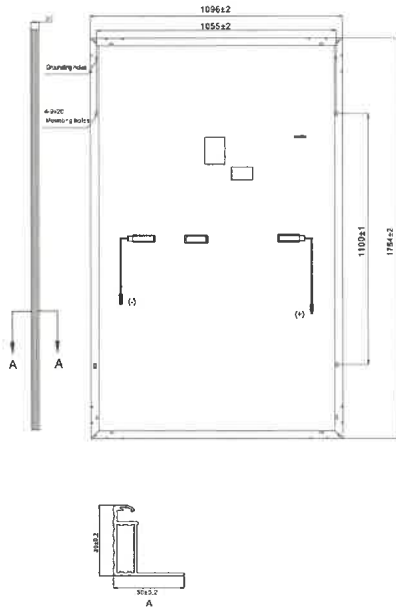
15 year Product Warranty / 25 year Linear Power Warranty



★ Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd

THE POWER OF RISING VALUE

## Dimensions of PV Module



## ELECTRICAL DATA (STC)

Model Number	RSM40-8-385MB	RSM40-8-390MB	RSM40-8-395MB	RSM40-8-400MB	RSM40-8-405MB
Rated Power in Watts-Pmax(Wp)	385	390	395	400	405
Open Circuit Voltage-Voc(V)	40.38	40.69	41.00	41.30	41.60
Short Circuit Current-Isc(A)	12.15	12.21	12.27	12.34	12.40
Maximum Power Voltage-Vmpp(V)	33.62	33.88	34.14	34.39	34.64
Maximum Power Current-Impp(A)	11.46	11.52	11.58	11.64	11.70
Module Efficiency (%) *	20.0	20.3	20.5	20.8	21.1

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5 according to EN 60904-3.

\* Module Efficiency (%): Round-off to the nearest number

## ELECTRICAL DATA (NMOT)

Model Number	RSM40-8-385MB	RSM40-8-390MB	RSM40-8-395MB	RSM40-8-400MB	RSM40-8-405MB
Maximum Power-Pmax (Wp)	291.8	295.6	299.4	303.1	306.9
Open Circuit Voltage-Voc (V)	37.55	37.84	38.13	38.41	38.69
Short Circuit Current-Isc (A)	9.96	10.01	10.07	10.12	10.17
Maximum Power Voltage-Vmpp (V)	31.20	31.44	31.68	31.91	32.15
Maximum Power Current-Impp (A)	9.35	9.40	9.45	9.50	9.55

NMOT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s.

## MECHANICAL DATA

Solar cells	Monocrystalline
Cell configuration	120 cells (5×12+5×12)
Module dimensions	1754×1096×30mm
Weight	21kg
Superstrate	High Transmission, Low Iron, Tempered ARC Glass
Substrate	Back-sheet (Front side: Black, Back side: White)
Frame	Anodized Aluminium Alloy, Black
J-Box	Potted, IP68, 1500VDC, 3 Schottky bypass diodes
Cables	4.0mm <sup>2</sup> , Positive(+)350mm, Negative(-)230mm (Connector Included)
Connector	Risen Twinsel PV-SY02, IP68

## TEMPERATURE & MAXIMUM RATINGS

Nominal Module Operating Temperature (NMOT)	44°C±2°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.04%/°C
Temperature Coefficient of Pmax	-0.34%/°C
Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500VDC
Max Series Fuse Rating	20A
Limiting Reverse Current	20A

## PACKAGING CONFIGURATION

	40ft(HQ)	20ft
Number of modules per container	936	216
Number of modules per pallet	36	36
Number of pallets per container	26	6
Packaging box dimensions (LxWxH) in mm	1770×1120×1236	1770×1120×1236
Box gross weight[kg]	800	800

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.  
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No special undertaking or warranty for the suitability of special purpose or being installed in extraordinary surroundings is granted unless as otherwise specifically committed by manufacturer in contract document.

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