



**GREEN ENERGY  
SOLUTIONS**



**GES-S110/M12H**

**545-555W**

**210mm cells half cut cell technology**

**Artikel-Nr.: 555-1.2023-R35-C350**

**21.2%**

Module Efficiency

**555W**

Highest Power Output

**12 YEARS**

Material & Workmanship Warranty

**25 YEARS**

Linear Power Warranty

**-2.00% First year power degradation**

**-0.55% Annual degradation**

## PRODUCT ADVANTAGES



### High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
- Designed for compatibility with existing mainstream system components
- Lower guaranteed first year and annual degradation
- Higher return on Investment



### High power up to 555W

- Large area cells based on 210 mm silicon wafers and half-cut cell technology
- Up to 21.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



### High reliability

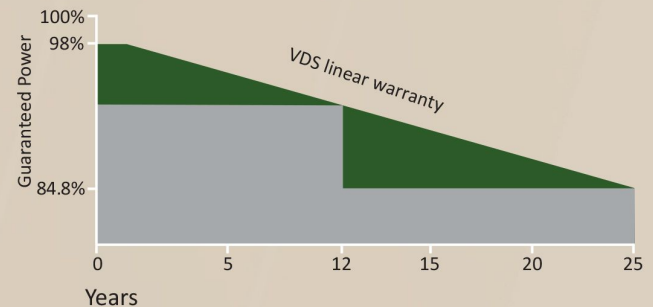
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



### High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions

## PERFORMANCE WARRANTY



Standard linear power guarantee  
VDS linear power guarantee

## Certifications of Product and Manufacturer



**Green Energy Solutions B.V.**

The Hague, The Netherlands

# GES-S110/M12H-xxx

## ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	545	550	555
Maximum Power Voltage- $V_{MPP}$ (V)	31.4	31.6	31.8
Maximum Power Current- $I_{MPP}$ (A)	17.37	17.40	17.45
Open Circuit Voltage- $V_{oc}$ (V)	37.7	37.9	38.1
Short Circuit Current- $I_{sc}$ (A)	18.47	18.52	18.56
Module Efficiency $\eta_m$ (%)	20.9	21.0	21.2
Power Tolerance (W)	0~+5		

STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5; \*Measuring tolerance: ±3%

## ELECTRICAL DATA (NMOT)

Maximum Power- $P_{MAX}$ (Wp)	413	417	420
Maximum Power Voltage- $V_{MPP}$ (V)	29.2	29.3	29.5
Maximum Power Current- $I_{MPP}$ (A)	14.15	14.19	14.23
Open Circuit Voltage- $V_{oc}$ (V)	35.5	35.7	35.9
Short Circuit Current- $I_{sc}$ (A)	14.88	14.92	14.96

NMOT: Irradiance 800W/m<sup>2</sup>, ambient temperature 20°C, AM=1.5, wind speed 1m/s

## MECHANICAL DATA

Solar Cells	Monocrystalline
No. of Cells	210x105 mm 110 pcs
Module Dimensions	2384*1096*35 mm
Weight	28.6 kg
Glass	3.2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm <sup>2</sup> Cable length 350 mm or customized length
Connector	MC4 Compatible

## TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	43°C (±2°C)
Temperature Coefficient of $P_{MAX}$	-0.34%/°C
Temperature Coefficient of $V_{oc}$	-0.25%/°C
Temperature Coefficient of $I_{sc}$	0.040%/°C

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

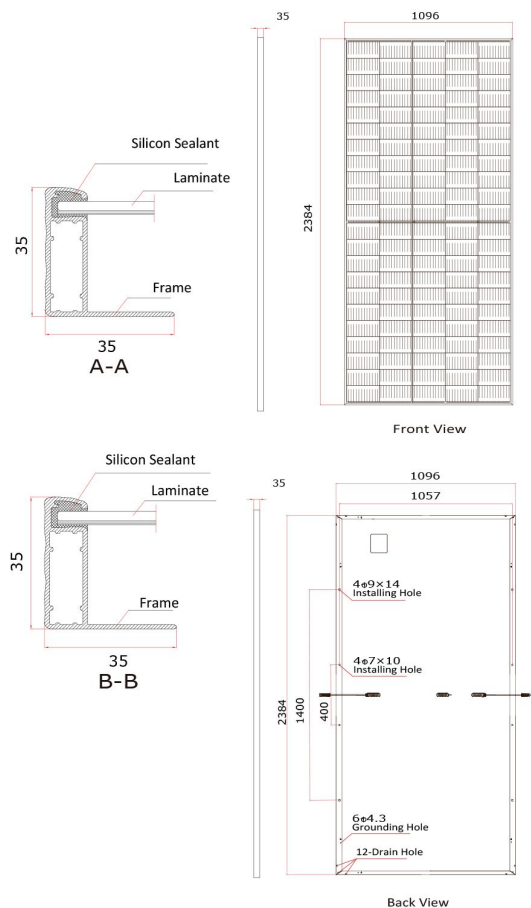
## MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

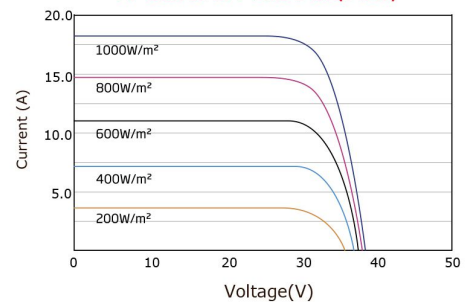
## PACKAGING CONFIGURATION

Modules per box	31 pieces
Modules per 40' container	620 pieces

## DIMENSIONS OF PV MODULE(mm)



## I-V CURVES OF PV MODULE(545W)



## P-V CURVES OF PV MODULE(545W)

