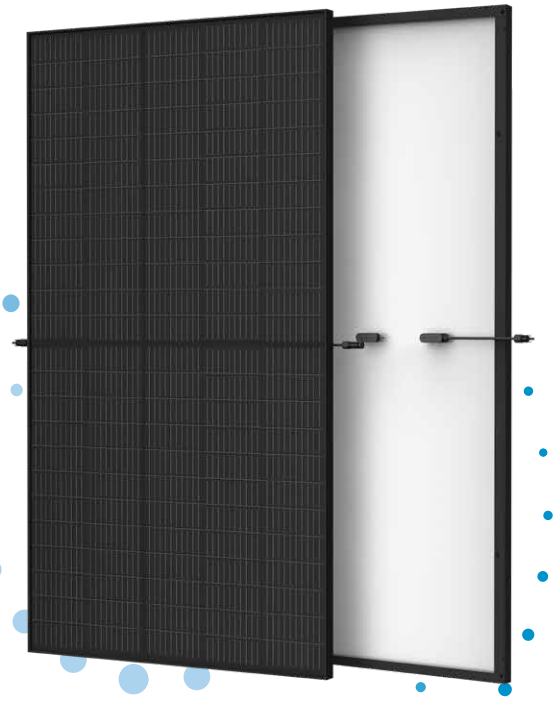
Vertex S

BACKSHEET MONOCRYSTALLINE MODULE

PRODUCT: TSM-DE09.05
POWER RANGE: 380-395 W

395 W+	0/+5 W	20.5 %
MAXIMUM POWER OUTPUT	POSITIVE POWER TOLERANCE	MAXIMUM EFFICIENCY



Outstanding Visual Appearance

- Designed with aesthetics in mind
- Ultra-thin, virtually invisible busbars
- Excellent cell color control by machine selection

Small in size, big on power

- Generates up to 395 W, 20.5 % module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability
- Excellent low light performance (IAM) with cell process and module material optimization

Universal solution for residential and C&I rooftops

- Designed for compatibility with existing mainstream inverters, optimizers and mounting systems
- Perfect size and low weight for easy handling. Optimized transportation cost
- Reduces installation cost with higher power bin and efficiency
- Flexible installation solutions for system deployment

High Reliability

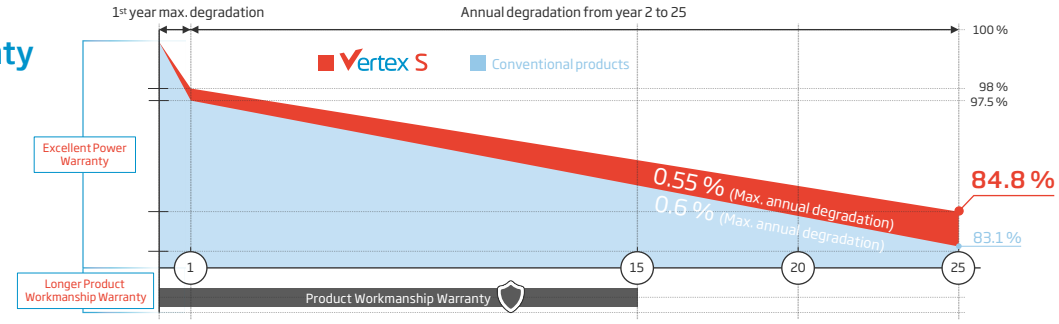
- 6,000 Pa snow load (test load)
- 4,000 Pa wind load (test load)

Extended Vertex S Warranty

2 %
1st year max. degradation

0.55 %
Max. annual degradation from year 2 to 25

15 Years
Product Workmanship Warranty



Comprehensive Product and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gases Emissions Verification
ISO45001: Occupational Health and Safety Management System

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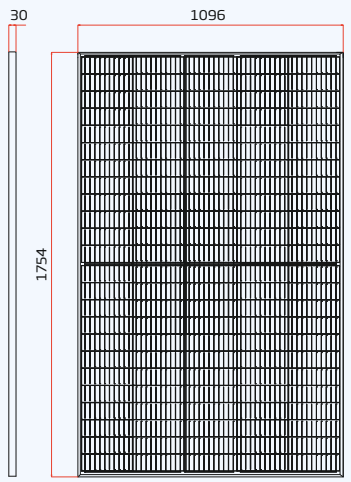
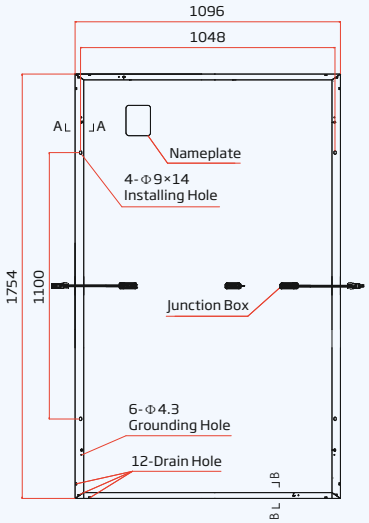
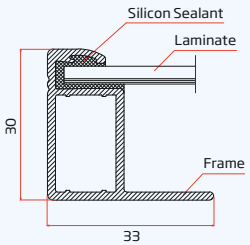
DIMENSIONS OF PV MODULE (mm)



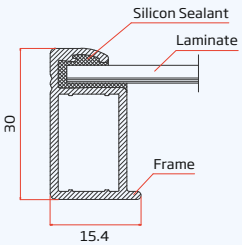
Front View



Rear View

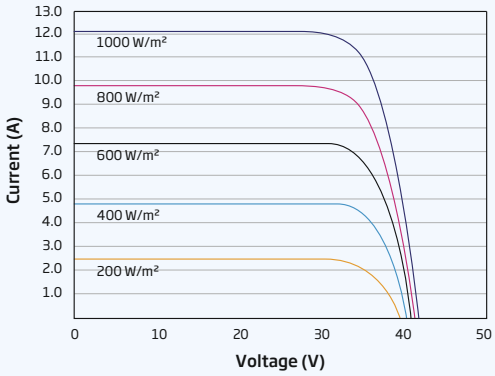


A-A

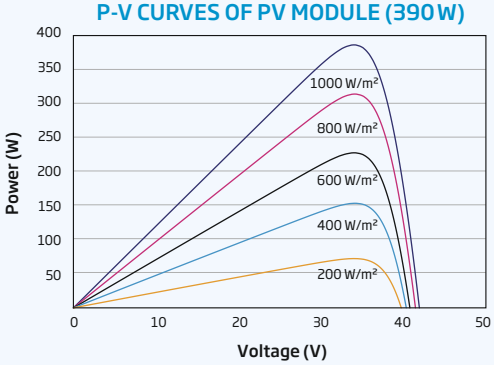


B-B

I-V CURVES OF PV MODULE (390 W)



P-V CURVES OF PV MODULE (390 W)



ELECTRICAL DATA (STC)

	TSM-380 DE09.05	TSM-385 DE09.05	TSM-390 DE09.05	TSM-395 DE09.05
Peak Power Watts-P_{MAX} (Wp)*	380	385	390	395
Power Tolerance-P_{MAX} (W)	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage-V_{MPP} (V)	33.4	33.6	33.8	34.0
Maximum Power Current-I_{MPP} (A)	11.38	11.46	11.54	11.62
Open Circuit Voltage-V_{OC} (V)	40.4	40.6	40.8	41.0
Short Circuit Current-I_{SC} (A)	12.00	12.07	12.14	12.21
Module Efficiency η m (%)	19.8	20.0	20.3	20.5

STC: Irradiance 1000 W/m², Cell Temperature 25 °C, Air Mass AM1.5 *Measuring tolerance: ±3%

ELECTRICAL DATA (NOCT)

	TSM-380 DE09.05	TSM-385 DE09.05	TSM-390 DE09.05	TSM-395 DE09.05
Maximum Power-P_{MAX} (Wp)	286	290	294	298
Maximum Power Voltage-V_{MPP} (V)	31.4	31.6	31.8	31.9
Maximum Power Current-I_{MPP} (A)	9.12	9.18	9.24	9.32
Open Circuit Voltage-V_{OC} (V)	38.0	38.2	38.4	38.6
Short Circuit Current-I_{SC} (A)	9.67	9.73	9.78	9.84

NOCT: Irradiance at 800 W/m², Ambient Temperature 20 °C, Wind Speed 1 m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	120 cells
Module Dimensions	1754×1096×30 mm
Weight	21.0 kg
Glass	3.2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant material	EVA/POE
Backsheet	Black-White
Frame	30 mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm² Landscape: 1100/1100 mm Portrait: 280/280 mm*
Connector	TS4/MC4 EVO2*

*Special order only

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43 °C (±2 K)
Temperature Coefficient of P_{MAX}	-0.34 %/K
Temperature Coefficient of V_{OC}	-0.25 %/K
Temperature Coefficient of I_{SC}	0.04 %/K

MAXIMUM RATINGS

Operational Temperature	-40 to +85 °C
Maximum System Voltage	1500 V DC (IEC)
Max Series Fuse Rating	20 A

WARRANTY

15 Year product workmanship warranty

25 Year power warranty

2 % First year degradation

0.55 % Annual power degradation

(Please refer to the applicable limited warranty for details)

PACKAGING CONFIGURATION

Modules per box	36 pieces
Modules per 40' container	936 pieces

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CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.
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