



QUAD 2000

Smartest | Most Reliable | Lowest Cost

The **QUAD 2000** is changing the industry standards for today's solar energy solutions.

With 4 individual DC input channels and independent maximum peak power tracking, it is the most compact and light-weight microinverter in the PV industry for grid-tied (GT) applications.

Four Panels, One Inverter

The **QUAD 2000** microinverter uses patented technologies that eliminate the use of short-life electrolytic capacitors, providing high reliability, and a 25-year design life.

Based on a Per-Watt rating, the Quad has the lowest microinverter cost, the highest power output, the highest power density, and the lowest weight in the industry.



- Maximum energy harvest
- Quick installation
- Safe operation – all AC , with no high-voltage DC
- 75% reduction in cable costs
- Best in class reliability
- No single-point of failure
- Cloud-based performance monitoring for each panel
- Remote updates and programming

Model:

Q2000-4102

Mode: GT

Input (DC) Specifications				
DC Input Power	W	2000		
Number of channels		4		
PV Panel Rating Module (STC)	W	Up to 680 W _p per channel		
Input Power Clipping		None		
Maximum Input DC Current	A	16 per channel		
Full Power MPPT Voltage Range	V	34 - 45 per channel		
Extended MPPT Voltage Range	V	20 - 60 per channel		
Start-up Voltage	V	19 per channel		
DC Connection Type		MC4 compatible panel receptacles		
Output (AC) Specifications				
Grid Connection Type		208V L-L from 3- ϕ	240V L-L from Split- ϕ	230V L-N from 1- ϕ
Operational Voltage Range	V	183 - 229	211 - 264	184 - 276
Maximum Continuous Power ¹	W	2000 @ 52°C	2000 @ 60°C	2000 @ 60°C
Nominal Output Frequency	Hz	60		50
Operational Frequency Range	Hz	59.3 - 60.5 default		47.5 – 52.5 default
		Extendable according to various standards		
Power Factor		> 0.99 default. Programmable from 0-0.99 leading/lagging		
Output THD	%	< 2, default		
Inrush Current	A	< 8		
Output Wiring Type		14 AWG		
Output Connection Type		T5 AC micro male connector 98053		
Safety and Protection				
Input Reverse Voltage Polarity Protection		Yes, Polarized PV Connectors		
Anti-Islanding Protection		Yes, programmable to meet various standards UL1741, UL1741 SA, Rule 21, IEC		
Integrated GFDI		Yes		
Isolation		Galvanic isolation		
Abnormal Voltage/ Frequency Trip Time		Less than 200ms		
Regulatory				
Regulatory Certifications		UL1741, UL1741 SA/Rule 21/HECO/Rule 14H, IEEE1547, IEEE1547.1, CSA22.2 No. 107.1, FCC Part 15-Class B, IEC 60068-2(1,2,14,30), IEC62109-1/2, IEC 61000-6-1/ 6-3, IEC 61000-3-2/ 3-2, IEC61683, IEC 61727 BIS: IS 16221 (PART 2), BIS: IS16169		

Efficiency and Operating Performance		Unit	Q2000-4102
Maximum Efficiency	%		97.5
CEC Efficiency	%		97
MPPT Efficiency	%		Static: 99.85 – Dynamic: 99.8
Stand-by Consumption	mW		< 30
Communication			
Monitoring System			Wireless, Web-based monitoring through SparqLinq and SparqVu
Environmental			
Ambient Operating Temperature Range	°C (°F)		-40 to +65 (-40 to +149)
Relative Humidity	%RH		0 – 100 condensing
Mechanical			
Enclosure Rating			NEMA 6, IP-67
Cooling			Natural Convection
Dimensions (D x W x L)	mm (in)		32 x 261 x 357 (1.25 x10.3 x14.0)
Weight	kg (lb)		3.3 (7.3)
Recommended Mounting			Rack mount with two M8, 1/4", or 5/16" bolts
Warranty			
Standard Limited Warranty			12 Years
Extended Warranty			25 Years
Programmable Smart Grid Parameters			
Voltage Ride-through	Under Voltage		Maximum 4 levels with programmable ride-through time
	Over Voltage		Maximum 3 levels with programmable ride-through time
Frequency Ride-through	Under Frequency		Maximum 6 levels with programmable ride-through time
	Over Frequency		Maximum 4 levels with programmable ride-through time
Reconnect Time			Programmable wait time of 0-5 minutes
Power Ramp Rate			Programmable on both active and reactive power
Volt-VAR			Programmable VAR injection and power factor limit
Frequency-Watt			Programmable active power curtailment with an adjustable rate of Watt per Hz

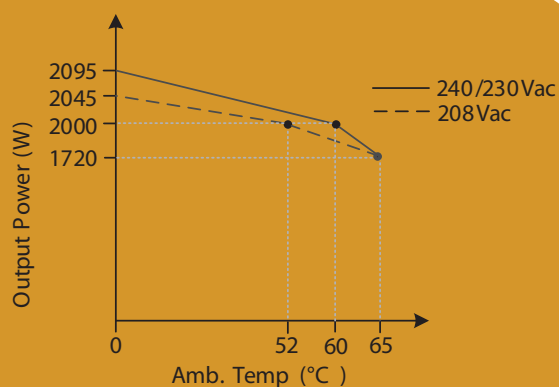
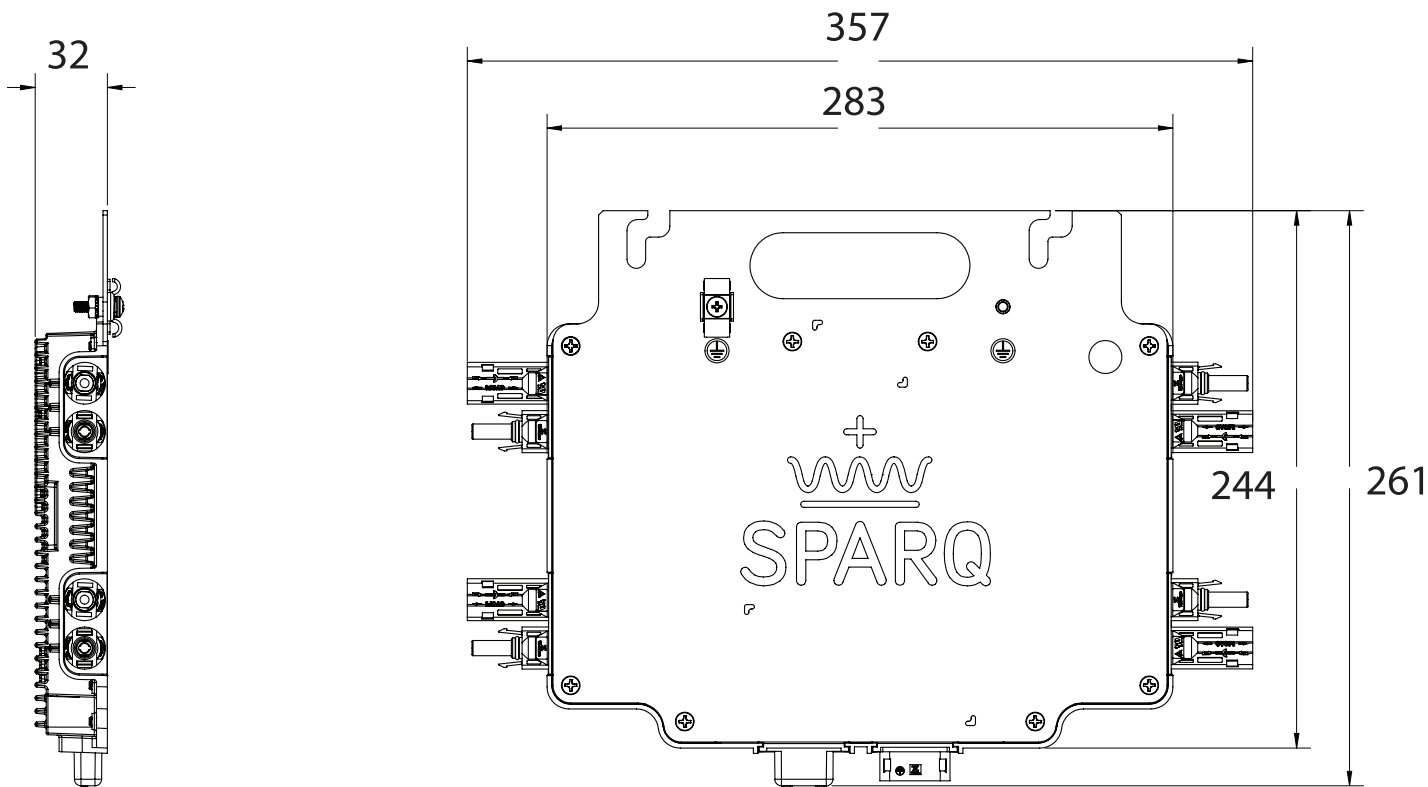


Fig. 1 Q2000 AC Output Power vs Temperature Profile.

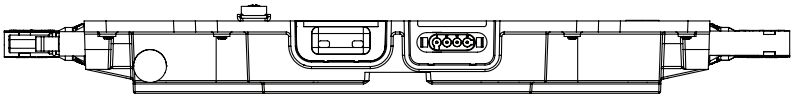
¹ For higher ambient temperature, please refer to the graphs shown in Fig. 1.

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Mechanical Specifications (inverter)



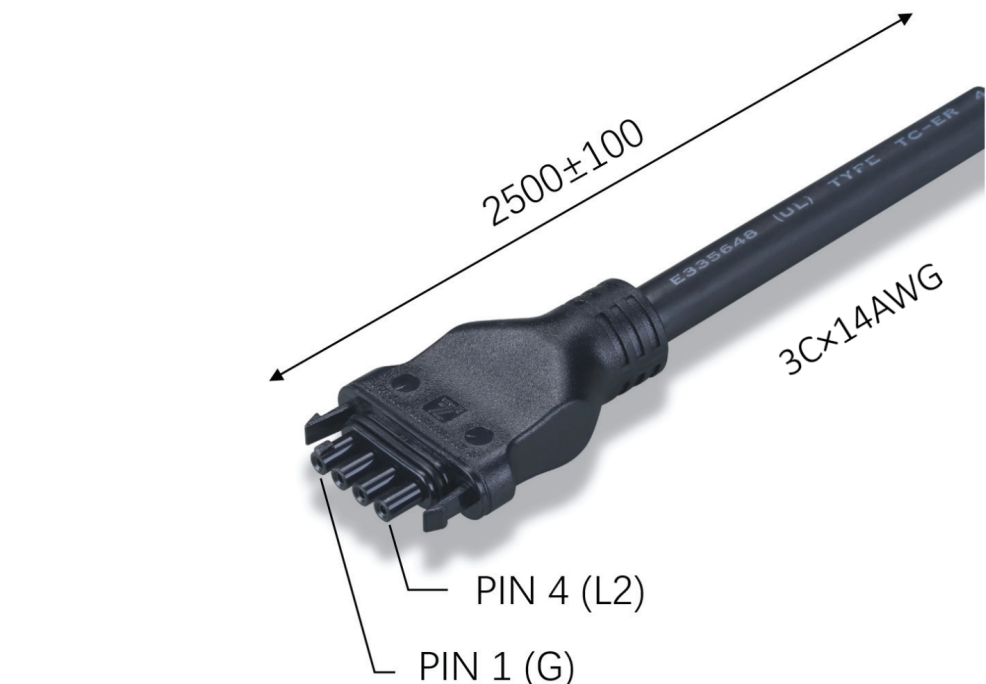
All dimensions in mm



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Mechanical Specifications (cables)

T5 free connector female 65069-13



All dimensions in mm

PIN1	G: Empty
PIN2	L1: Wire Color Black
PIN3	N: Wire Color White
PIN4	L2: Wire Color Red



AC Cable from T5 female to open, 2C, 3C, AWG 14

Region	Conduct Number	Colour Code	Length	P/N
North America	3C	L1:Black; L2:Red; Neutral: White	2m	65069-17
North America	3C	L1:Black; L2:Red; Neutral: White	2.5m	65069-19
North America	3C	L1:Black; L2:Red; Neutral: White	4m	65069-18
India/Europe	2C	L1:Brown; Neutral:Blue	2m	65069-11
India/Europe	2C	L1:Brown; Neutral:Blue	2.5m	65069-13
India/Europe	2C	L1:Brown; Neutral:Blue	4m	65069-12

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