



QUAD 2000

for India

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

Key Specifications		Unit	Q2000-4102		
DC Input Power		W	2000		
Number of Input Channels			4		
Rated Grid AC Voltage		V	208 /230/ 240 auto configurable		
Input (DC) Specifications					
PV Power Module (STC)		W	Up to 680W _p per channel		
Absolute Maximum Input DC Voltage		V	65 per channel		
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
Nominal Output Frequency		Hz	60		50
Operational Frequency Range		Hz	59.3 - 60.5 default		47.5 – 50.5
			Extendable according to various standards		
Output Current		A	8.7 (nominal)		
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		
AC Output - OFF-Grid					
Operational Voltage Range		V	90-245		
Nominal Output Frequency		Hz	55		
Operational Frequency Range		Hz	54-56		
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		

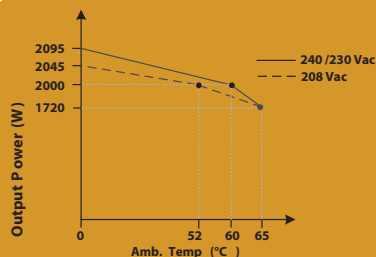


Fig. 1 Q2000 AC Output Power vs Temperature Profile.

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

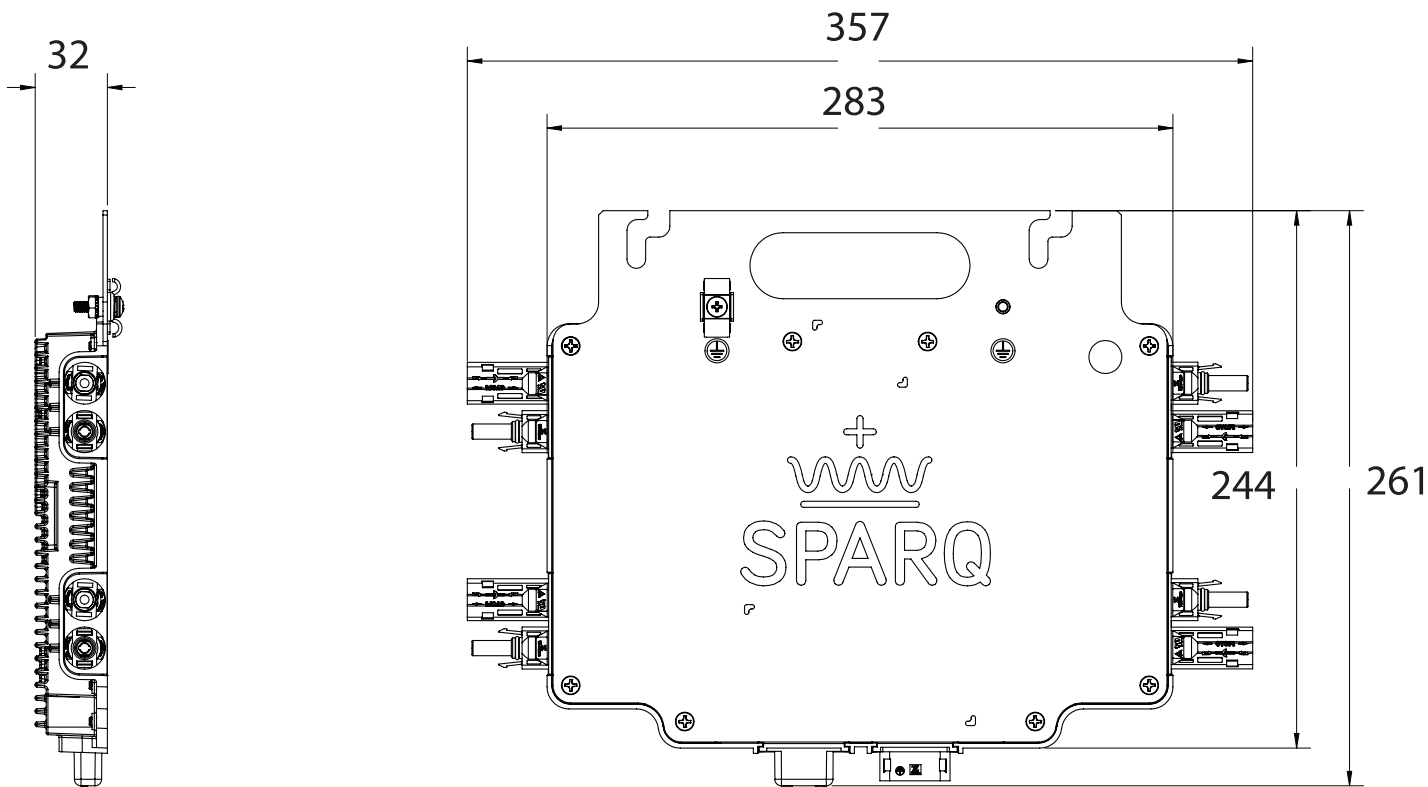
Regulatory		
Regulatory Certifications		UL1741, UL1741 SA/Rule 21/ HECO/Rule 14H, IEEE1547, IEEE1547.1, CSA22.2 No. 107.1, FCC Part 15-Class B, IEC 60068-2(1,2,14,30), IEC62109-1/2, IEC 61727, IEC 61000-6-1/ 6-3, IEC 61000-3-2/ 3-2, IEC61683, BIS: IS 16221 (PART 2), BIS: IS16169
Efficiency and Operating 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	°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 x 10.3 x 14.0)
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
Programmable Parameters for Smart Grid		
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

Model:

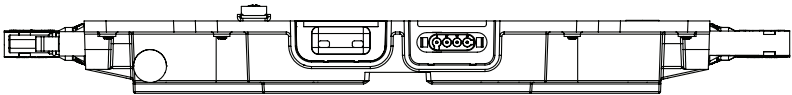
Q2000-4102

Mode: DM

Mechanical Specifications (inverter)



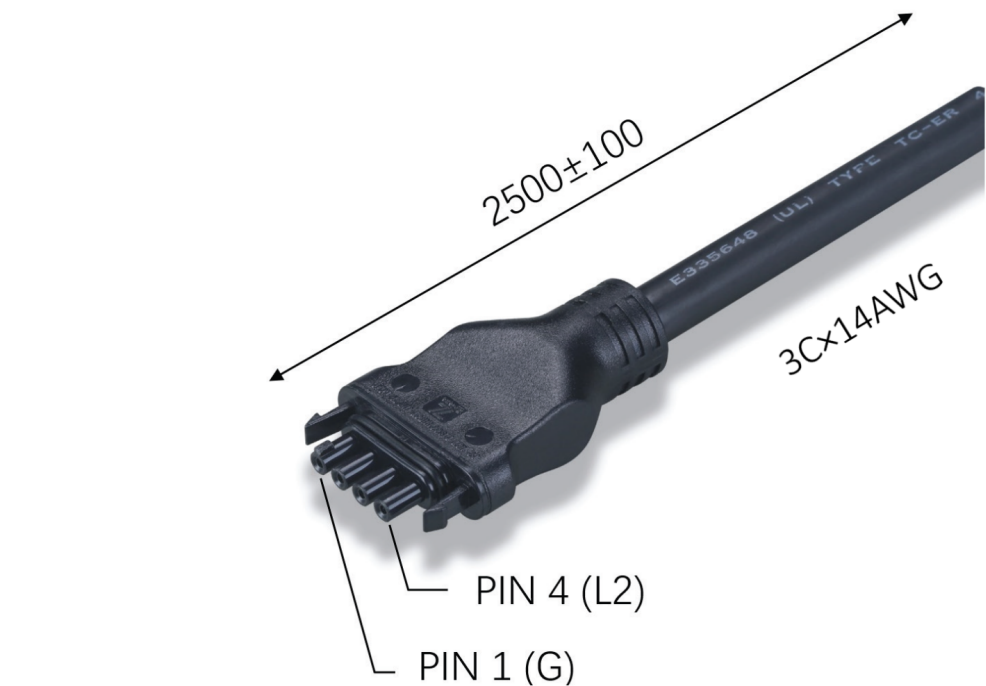
All dimensions in mm



Model:
Q2000-4102
Mode: GT

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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Mode: GT