



THE ADVANTAGES OF THE ENERGY-WIZARD AT A GLANCE

- Efficiency of up to 98.6%
- Up to 32A PV input current and up to 3 MPP trackers
- 10% continuous extra power of the AC output
- More operating hours due to low starting voltage
- OLED display and app for configuration and data management
- Compact size and elegant appearance
- Combinable with M-TEC Energy Butler
- Low operating noise





ENERGY-WIZARD: FACTS AND FIGURES

PV Input Start-up Voltage [V] Start-up	Model	4KW- 3P-3G	5KW- 3P-3G	6KW- 3P-3G	8KVV- 3P-3G	10KW- 3P-3G	12KW- 3P-3G	15KW- 3P-3G	20KW- 3P-3G	25KW- 3P-3G
Max. DC Input Voltage [V] Raced DC Input Voltage [V] 620	PV Input									
Racel OLD (Paper Voltage Parise Proper Paper Pap	Start-up Voltage [V]					180		,		,
MPPTVoltage Range [V]	Max. DC Input Voltage [V]	950								
MPPTrackers	Rated DC Input Voltage [V]	620								
string connections per MPPT 1/1 1/1 1/1 1/1 1/1 1/1/2 1/1/2 <td>MPPT Voltage Range [V]</td> <td colspan="9">160-950</td>	MPPT Voltage Range [V]	160-950								
Max. Input Current [A]	MPP Trackers	2	2	2	2	3	3	3	3	3
Max. Short-circuit Current [A] 20/20 20/20 20/20 20/20 20/20/20 20/20/20 20/20/20 20/20/40	string connections per MPPT	1/1	1/1	1/1	1/1	1/1/1	1/1/1	1/1/1	1/1/2	1/1/2
AC-Side Rated Output Power [E-W]	Max. Input Current [A]	16/16	16/16	16/16	16/16	16/16/16	16/16/16	16/16/16	16/16/32	16/16/32
Rated Output Power [RW]	Max. Short-circuit Current [A]	20/20	20/20	20/20	20/20	20/20/20	20/20/20	20/20/20	20/20/40	20/20/40
Friax, Output Power [kW] 4.40 5.50 6.60 8.80 11.00 13.20 16.50¹¹⟩ 22.00 27.50 Rated Output Apparent Power [kW] 4.00 5.00 6.00 8.00 10.00 12.00 15.00 20.00 25.00 Rated Voltage L/N/PE; 230/400V Rated Frequency [Ft2] 50/60	AC-Side									
Rated Output Apparent Power [RVA] 4.00 5.00 6.00 8.00 11.00 12.00 15.00 20.00 25.00 Max Output Apparent Power [RVA] 4.40 5.50 6.60 8.80 11.00 13.20 16.50 22.00 27.50 Rated Voltage	Rated Output Power [kW]	4.00	5.00	6.00	8.00	10.00	12.00	15.00	20.00	25.00
Max Cutput Apparent Power [RA] 4.40 5.50 6.60 8.80 I I.00 I 3.20 I 6.50¹¹⟩ 22.00 27.50 Rated Voltage L/NPE; 230/40V Rated Frequency [Hz] 50/60 50/6	Max. Output Power [kW]	4.40	5.50	6.60	8.80	11.00	13.20	16.50 ¹⁾	22.00	27.50
Rated Voltage	Rated Output Apparent Power [kVA]	4.00	5.00	6.00	8.00	10.00	12.00	15.00	20.00	25.00
Rated Frequency [Hz]	Max. Output Apparent Power [kVA]	4.40	5.50	6.60	8.80	11.00	13.20	16.50 ¹⁾	22.00	27.50
Rated Output Current [A] S.80 7.30 8.70 11.60 14.50 17.40 21.70 29.00 36.20	Rated Voltage	L/N/PE; 230/400V								
Max. Output Current [A]	Rated Frequency [Hz]	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60	50/60
Power Factor 0.8 underexcited0.8 overexcited	Rated Output Current [A]	5.80	7.30	8.70	11.60	14.50	17.40	21.70	29.00	36.20
Max. Total Harmonic Distortion	Max. Output Current [A]	6.40	8.00	9.60	12.80	15.90	19.10	23.90 ²⁾	31.90	39.90
DC Selficiency 98.1% 98.3% 98.3% 98.6% 99.9%	Power Factor	0.8 underexcited0.8 overexcited								
Max. Efficiency 98.1% 98.1% 98.3% 98.3% 98.6% 98.2% 98.2% 98.2% 98.2% 98.2% 98.2% 99.9% 99	Max.Total Harmonic Distortion									
Max. Efficiency 98.1% 98.1% 98.3% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.2% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9%	DCI									
Max. Efficiency 98.1% 98.1% 98.3% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.6% 98.2% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9% 99.9%	Efficiency									
MPPT Efficiency 99.9%		98.1%	98.1%	98.3%	98.3%	98.6%	98.6%	98.6%	98.6%	98.6%
MPPT Efficiency 99.9%	,	97.9%	97.9%	98.0%	98.0%	98.2%	98.2%	98.2%	98.2%	98.2%
Protection DC Reverse Polarity Protection Integrated Insulation resistance/monitoring Overheating protection Residual Current Protection AC Over-voltage Protection Overload Protection Overload Protection Integrated AC Short-circuit Protection Integrated Over Voltage Category Over Voltage Category PV: Il Main: Ill Dimensions [VV×H×D mm] Veight IP 21 24 Protection Degree IP65 Self-Consumption at Night [W] Topology Transformerless Operating Temperature Range [°C] Relative Humidity [%] Operating Altitude [m] Noise Level [dB] Veight Integrated Integrated Integrated Integrated Verification Integrated Integr		99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%	99.9%
Insulation resistance/monitoring Integrated Overheating protection Integrated Residual Current Protection Integrated AC Over-voltage Protection Integrated Overload Protection Integrated Overload Protection Integrated AC Short-circuit Protection Integrated OverVoltage Category PV: II Main: III Dimensions [W*H*D mm] 465*335*200 Weight I9 21 24 Protection Degree IP65 Self-Consumption at Night [W] < 1 Topology Transformerless Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Self-Cu Siplay OLED & LED	Protection									
Overheating protection Integrated Residual Current Protection Integrated AC Over-voltage Protection Integrated Overload Protection Integrated AC Short-circuit Protection Integrated General Data Over Voltage Category PV: II Main: III Dimensions [W×H×D mm] 465×335×200 Veight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] <	DC Reverse Polarity Protection	Integrated								
Overheating protection Integrated Residual Current Protection Integrated AC Over-voltage Protection Integrated Overload Protection Integrated AC Short-circuit Protection Integrated General Data Over Voltage Category PV: II Main: III Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] <	,	<u> </u>								
Residual Current Protection Integrated AC Over-voltage Protection Integrated Overload Protection Integrated AC Short-circuit Protection Integrated General Data Over Voltage Category PV: II Main: III Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] <1	Overheating protection	<u> </u>								
Overload Protection Integrated AC Short-circuit Protection Integrated General Data Over Voltage Category PV: Main: Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree P65	<u> </u>	<u> </u>								
Overload Protection Integrated AC Short-circuit Protection Integrated General Data Over Voltage Category PV: Main: Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree P65	AC Over-voltage Protection									
AC Short-circuit Protection General Data Over Voltage Category Over Voltage Category PV: II Main: III Dimensions [W×H×D mm] Veight Protection Degree IP65 Self-Consumption at Night [W] Topology Operating Temperature Range [°C] Relative Humidity [%] Operating Altitude [m] Cooling Natural Convection Noise Level [dB] Over Voltage Category PV: II Main: III A65×335×200 PV: II Main: III A65×335×200 Veight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] I value I va	_	ÿ								
General Data Over Voltage Category PV: II Main: III Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] < 1	AC Short-circuit Protection	•								
Dimensions [W×H×D mm] 465×335×200 Weight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] < I Image: Consumption at Night [W] Transformerless Image: Consumption at Night [W] Image: Co	General Data									
Weight 19 21 24 Protection Degree IP65 Self-Consumption at Night [W] 21 24 Protection Image: Figure 1 Self-Consumption at Night [W] -30~60 Self-Consumption at Night [W] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] CAD OLED & LED	Over Voltage Category	PV: II Main: III								
Protection Degree IP65 Self-Consumption at Night [W] < I Topology Transformerless Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25 <40 OLED & LED	Dimensions [W×H×D mm]	465×335×200								
Self-Consumption at Night [W] < I Topology Transformerless Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25 <40 OLED & LED	Weight			9			21		2	4
Self-Consumption at Night [W] < I Topology Transformerless Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25 <40 OLED & LED	Protection Degree					IP65			1	
Topology Transformerless Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25	_					<				
Operating Temperature Range [°C] -30~60 Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25		Transformerless								
Relative Humidity [%] 0~100% (not condensing) Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25 <40 Display OLED & LED		-30~60								
Operating Altitude [m] 3000 (>3000m derating) Cooling Natural Convection Smart Fan Noise Level [dB] <25		0~100% (not condensing)								
Noise Level [dB] <25										
Noise Level [dB] <25		Natural Convection Smart Fan								
								<40		
Communication RS485,WiFi/LAN/GPRS (Optional)	Display					OLED & LE	D	1		
	Communication	RS485,WiFi/LAN/GPRS (Optional)								

I) AS 4777.2: I5.0kW; 2) AS 4777.2: 21.7A;

