

NEW



RPS TL-UL Ampt Mode™ variants
500 kWac to 1750 kWac

RPS TL-UL System (Variants for DC Optimizers)

The new DC power optimizer variants of the RPS TL-UL utility-scale inverter family have been specifically designed for integration with innovative module and string-level power optimizer technology for installations in the North American market, opening new ways for plant designers to maximize energy yield and BoS savings through distributed MPP tracking and longer strings.

Thanks to the Ampt Mode™ – compliant DC operating range, the power optimizer variants of the RPS TL-UL system are available with significantly increased power capability compared to a conventional plant design to achieve exceptional ratings of up to 1750 kWac per inverter system. This increases the size limits of megawatt-class inverter stations with significant impact on BoS cost reduction. RPS TL-UL inverters carry the ETL mark for full compliance to UL1741, IEEE1547 and IEEE1547.1 standards

The RPS TL-UL power optimizer variants are based on Bonfiglioli's proven RPS TL inverter platform, which has been deployed worldwide in more than 2.5 GW of utility-scale photovoltaic installations in the US and worldwide, ensuring a bankable product and a developed service network for international projects. The modular inverter concept guarantees top-class system availability and excellent efficiency over the entire load range, paired with certified state-of-art grid management functions.

Main features

- Scalable power ratings from 500 to 1750 kWac
- Fully compliant with UL1741/IEEE1547/IEEE1547.A standards
- Optimized variant range for integration with module- and string-level DC power optimizer technology (Ampt Mode™ compliant)
- Modular design ensuring highest system availability
- Advanced grid management functions



hdpv.org

Master-Slave 510 V

RPS TL-UL		050D	075D	100D	125D	150D	175D
Number of inverter modules / cabinets	-	2	3	4	5	6	7
Input ratings							
Maximum input current	A	700	1050	1400	1750	2100	2450
Maximum DC input voltage	V	1000					
DC input voltage range	V	745 ... 850 (AMPT Mode™)					
Number of DC inputs	-	variable (realized in external DC combiner)					
Output ratings							
AC voltage	V	510 (IT mains, floating neutral or ungrounded delta)					
AC voltage range	V	449 - 561 (-12 % to + 10 %)					
Frequency range	Hz	59.5 - 60.5					
Rated power @ 0.9pf	kW	500	750	1000	1250	1500	1750
Maximum active power	kW	500	750	1000	1250	1500	1750
Maximum apparent power	kVA	600	900	1200	1500	1800	2100
Rated output current	A	566	849	1132	1415	1698	1981
Maximum output current	A	680	1020	1360	1700	2040	2380
Power factor range	-	controllable 0.8i ... 0.8c (nominal > 0.99 at rated power)					
Current harmonic distortion	%	< 3 at rated power					
Auxiliary power							
External power (single phase)	-	240 V / 10 A					
Standby power consumption	W	40	60	80	100	120	140
Efficiency							
Maximum efficiency	%	98.6 (prelim)					
European weighted efficiency	%	98.4 (prelim)					
CEC weighted efficiency	%	98.0 (prelim)					
Mechanical details							
Dimensions (WxHxD)**	mm	1800x2100x800	2400x2100x800	3000x2100x800	3800x2100x800	4400x2100x800	5000x2100x800
	in	71x83x31.5	95x83x31.5	118x83x31.5	150x83x31.5	173x83x31.5	197x83x31.5
Weight (approx.)**	kg	1300	1850	2450	3000	3550	4100
	lbs	2860	4070	5390	6600	7810	9020
Protection class	-	Nema 1 / IP20 (Indoor only)					
Temperature							
Ambient operating temperature range	-	-4°F ... 131°F (-20°C ... +55°C)*					
Rel. humidity	%	up to 95 (not condensing)					
Max. altitude	m	13123 ft / (derating above 3280 ft) / 4000 m (derating above 1000 m)					
Req. air flow rate	m³/h	3000	4500	6000	7500	9000	10500
	cfm	1766	2649	3532	4415	5298	6181
Protection and monitoring							
Array grounding configuration	-	Negative Grounded / Positive Grounded / Floating					
Array ground fault protection	-	GFDI (inside external DC recombiter)					
Grid protection	-	Anti-Islanding / Adjustable voltage and frequency settings according to IEEE1547					
Surge protection	-	UL1449, Class II on DC Input and AC Output					
Interfaces							
Communication interface	-	RS-485 (ModBus® / RTU or proprietary), Options: ModBus® / TCP over Ethernet					
Standards & certifications							
Standards	-	UL1741 / CSA107.1 / IEEE1547, UL1998, NEC2014					
Testing	-	IEEE1547.1 / IEEE C62.41.2 / IEEE C62.45 / IEEE C37.90.1 / IEEE C37.90.2					
Environmental conditions	-	EN 60721-3-3 (3K3, 3B1, 3C1, 3S2, 3M1) (unless deviating specifications provided)					
Supported Power Management Functions	-	LVRT, Power Factor Control, Grid Fault Support, Power / Frequency Control and Ramp Rate					

* -10°C...+43°C (14...109°F) at rated power for Vdc < 800 V, lower minimum temperatures on request

** excluding external dc combiner