



SHIFTING THE LIMITS

# FRONIUS CL CENTRAL INVERTER

/ The central inverter for long-term peak performance.



/ Fronius MIX technology



/ HF transformer switchover



/ Fronius Module Manager



/ Easy PC board replacement



/ Ventilation concept



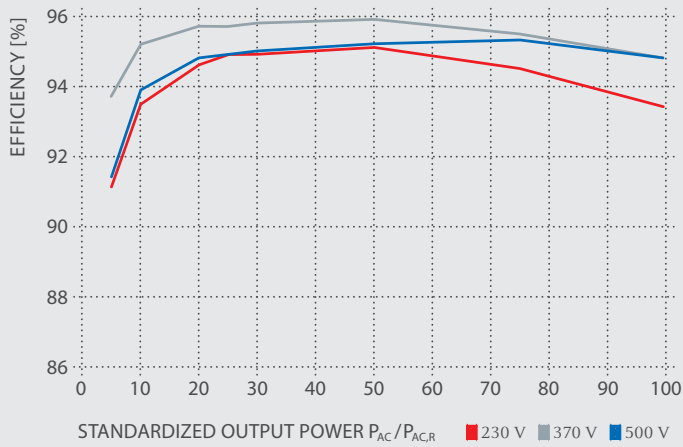
/ Transport technology

/ The Fronius CL combines efficient power electronics with a unique modular system design of up to 15 power stage sets in the Fronius MIX technology. This makes the Fronius CL the perfect central inverter for PV systems of up to several hundred kilowatts(kW). Other advantages: precise maximum power point tracking of the Fronius Module Manager, automatic transformer switchover, and much more. The Fronius CL is available in six power classes from 33 to 60 kW.

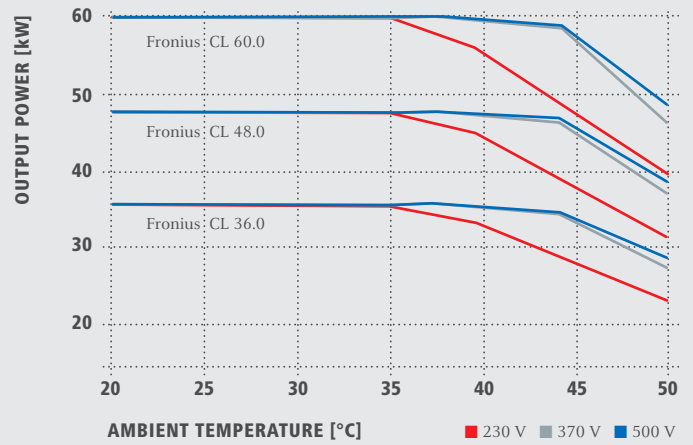
## TECHNICAL DATA: FRONIUS CL

INPUT DATA		CL 33.3 <sub>DELTA</sub>	CL 36.0 <sub>WYE277</sub>	CL 44.4 <sub>DELTA</sub>	CL 48.0 <sub>WYE277</sub>	CL 55.5 <sub>DELTA</sub>	CL 60.0 <sub>WYE277</sub>
Recommended PV-Power		28.3 - 39.0 kWp	30.6 - 42.1 kWp	37.8 - 52.0 kWp	40.8 - 56.2 kWp	47.2 - 65.0 kWp	51.0 - 70.2 kWp
MPPT-Voltage Range		230 - 500 V					
DC Startup Voltage		260 V					
Max. Input Voltage Range		600 V					
Max. Usable Input Current		154.0 A	166.5 A	205.4 A	222. A	256.7 A	277.5 A
Admissible Conductor Size (DC)		350 MCM					
No. of DC Input Terminals		Accommodates up to 3 single- or dual-hole lugs per pole, M12 (1/2") studs					
No. of MPP Trackers		1					
OUTPUT DATA		CL 33.3 <sub>DELTA</sub>	CL 36.0 <sub>WYE277</sub>	CL 44.4 <sub>DELTA</sub>	CL 48.0 <sub>WYE277</sub>	CL 55.5 <sub>DELTA</sub>	CL 60.0 <sub>WYE277</sub>
Max. Continuous Output Power (40°C)	208 V	33,300 W	n/a	44,400 W	n/a	55,500 W	n/a
	240 V	33,300 W	n/a	44,400 W	n/a	55,500 W	n/a
	277 V	n/a	36,000 W	n/a	48,000 W	n/a	60,000 W
Nominal AC Output Voltage		208 / 240 V	480 / 277 V	208 / 240 V	480 / 277 V	208 / 240 V	480 / 277 V
Operating AC Voltage Range Default (-12 / 10%)	208 V	183 - 299 V	n/a	183 - 299 V	n/a	183 - 299 V	n/a
	240 V	211 - 264 V	n/a	211 - 264 V	n/a	211 - 264 V	n/a
	277 V	n/a	244 - 305 V	n/a	244 - 305 V	n/a	244 - 305 V
No. of Phases		3					
Admissible Conductor Size (AC)		350 MCM					
Nominal Output Frequency		60 Hz					
Operating Frequency Range		59.3 - 60.5 Hz					
Total Harmonic Distortion (THD)		< 3%					
Power Factor (at Nominal Output Power)		1					
GENERAL DATA		CL 33.3 <sub>DELTA</sub>	CL 36.0 <sub>WYE277</sub>	CL 44.4 <sub>DELTA</sub>	CL 48.0 <sub>WYE277</sub>	CL 55.5 <sub>DELTA</sub>	CL 60.0 <sub>WYE277</sub>
Max. Efficiency		95.9 %					
CEC Efficiency	208 V	94.5 %	n/a	94.5 %	n/a	94.5 %	n/a
	240 V	95.0 %	n/a	95.0 %	n/a	95.0 %	n/a
	277 V	n/a	95.5 %	n/a	95.5 %	n/a	95.5 %
Consumption in Standby (Night)		< 5 W					
Consumption During Operating		65 W					
Cooling		Controlled forced ventilation, variable speed fan					
Compliance		UL 1741-2005, IEEE 1547-2003, IEE 1547.1, ANSI/IEE C62.41, FCC Part 15 B, NED Article 690, C22.2 No. 107.1-01 (September 2001), California Solar Initiative - Program Handbook - Appendix C: Inverter Integral 5% Meter Performance Specification					
Standard Warranty		5 Years					
Available Warranty		5 and 15 Year					
Dimensions (W x H x D)		43.5" x 76.6" x 31.4"					
Weight		661 lbs	661 lbs	721 lbs	721 lbs	783 lbs	783 lbs

## FRONIUS CL 60.0 EFFICIENCY CURVE



## FRONIUS CL TEMPERATURE DERATING



## TECHNICAL DATA: FRONIUS CL

PROTECTIVE EQUIPMENT	CL 33.3 <sub>DELTA</sub>	CL 36.0 <sub>WYE277</sub>	CL 44.4 <sub>DELTA</sub>	CL 48.0 <sub>WYE277</sub>	CL 55.5 <sub>DELTA</sub>	CL 60.0 <sub>WYE277</sub>
Admissible Ambient Operating Temperature Range	-13° F - +122° F (-25° C - +50° C)					
Enclosure Type	NEMA 3R					
Ground Fault Protection	Internal GFDI (Ground Fault Detector / Interruptor) in accordance with UL 1741-2010 and NEC Article 690					
DC Reverse Polarity Protection	Internal Diode					
Islanding Protection	Internal; in accordance with UL 1741-2005, IEEE 1547-2003 and NEC					
Overtemperature	Output power derating / active cooling					

/ Perfect Welding / Solar Energy / Perfect Charging

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/ Whether welding technology, photovoltaics or battery charging technology – our goal is clearly defined: to be the innovation leader. With around 3,000 employees worldwide, we shift the limits of what's possible - our more than 850 active patents are testimony to this. While others progress step by step, we innovate in leaps and bounds. Just as we've always done. The responsible use of our resources forms the basis of our corporate policy.

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