

REFU*sol*/ 012K, 016K, 020K and 024K-UL Commercial scale inverters



- CEC rated efficiency 98%
- Light, compact & easy to install
- Integrated data-logger
- Maintenance free
- Transformerless
- Made in USA

Based on the design features of our **innovative** and **efficient** REFU*sol*/ 008K-020K inverters, we developed the REFU*sol*/ 012K-024K-UL inverter series especially for the North American market.

REFU*sol* commercial scale inverters achieve a maximum **efficiency** of **98.2%** in a maximum power point tracking (MPPT) range of 2 x 125-450 volts.

The unit is **lightweight** and **easy to install** with a simple mounting plate and **integrated data-logger**.

REFU*sol* inverters are suitable for both indoor and outdoor use due to their compact and **durable design**. Our innovative MPPT system and excellent reliability combine to deliver remarkably high yields in all types of photovoltaic installations.

Technical data



Power Classification	REFUso/ 012K-UL	REFUso/ 016K-UL	REFUso/ 020K-UL	REFUso/ 024K-UL
DC data				
Recommended max. PV power	14.4 kW	19.2 kW	24.0 kW	27.8 kW
Max. DC voltage ¹⁾	500 V			
MPPT-range	125 V ... 450 V	125 V ... 450 V	125 V ... 450 V	125 V ... 450 V
Min. voltage for full rated output power	225 V	250 V	275 V	300 V
Startup voltage	200 V			
Max. DC current	2 x 27.5 A	2 x 33 A	2 x 37.5 A	2 x 40 A
MPP tracking	One fast, precise MPP tracker			
Number of DC-connections	12			
DC fuses	24 x type KLKD 15 A (field adjustable up to 20 A)			
Internal overvoltage protection	Surge protected device (SPD) type 2			
AC data				
Rated AC power	12.0 kVA	16.0 kVA	20.0 kVA	23.2 kVA
Max. AC active power	12.0 kW	16.0 kW	20.0 kW	23.2 kW
AC grid connection	3 AC 480 V+N +10% -12% 60 Hz			
VAR control (cos phi)	Nominal value: 1 (field adjustable 0.95i ...1... 0.95c)			
Max. AC current	14.5 A	19.3 A	24.1 A	27.9 A
Distortion factor THD	< 3%			
Max. efficiency	98.2%			
CEC efficiency	97.5%	97.5%	97.5%	98%
Power fed to grid starting at	20 W			
Power consumption	Standby < 0.5 W			
Cooling, ambient conditions, EMC				
Cooling	Natural convection			
Operating temperature ²⁾	-13 ... + 131°F (-25 ... +55°C)			
Storage temperature	-13 ... + 158°F (-25 ... +70°C)			
Site elevation	Up to 6562 ft (2000 m) above sea level before derating			
Emitted interference	FCC Part 15 Subpart B, Class B			
Certificates	Certified to UL 1741 and UL 1998 Standard (for US and Canada) by Underwriters Laboratories			
Interference immunity	IEEE C37.90.2			
Anti-islanding	In accordance with IEEE 1547 and UL 1741			
Mechanical				
Type of protection	Electronics: NEMA 4		Connection box: NEMA 3R	
Dimensions	21 / 35 / 11 inches (535 / 895 / 280 mm)			
Width / Height / Depth	21 / 37 / 11 inches (535 / 940 / 280 mm) with extension box			
Weight	108 lbs (49 kg)			

¹⁾ Two 500 V strings combined in series within the inverter unit to maximize efficiency; PV array utilizes standard string configuration in the field

²⁾ Derating at temperatures >122°F (50°C) for REFUso/ 012K-UL and REFUso/ 016K-UL; >113°F (45°C) for REFUso/ 020K-UL; >104°F (40°C) for REFUso/ 024K-UL