

REFU*sol* 250K-5T

For economical and grid-compliant operation

The REFU*sol* 250K-5T is an 800 V utility-scale inverter for large PV plants and enables reliable and grid-compliant operation with high economic efficiency.



Temperature detection in AC terminals, DC connectors



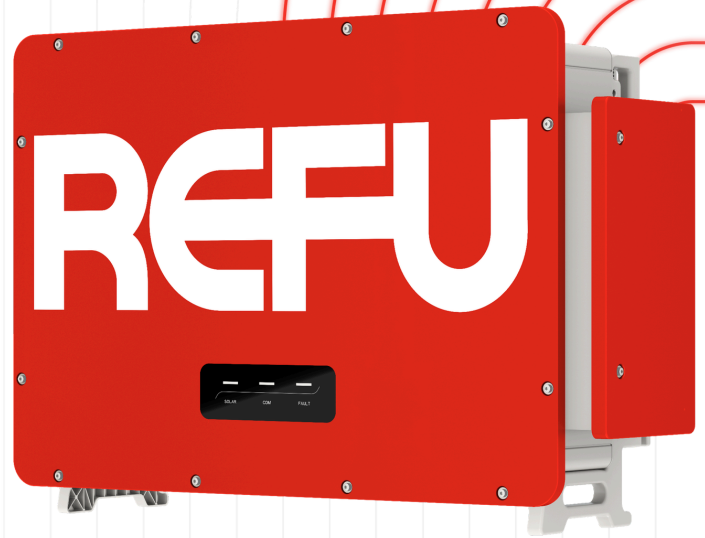
100% power output at 50 °C



150% DC/AC ratio for optimization of system costs



Integration with secure Germany-hosted monitoring systems



Utility-scale PV plants require reliable and grid-compliant operation under demanding conditions. The REFU*sol* 250K-5T combines high performance with stable thermal design and integration into monitoring systems.

The 150% DC/AC ratio enables economical system sizing, while full power output at 50 °C ensures stable operation. This makes the string inverter suitable for use in demanding environments and ensures high plant availability.



System Control & Grid Integration

- Active and reactive power control
- Modbus / RBUS communication
- Remote configuration and control
- SCR <1.1 for better operability with weak grids.



Monitoring & System Architecture

- REFUview monitoring platform
- Central remote monitoring
- Real-time data and plant analysis
- Integration into existing systems



Protection & Reliability

- IP66 with C5-M anti-corrosion grade enclosure.
- IEC 60372 based fast, accurate AFCI protection.
- Integrated anti PID and IV curve scan facility.
- Smart DC disconnection and self-cleaning fans.

TECHNICAL DATA

REFUso1 250K-5T
890P250

Art. No.

DC DATA

Max. recommended PV power (kWp)	405
Max. input voltage (V)	1500
Rated input voltage (V)	1080
Start-up input voltage (V)	550
Operating voltage range (V)	500 – 1500
MPPT voltage range (V)	500 – 1500
Number of independent MPPT(s)	5
Number of DC inputs	5 for each MPPT
Max. current per MPPT (A)	75
Max. short circuit current per MPPT (A)	113
DC connection	MC4

AC DATA

AC output power (kVA)	250 @ 50°C
Max. output current (A)	198.5
Nominal grid voltage (V)	3P/PE: 800
Grid voltage range (V)	640 – 920
Nominal grid frequency (Hz)	50 / 60
Grid frequency range (Hz)	45 – 55 / 55 – 65
Active power adjustable range (%)	0 – 100
Total harmonic distortion (THDi) (%)	< 3
Adjustable power factor range	1 (0.8 inductive ... 0.8 capacitive)
AC connection	OT / DT Terminal (max. 500mm ²)

PERFORMANCE

Max. efficiency (%)	99.01
EU efficiency (%)	98.52

PROTECTION

Smart DC switch	Integrated
Safety protection	Anti-islanding, DC reverse polarity, ground fault, PV array string fault monitoring, RCMU, over temperature, over voltage, over current, AC/DC terminal temperature detection
PV string monitoring	yes
Protection class / Over voltage category	Class I / DC: OCV II; AC: OCV III
SPD	DC: Type II / AC: Type II
AFCI / Anti-PID	yes / optional

COMMUNICATION

RS485 / USB	yes / yes
PLC	yes

GENERAL DATA

Ambient temperature (°C)	-30 ... +60
Self-consumption at night (W)	<5
Topology	transformerless
Type of protection	IP66
Permissible RH range (%)	0 ... 100
Max. operating latitude (m above sea level)	5000 (derating above 4000)
Weight (kg)	116
Cooling	Smart forced cooling
Dimensions (H x W x D) (mm)	760 x 1158 x 382
Certification	IEC/EN 62109, EN 50549, VDE-AR-N 4110/4120, IEC/EN 61000, IEC 62116, IEC 61727, IEC 60068, IEC 61683
Display	LED
Warranty	5 years ¹

¹5 years extended warranty option available.