

REFU*sol* 20K-3T

For efficient operation in C&I PV plants

The REFU*sol* 20K-3T is a compact inverter for commercial PV plants. 3 MPPTs and a compact design enable flexible system design and economical operation.



AFCI (arc fault protection)¹



150% DC/AC ratio for optimization of system costs



Higher yields with 3 MPPTs



Type I + II DC surge protection¹



The REFU*sol* 20K-3T is a string inverter for commercial and industrial PV plants. Three MPPTs enable flexible string design and stable yields. The robust design with optional AFCI and integrated DC surge protection (Type I + II) ensures reliable operation. The compact design supports easy installation and economical system operation. In combination with REFU*view*, central monitoring of the plant is possible.



Reliability & Operation

- IP65 protection for demanding environments
- 110% AC overloading capability
- Technical support from Germany



Installation & System Integration

- Suitable for rooftop and ground-mounted systems
- Integration into existing and new PV systems
- Simple commissioning and system integration



Safety & Protection

- AFCI (optional) for arc fault protection¹
- DC surge protection Type I + II¹
- Integrated DC switch

TECHNICAL DATA

REFUsoI 20K-3T
853P020

Art. No.

DC DATA

Max. recommended PV power (kWp)	30
Max. input voltage (V)	1100
Rated input voltage (V)	620
Start-up input voltage (V)	200
Operating voltage range (V)	180 – 1000
MPPT voltage range (V)	480 – 850
Number of independent MPPT(s)	3
Number of DC inputs	2 for each MPPT
Max. current per MPPT (A)	40
Max. short circuit current per MPPT (A)	50
Max. power per MPPT (kW)	20
DC Connection	MC4

AC DATA

Rated power (kW)	20
Max. AC power (kVA)	22
Max. output current (A)	33.3
Nominal grid voltage (V)	3P/N/PE: 230/400
Grid voltage range (V)	310 – 480
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 (M6)

PERFORMANCE

Max. efficiency (%)	98.6
EU efficiency (%)	98.2

PROTECTION

DC switch	Integrated
Safety protection	Anti-islanding, DC reverse polarity, anti-reverse power ground fault, RCMU, Overtemperature, Overvoltage, Overcurrent
String monitoring	each MPPT
Protection class / Over voltage category	Class I / DC: OCV II; AC: OCV III
SPD	DC: Type II / AC: Type II ¹
AFCI	Optional ¹

COMMUNICATION

RS485 / USB	yes / yes
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GENERAL DATA

Ambient temperature (°C)	-30 +60 (> 45 derating)
Self-consumption at night (W)	<1
Topology	transformerless
Type of protection	IP65
Permissible RH range (%)	0 100
Max. operating latitude (m above sea level)	4000
Noise level (dBA)	< 60
Weight (kg)	36
Cooling	Active
Dimensions (H x W x D) (mm)	480 x 585 x 220
Display	LCD / BLE / App
Certification	EN 50549-1, VDE-AR-N 4105, VDE-AR-N 4110, EN 61000-6-1/2/3/4, EN 61000-6-11/12, IEC 62109-1/2, EN 300 328 V2.1.1, EN 301 489-1 V2.1.1, EN 301 489-17 V3.1.1, DIN V VDE 0126, IEC 62116, IEC 61727, IEC 61683, IEC 60068-2-1/2/14/30
Warranty	10 years

¹ DC SPD Type I+II with AFCI available on request