

REFU*sol* 008K-020K

For medium-sized to megawatt installations



- Lightweight & compact
- Highest efficiency (98.2%)
- Easy installation
- Outdoor (IP65)
- Maintenance free

The three-phase string inverters in the 8.25 to 20 kW power classes are perfect for rooftop systems from 8 kW upwards, right through to megawatt parks. They comply with all requirements for IP65 protection – their housing provides reliable protection from dust and water, including high pressure washing. These systems can therefore be installed out in the open without any problem. All five string inverters are **easy to handle and compact**. For example, they can be installed on an area smaller than three A4 pages laid side by side. Operation and monitoring are easy, further facilitated by the graphic display, the integrated RS485 interface and an Ethernet connection.

Fast MPP tracking and a wide input voltage range also ensure the high levels of efficiency that are typical in REFU*sol* systems. Even at low irradiation, the three-phase inverters

achieve an **efficiency of up to 98.2%**. As a result of these high efficiency levels convection cooling is all that's needed to dissipate the heat. Thanks to the low voltage fluctuations against earth, the transformerless devices can also be used for many thin-film modules.

The integrated data-logger can send all important operating data to the REFU*log* internet portal. For visualization and evaluation purposes, data can be transferred via the standard cable or an optional wireless connection using the new REFU*connect* radio module. Comprehensive information on operating conditions and the productivity of your plant is available at any time.

The REFU*sol* 008K - 020K inverters are also available in a special edition for concentrated PV (CPV).



Also available as UL model

TECHNICAL DATA	REFU s ol 008K	REFU s ol 010K	REFU s ol 013K	REFU s ol 017K	REFU s ol 020K
Item no.	803R008	803R010	808R013	808R017	808R020

DC DATA

Recommended max. PV power, kWp	9.9	12.0	15.6	20.4	24.0
MPPT range, V	370 ... 850	410 ... 850	430 ... 850	460 ... 850	490 ... 850
DC start voltage, V	350				
Max. DC voltage, V	1000				
Max. DC current, A	23.0	25.0	31.1	38.3	41.8
MPP tracker	1				
Number of DC connections	3 x MC4		4 x MC4	6 x MC4	
DC isolator	Yes				

AC DATA

Rated AC power, kW	8.25	10.0	13.0	17.0	20.0
Max. apparent power, kVA	8.25	10.0	13.0	17.0	20.0
AC power supply connection	L1, L2, L3, N, PE				
Rated power factor / range	1 / 0.8i ... 0.8c				
Rated voltage AC, V	400				
Voltage range AC, V	320 ... 460				
Rated frequency / frequency range, Hz	50, 60 / 45 ... 65				
Max. AC current, A	3 x 12	3 x 16	3 x 21	3 x 29	3 x 29,2
Max. distortion factor THD, %	2.5	1.8	2.5	1.8	
Max. efficiency, %	98.0			98.2	
European efficiency, %	97.3	97.4	97.5	97.8	
Feed-in starting at, W	50				
Internal consumption in night operation, W	< 0.5				

FEATURES

Cooling	Natural convection				
Ambient temperature, °C	-25 ... +55				
Relative ambient humidity, %	0 ... 100				
Site altitude, m	2000	4000*			
Noise level, dBA	< 45				
Internal overvoltage protection (EN 61643-11)	Type 3				
Protection class (IEC 62103)	I				
Overvoltage category (EN 60664-1)	DC: II, AC: III				
Environmental classifications IEC 721-3-4	4K4H				
Certificates	Current certificates can be found at http://europe.refusol.com/certifications.pdf				
Automatic disconnection	Acc. to VDE 0126-1-1				

GENERAL DATA

Interfaces	Ethernet, RS485, isolation and irradiation sensor				
Protection class (IEC 60529)	IP65				
Dimensions w x h x d, mm	535 x 601 x 225		535 x 601 x 277		
Weight, kg	28.5	32.2	38.4		

*Observe derating of the DC voltage.

Distribution by



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