

REFU**sol** 008K-020K

For medium-sized to megawatt installations



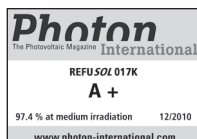
- Light & compact
- Highest efficiency (98.2%)
- Easy installation
- Outdoor (IP65)
- Maintenance free

The three-phase string inverters in the 8.25 to 19.2 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.



Also available as UL model

TECHNICAL DATA	REFUsol 008K	REFUsol 010K	REFUsol 013K	REFUsol 017K	REFUsol 020K
Art. no.	803R008	803R010	802R013	802R017	802R020

DC DATA

Recommended max. PV power, kWp	9.3	11.2	13.9	18.5	21.6
MPPT range, V	370 ... 850	410 ... 850	420 ... 850	445 ... 850	480 ... 850
DC start voltage, V	350				
Max. DC voltage, V	1000				
Max. DC current, A	23	25	30	38.5	41
MPP tracker	1				
Number of DC connections	3 x MC4	3 x MC4	4 x MC4	6 x MC4	6 x MC4
DC disconnection switch	Yes				

AC DATA

Rated AC power, kVA	8.25	10.0	12.4	16.5	19.2
Max. AC active power, kW	8.25	10.0	12.4	16.5	19.2
AC grid connection	3AC 400V + N, 50–60Hz				
Rated power factor	1				
Adjustable displacement factor	0.9i ... 1 ... 0.9c				
Max. AC current, A	3 x 12	3 x 18	3 x 18.5	3 x 29	3 x 29
Distortion factor THD, %	< 2.5	< 1.8	< 1.8	< 1.8	< 1.8
Max. efficiency, %	98.0	98.0	98.0	98.2	98.2
European efficiency, %	97.3	97.4	97.5	97.8	97.8
Feed-in starting power, W	20				
Nighttime power consumption, W	< 0.5				

COOLING, AMBIENT CONDITIONS, EMC

Cooling	Natural convection				
Ambient temperature, °C	-25 ... +55				
Elevation	Up to 2000 m above sea level				
Noise, dBA	< 45				
Emitted interference	EN 61000-6-4:2007				
Interference immunity	EN 61000-6-2:2005				
Internal overvoltage protection, type	3 (acc. to EN 61643-11)				
Protection class	I (acc. to IEC 62103)				
Overvoltage category	DC: II, AC: III (acc. To IEC 60664-1)				
Environment classification	4K4H acc. to DIN IEC 721-3-4				
Certification	Current certificates can be found at http://europe.refusol.com/certifications.pdf				
SZS or grid protection	Acc. to VDE 0126-1-1				
Interfaces	Ethernet & RS485				

GENERAL DATA

Type of protection	IP65 as per EN 60529				
Dimensions Width/Height/Depth, mm	535/601/225	535/601/225	535/601/277	535/601/277	535/601/277
Weight, kg	28.5	28.5	35.5	41.5	41.5