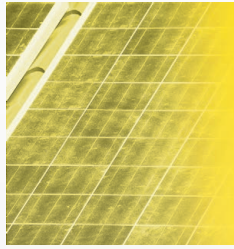


FOTO CONTROL 1f 230/375 DC



The aim of VONSCH developers was to produce highly reliable, true sine wave inverter with high efficiency and a long durability.

FOTO CONTROL 1f 230/375 DC is an inverter for small systems designed to cover own household consumption.

FOTO CONTROL 1f 230/375 DC is a device for transformation of DC voltage generated on the terminals of the solar panel after impact of photons to single-phase sine wave voltage in single-phase AC power grid.

Inverter is designed to produce single-phase voltage with an amplitude of 230 V AC and frequency of 50 Hz in on-grid operation.

FOTO CONTROL 1f 230/375 DC is able to work in a wide range of input voltage - voltage of photovoltaic cells within the range from 200 V DC to 700 V DC.

The advantages of FOTO CONTROL 1f 230/375 DC are low noise, high efficiency, the possibility of extending to three-phase system (operation of multiple inverters) and the possibility of integrating new perspective features. Software required for seamless connectivity to computer is freely available for download in the „support“ section at www.vonsch.sk.

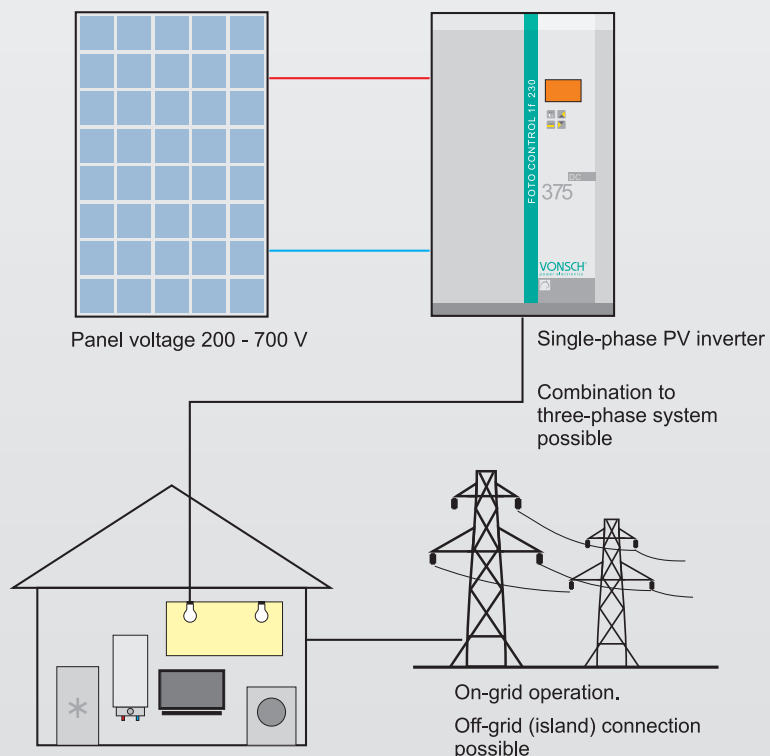
The main advantages of using FOTO CONTROL 1f 230/375 DC:

- high efficiency of 97% is achieved by using the modern SiC FET switching elements and by minimization the self-consumption
- switch off time less than 10 ms by voltage outage and fault
- inbuilt AC cut-off switch for disconnection of the device
- indication of operation parameters
- minimal harmonic distortion of the current (THDi max. 3 %)
- power factor control for static and dynamic support of transmission system, from -0.95 capacitive to -0.95 inductive
- meets the quality requirements of generated voltage and current, meets all required safety requirements
- fast and effective MPP tracking
- design with focus on high reliability and efficiency
- simple parallel coupling of inverters in order to increase power generation
- inbuilt DC input and AC output fusing
- possibility of extending the standard warranty

Communication possibilities:

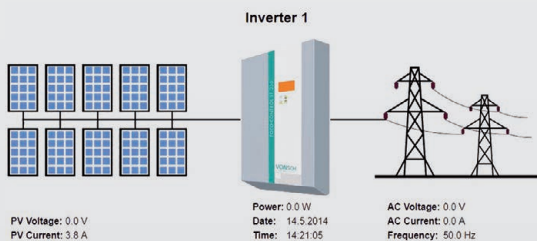
- communication interface RS485, communication protocol MODBUS RTU, for connecting the control system
- user friendly graphical display
- communication module RM-WEB for on-line visualization

ON-GRID solar system



TECHNICAL DATA - FOTO CONTROL 1f 230/375 DC

Rated permanent power	$P_N = 3300 \text{ VA}$ at ambient temperature $T_A = 25 \text{ }^\circ\text{C}$
Output power derating behaviour *	Power P_N is reduced with increasing ambient temperature
Peak power	$1.1 \times P_N$ for duration of 60 s, $1.25 \times P_N$ for duration of 1 ms at $T_A = 25 \text{ }^\circ\text{C}$
Output voltage	$1 \times 230\text{V AC} \pm 10\%$
Output voltage waveform	sine wave
Total harmonic distortion of the output current (THDI)	Max. 3 % at rated AC current
Output frequency	$50 \text{ Hz} \pm 2\%$
Rated DC voltage of PV panels	375 V DC
Operating DC voltage range	200-700 V DC
Rated input DC current	9.2 A
Rated output current AC	14.4 A
RFI filter	Inbuilt input DC RFI filter and output AC RFI filter
Control system	DSP Texas Instruments
Communication	Modbus RTU – RS485
Output power relay	YES
Time of switch off at fault	complies with DIN VDE 0126-1-1
Inverter dimensions w x h x d, weight	254 x 500 x 145 mm, 9.8 kg
Display	graphical, monochromatic
Peak / Euro / MPPT adaption efficiency	97% / 96% / >99%
Protections	Current overloading, Protections undervoltage, overvoltage, short circuit on the AC side, overheating of the inverter
Cooling	Natural air cooling
Absolute altitude of the permitted usage	$\leq 1000 \text{ m}$ above the sea, 1% reduction of power for every 100 m above 1000 m. The installation site altitude in operation is from 0 to 2500 m.
Relative humidity of the air	$\leq 95 \%$ without corrosive and explosive gases, without water vapor and condensates
Ambient working temperature T_A	$+2 \text{ }^\circ\text{C}$ do + $55 \text{ }^\circ\text{C}$ * ($+25 \text{ }^\circ\text{C} \rightarrow 3300 \text{ VA}$, $+40 \text{ }^\circ\text{C} \rightarrow 2500 \text{ VA}$, $+55 \text{ }^\circ\text{C} \rightarrow 1500 \text{ VA}$)
Cover	IP23 (OPTION IP43)
Storage ambient temperature	$-20 \text{ }^\circ\text{C} \sim +70 \text{ }^\circ\text{C}$
Standards compliance	Safety: EN 50178, EMC emissions: EN 61000-6-3 Harmonic distortion: EN 61000-3-11, EN 61000-3-12, EMC immunity: EN 61000-6-1
Instructions EEC	2004/108/EEC, 2006/ 95/EEC



 Inverter has not received any command to start

