

## Combo/Innova

TECHNOLOGY:	<b>TRUE ON LINE Double Conversion</b>
CLASSIFICATION:	<b>VFI-SS-111</b> (EN 62040-3)
POWER RANGE:	<b>10, 20 kVA</b>
No. OF PHASES:	<b>3:1 / 1:1</b>



### ■ APPLICATIONS

- Servers
- Workstations
- Building infrastructure equipment
- Laboratory equipment
- Tele information systems
- Automation and control systems

### ■ SPECIFICATION

**True On-line Double Conversion Technology (VFI-IEC62040)** provides perfect output voltage parameters, regardless of input voltage and the load.

**Automatic bypass (Static switch)** provides continuous load supply in critical conditions, such as overheating or inverter failure.

**Maintenance bypass** uninterrupted operation of device without turning off the power supply. Separated bypass line gives possibility to provide reserve power supply for load even in case of UPS failure or UPS main circuit breakdown.

**Communication:**  
**RS232, USB** to monitor and to manage work of UPS and load. .

**SNMP adapter** for remote control of UPS and load.

**LCD control panel** displays UPS and power parameters as well as hundreds of useful information in multi-language.

**Small dimensions** requires small area for unit operation.

**High efficiency (>95%)** reduces heat dissipation and limits power consumption costs.

**Possibility to extend backup time** gives possibility to provide precise autonomy time.

**Redundant configuration** in Hot Standby or parallel configuration of 4 units guarantees the highest reliability of critical power supplies.

**Automatic diagnostics** guarantees full device performance, control of components and operating parameters without user intervention.

**High input power factor 0,99** reduces the value of current drawn from the mains.

**The highest output power factor** allows load of versatile characteristics to be connected.

**Wide input frequency range** for normal mode gives possibility for seamless operation with different power sources – as mains or the generating set.

**Easy operation** microprocessor control and fully automatic mode ensure maintenance-free work.

**Automatic startup** ensures maintenance free operation even after the unit was switched off after long time mains failure.

**Cold start** gives possibility to start UPS without main power supply.

**Advanced battery management** gives reliability of optimal charging and using batteries, elongates its lifetime and reduces operating costs.

**Excellent voltage quality** is provided by 3level IGBT inverter and high frequency PWM technology, the output voltage has always stable parameters independent of input disturbances and the load characteristics.

**Configurable work parameters** nominal voltage, frequency, preferred operating mode, communication methods and ability to work as 1/1 or 3/1 provide extended possibility to supply different range of equipment.

## Combo/Innova

Model	COMBO 10K	INNOVA 3/1 20K
<b>Power</b>	9 kW / 10 kVA	18kW / 20 kVA
No. Of phases IN : OUT	3:1 / 1:1	
<b>Input</b>		
Voltage	380 / 400 / 415 or 220 / 230 / 240 Vac	
Voltage range	110 – 276 Vac	
Frequency	50 / 60 Hz ± 10%	
Input power factor	≥0,99	
<b>Output</b>		
Power factor	0,9	
Voltage	200 / 208 / 220 / 230 / 240 Vac	
Voltage regulation static/dynamic	±1% / ±3%	
Frequency	50 / 60 ± 0,05 Hz	
Overload capacity for PF=0.8	<112% - const., 123% - 5 min., 146% - 1 min., 168% - 10 sec., >168% - 2 sec.	
Efficiency in On-Line mode/Eco mode	95% / 99 %	
Crest factor	3:1	
<b>Batteries</b>		
Type	Maintenance-free, AGM type VRLA	
Max. number of Internal batteries	2 x 24 x 9Ah/12V	
Cold start	Yes	
Connector of external batteries	Yes	
Charging time	3 – 4 hours up to 90% of capacity (configurable)	
<b>Weight and dimensions</b>		
Dimensions of UPS [mm] (W x D x H)	350 x 650 x 890	
Weight of UPS without batteries	42 kg	43 kg
Weight of UPS with standard configuration of batteries	24 x 9 Ah – 115kg	2 x 24 x 9 Ah – 183 kg
<b>Communications</b>		
Working indicator	LCD screen, sound alarm	
Communication	RS232, USB, REPO, Dry Contact, Parallel	
<b>Environmental</b>		
Noise level (depends how many modules)	<52 dB	<55 dB
Operating temperature for UPS	0°C ÷ 40°C	
Recommended operating temperature for UPS	15°C ÷ 25°C	
Storage temperature	-20°C ÷ 40°C	
Humidity	0 ÷ 95% (without condensing)	
<b>Certification</b>		
EMC	EN62040-2	
Standards	CE, EN62040-1, EN 61000-4-1, EN 61000-4-2, EN 61000-4-3, EN 61000-4-4, EN 61000-4-5, EN 61000-2-2	
<b>Options</b>		
- SNMP card	- External batteries in battery packs	
- Uninterruptible external maintenance bypass	- Environmental sensor (EMD)	
- AS 400		