



STATIC CONVERTER **KONvert**

KONČAR **KONvert** static full power converter for wind turbines with:

- Permanent magnet synchronous generator (PMSG)
- Electrically excited synchronous generator (EESG)
(Integrated excitation system inside converter cubicle)
- Asynchronous induction generator with squirrel cage rotor

Liquid cooled static converter **KONvert** is developed for KONČAR's direct drive wind turbine series **KO-VA** with electrically excited synchronous generator. It can be integrated in any other type of wind turbine.



KONvert

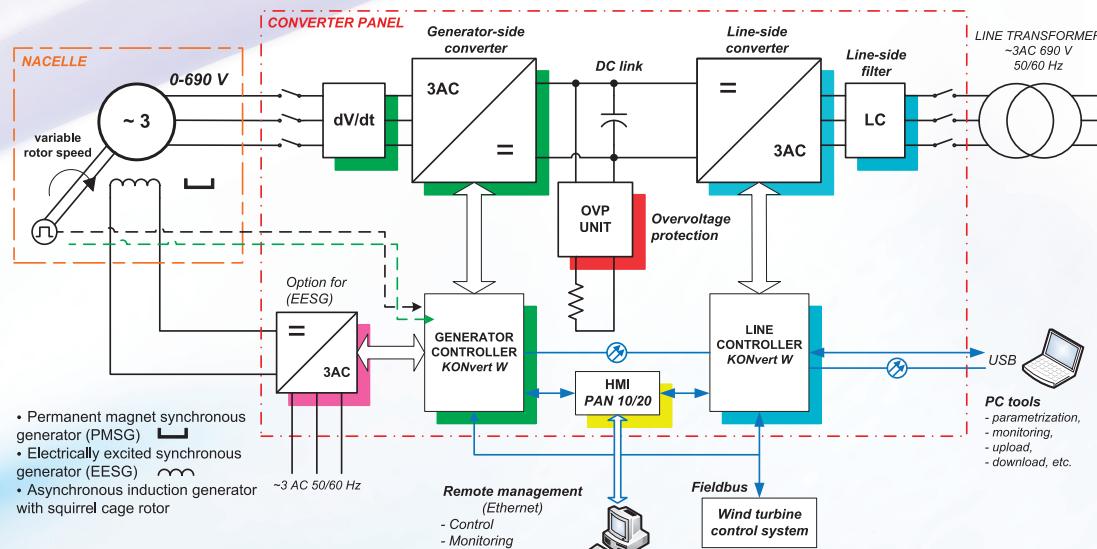
KONvert HIGHLIGHTS

- Flexibly design for use in any single type of wind turbine
- Liquid cooled
- Remote monitoring
- Reliable operation
- Low cost maintenance
- Easy to use (user friendly) interface
- Robust and compact design
- High operation safety
- Reactive power management
- Fault ride-through capability (LVRT)
- Frequency converter design with two (2) parallel connected sub-converter
- Costumer design possibility

TECHNICAL DATA

Continuous power rating	up to 1500 kW
Nominal AC voltage	3 ~ 690 V
Nominal DC-link voltage	1100 V
Nominal line frequency	50 / 60 Hz
Power factor	0,95 ind - 1 - 0,95 cap adjustable
Protection class	≤ IP54

Static converter KONvert

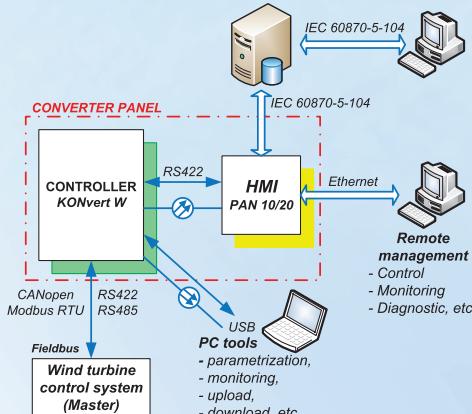


POWER UNIT

Converter type	2-level, 4Q-IGBT modules, VSI liquid-cooled
Over-voltage protection unit	Chopper IGBT, liquid-cooled

HMI

Remote management PAN 10 / 20	
Interfaces	RS422 Fiber optic Ethernet
Protocols	IEC 60870-5-104 KONPROT-05



CONTROL UNIT

Controller	Končar digital controller KONvert W with DSP
<ul style="list-style-type: none"> measurement, supervising, diagnostic and control in real-time process integrated converter protection functions monitoring of basic variables communication with supervising / remote system 	
Power control	6 pulse IGBT 3-phase
Additional power control (option for EESG)	Chopper IGBT, Rectifier
Interfaces	USB (PC tools) RS422 RS485 Fiber optic (option, PC tools)
Protocols	Modbus RTU CANOpen

Generator controller - KONvert W

Control application (options)	<ul style="list-style-type: none"> PM synchronous generator, EE synchronous generator, Asynchronous induction squirrel cage generator
Generator setpoint	Torque
Additional control functions (option for EESG)	<ul style="list-style-type: none"> Integrated excitation system control generator voltage control excitation current control

Line controller - KONvert W

Line-side setpoint	Reactive power (current) / Power factor Grid reactive current management function
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KONČAR

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OPTIONS

In the converter cubicle can be integrated additional features, such as:

Integrated excitation system (option for EESG)	Chopper IGBT, Rectifier liquid cooled
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