



## VENCON Hybrid

- ▼ **Flexible**
  - Optional expandability
  - Unlimited stand-alone network capability
- ▼ **Robust**
  - Proven technology
  - Easy to maintain and low-wear
  - Quick replacement of individual components (modular design)
- ▼ **Hybrid application**
  - 3 DC channels
  - 2 AC channels
- ▼ **Power range**
  - 150 kW to > 10 MW
  - Delivery of all system components incl. storage possible
- ▼ **Further options**
  - We offer the complete engineering



**VENCON**  
VENSYS HYBRID CONVERTER

# TECHNICAL DATA

General specification	VENCON Hybrid (1AC150/3DC120)	VENCON Hybrid (1AC300/3DC120)	VENCON Hybrid (2AC150/3DC120)
Article no.	24540	23440	24355
Dimensions L x W x H		1213 x 656 x 2351 <sup>1</sup> mm	
Weight	790 kg	980 kg	980 kg
Indoor housing	IP20	IP20	IP20
Volume		77 dB(A)@1m at P <sub>Nom</sub>	
Temperature range, operation		- 20 to + 40 °C, > 40 to + 50 °C = Derating	
Temperature range, storage		0 to + 40 °C	
Cable entry		At the bottom	
Cooling		Air cooling <sup>2</sup>	
Place of installation		2000 m > 2000 m optional	
Humidity		< 95 % non-condensing	
Standby consumption		< 100 W	
Efficiency		> 97 %	
<b>Communication</b>			
Display		Touchscreen	
Communication		MODBUS-TCP / Ethernet	
Web-Interface		included	
<b>AC parameters for mains parallel operation</b>			
Nominal voltage		400 V	
AC voltage range		360 – 440 V	
Apparent power	167 kVA	333 kVA	2 x 167 kVA
Nominal power	150 kW	300 kW	2 x 150 kW
Rated current	216 A	433 A	2 x 216 A
Mains frequency		50 / 60 Hz	
Frequency range		45 - 55 Hz / 55 - 65 Hz	
Power factor at P <sub>Nom</sub>		0,9 cap to 0,9 ind	
Reactive power setting range	- 73 kVar to 73 kVar	- 145 kVar to 145 kVar	2 x - 73 kVar to 73 kVar
THDI		< 2,5 % at rated power	
AC connection		3/PEN / 3/N/PE	
Mains protection		U<<, U<, U>, U>>, f<, f>	
<b>AC parameters for island operation</b> <sup>3</sup> Additional components required, for parallel connection see data sheet conceptual design of island systems			
Unbalanced load		100 %	
AC overload		35% < 5s; 10% < 5 min <sup>4</sup>	
Switchover time Grid - Island	< 3 s → with VENTransfer	< 3 s → with VENTransfer	Uninterruptible
Switchover time Island - Grid	5 s → with VENTransfer	5 s → with VENTransfer	< 5 s mit VENPass
Online UPS operation	optional	optional	included
Black start capable		yes <sup>5</sup>	
Short circuit current		1,35 x I <sub>n</sub>	
THDU		< 1,5 % at rated power	
Switchover box/VENTransfer		optional	
<b>AC coupling FI operation</b>			
AC voltage range	-	-	0 – 480 V
Nominal voltage	-	-	400 V
Rated current	-	-	216 A
Rated power	-	-	150 kW
Frequency	-	-	variable
<b>DC parameters</b>			
Nominal voltage		600 V DC	
Voltage / operating range		0 V - 820 V DC	
Max. input voltage		820 V DC	
DC connections		3	
Max. current per DC connection		200 A	
Rated power		3 x 120 kW	
Overload DC		-	
<b>Additional parameters PV</b>			
Max. open-circuit voltage		850 V DC	
MPP voltage range		300 V – 820 V DC	
Voltage / operating range		100 V – 820 V DC	
Max. connected load MPPT		180 kW (50% overdimens.)	
<b>Protective devices</b>			
AC-side		Circuit breaker + fuse	
DC-side		Fuses + contactors	
Grid monitoring		Included	
Overheating protection		Included	
Overvoltage protection		AC/DC Type 2 included	
Insulation monitoring		optional	
<b>Certification</b>		IEC 62477-1, VDE-AR-N 4110, IEC 61000-6-2, IEC 61000-6-4, EN 55011	

<sup>1</sup> incl. 200 mm socket <sup>2</sup> 2.500 m<sup>3</sup>/h supply air with max. 40 °C required <sup>3</sup> Additional components required, for parallel connection see data sheet conceptual design of island systems

<sup>4</sup> The battery voltage must be able to supply at least 750 VDC and at least 3 x 200 A <sup>5</sup> Depending on the battery used

# VENSYS VENCON

Grid-connected and grid-independent applications



150/300 kW AC  
Mains parallel operation



120 kW DC  
PV system



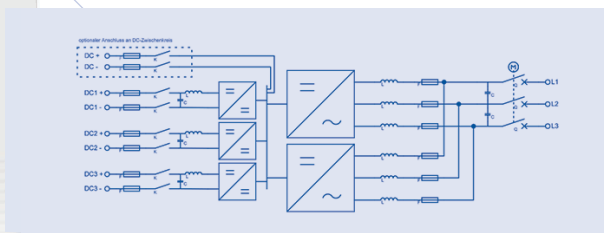
120 kW DC  
Battery storage 1



120 kW DC  
Battery storage 2



Optional connection  
to DC link



Diesel generator



Grid



150 kW AC  
Island operation



120 kW DC  
PV system



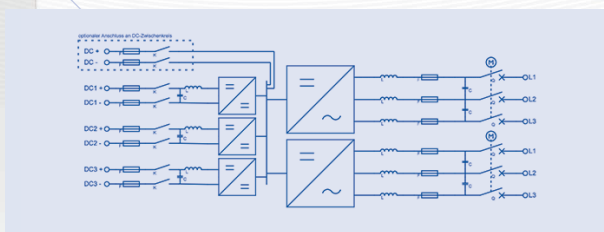
120 kW DC  
Battery storage 1



120 kW DC  
Battery storage 2



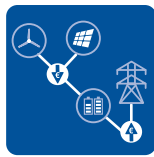
Optional connection  
to DC link



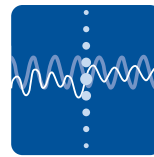
# APPLICATIONS at a glance



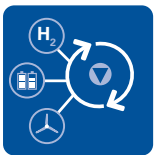
PRIMARY & SECONDARY  
CONTROL POWER



ARBITRAGE TRANSACTIONS



ACTIVE HARMONIC FILTER



HYBRID APPLICATIONS



UNINTERRUPTIBLE  
POWER SUPPLY (UPS)



COMPENSATION OF  
VOLTAGE DIPS



PEAK-SHAVING



MAINS FREQUENCY  
STABILIZATION



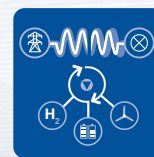
ISLAND NETWORK OPERATION



PEAK-SHIFTING



STATIC STRESS  
MAINTENANCE



REACTIVE POWER  
COMPENSATION

## VENSYS Elektrotechnik GmbH

Dieselstraße 12  
49356 Diepholz  
Deutschland

T +49 5441 92630-0 F +49 5441 92630-11  
sales@vensys-elektrotechnik.de  
www.vensys-elektrotechnik.de

**Publisher:** VENSYS Elektrotechnik GmbH. All rights reserved. The content of this document is for information purposes only. Subject to change. VENSYS does not accept responsibility or any kind of guarantee for the accuracy of the information provided. Reproduction, use or distribution not permitted without our prior written consent.  
**Photos:** Adobe Stock, istock VENSYS. **Last updated:** February 2025