



HYBO CABINET INVERTERS

INDOOR FAMILY

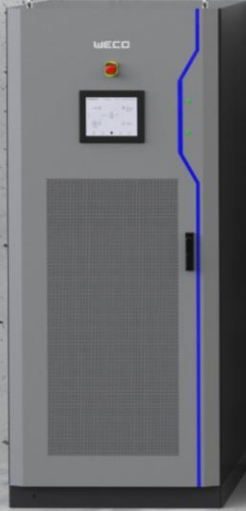
Innovative Hybrid Inverters for BESS Applications On and Off-Grid

100 kW – 500 kW



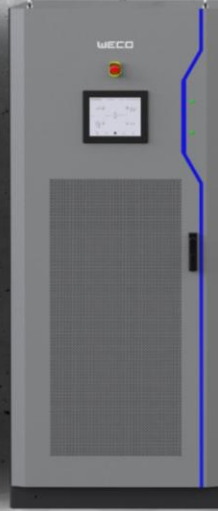
TL x10 SCALABILITY

HYBO TL PCS
Single Door



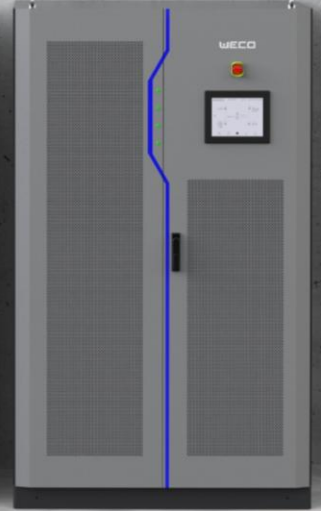
Scalable Up To :
3 MW PCS

HYBO TL HYBRID
Single Door



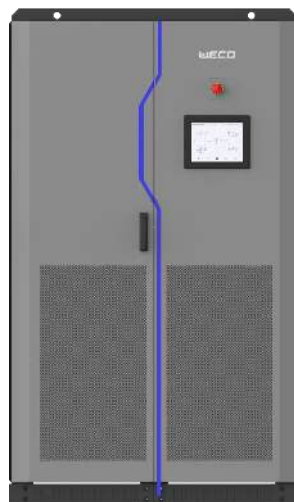
Scalable Up To:
1.2 MW PCS / 1.2MW PV
1.2 MW PCS / 1.8 MW PV

HYBO TL HYBRID
Dual Door



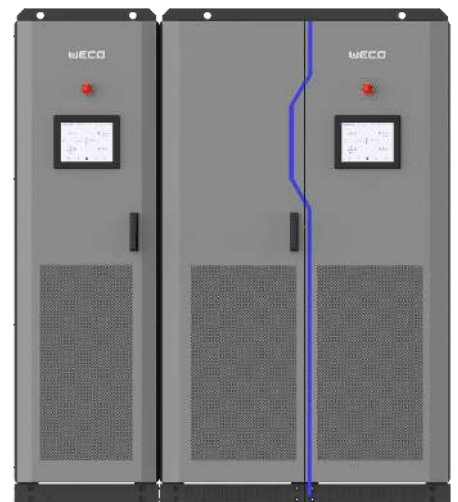
Scalable Up To:
2.4 MW PV / 2.4 MW PCS

CS~TS x4 SCALABILITY



HYBO TS PCS
Dual Door

Scalable Up To:
2.4 MW PCS



HYBO CS HYBRID
Dual Door

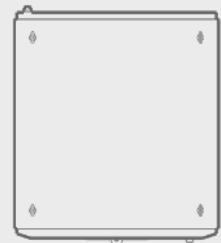
Scalable Up To:
2 MW PCS / 2.9 MW PV

HYBO TL PCS

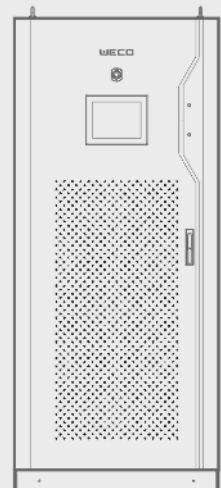
TRANSFORMERLESS PCS INVERTER

Specifications

	120	180	240	300	
BATTERY	Min. Battery Voltage				680 V
	Min. Number Of Batteries In Series				15 Battery Modules
	Max. Battery Voltage				1000 V
	Max. Number Of Batteries In Series				17 Battery Modules
	Battery Input Channels				4
	Max. Charging / Discharging Power				120 kW 180 kW 240 kW 300 kW
AC SIDE	Grid Type				3L + N + GND
	Rated Power AC Side				120 kW 180 kW 240 kW 300 kW
	Rated Current AC Side				172 A 258 A 344 A 430 A
	AC Breakers And Interruption Capacity				250 A / 70 kA 315 A / 70 kA 400 A / 70 kA 500 A / 70 kA
	Rated Voltage				400 Vac
	Voltage Range				400 Vac ± 15 %
	Rated Frequency (Hz)				50 Hz / 60 Hz
	Frequency Range				± 3 Hz
	Power Factor (Off Grid)				-0.8 ~ +0.8
	Frequency Accuracy				0.2 Hz
	Voltage Ripple				< 3 %
	Current Ripple				< 2 %
	Output Harmonic Wave				< 3 %
	Phase Unbalance Load (Off-Grid W/STS Only)				100%
	BACKUP EPS (OPTIONAL)	STS For EPS (EPS Load Support)			Optional Accessory N/A
		STS Switch Time ON To Off Grid			
STS Switch Time OFF To ON Grid				30 ms	
EPS Overload Support				0%	
EPS Max. Power (Only With STS Installed)				100%	
EPS Critical Load Support				EPS Output Can Support Individually Connected Loads Under Each Inverter	
EPS Output AC Breaker Interruption Capacity				250 A / 70k A 315 A / 70 kA 400 A / 70 kA N/A	
SYSTEM	Reaction Time To External Commands				200 ms
	Switch Time From Charge To Discharge				20 ms
	Switch Time From Discharge To Charge				20 ms
	System Start Up Capability Off-Grid			OFF Grid + Battery = Operation Granted N/A	
Emergency Stop Intervention				600 ms	
ENVIRONMENT	IP Rating				IP20
	Working Temperature				-20 °C ~ +55 °C (Over 45 °C Derating)
	Humidity				0 % RH ~ 95 % RH, Non-condensing
	Working Altitude				At 45 °C, 2000 m (No Derating), 2000 m ~ 4000 m Derating
Noise				< 75 Db	
INTERFACE	Communication				RS485, CAN, Wi-Fi (SUNSPEC)
	Protocol				CAN, Modbus TCP/IP
OTHERS	Installation				Indoor In Controlled Temperature Room
	Maximum Efficiency				97%
	Isolation				Transformer-less
	Protection Class				Class I
	Cooling Type				Forced Air
	Dimensions (W x D x H) (mm)				1177 x 1000 x 2150
Weight				470 kg 500 kg 530 kg 530 kg	



1000mm
(40.0 in)



2150mm
(84.6 in)



1177mm
(46.34in)

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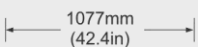
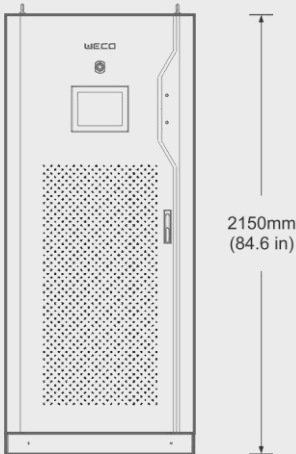
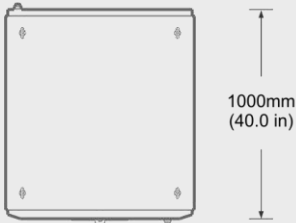


HYBO TL HYBRID

TRANSFORMERLESS HYBRID INVERTER

Specifications

	120/120	120/180	
PV INPUT	MPPT Max. Voltage Input	650 V	
	MPPT Max. Current Input	200 A	
	MPPT Max. Power Output	60 kW x 2	60 kW x 3
	PV Max. Design Power Input	84 kW x 2	84 kW x 3
	MPPT Input Terminals	2 x 70 mm ²	3x 70 mm ²
	MPPT Start Up Voltage	200 V	
	MPPT Low Voltage Cut Off	130 V	
	MPPT Operative Working Range	200-650 V	
MPPT Input Breaker And Capacity	2 x 250 A	3 x 250 A	
PV COMBINER BOX	MPPT Input Protection Breaker	Automatic Over Current Protection / 20 kA Interruption Capacity	
	Combiner Box Strings Inputs Per MPPT	12 Strings 6 mm ² per input	
	Number Of Combiner Box Per Each HYBO	2	3
	PV String Max. Current Per Channel	16 A	
	Anti Reverse Connection Protection Per Channel	Yes	
	Max. PV Input Design Power Per Channel	7000 W	
	Max. Voltage Input	650 V	
	Combiner Output Per MPPT	70 mm ² (1x Positive 1x Negative)	
	Input String Protection Fuse	1 x Channel 20 A (Positive Line)	
	PV Combiner Box IP Rating	IP65	
	PV Combiner Communication Mode	RS485	
Combiner Box Remote Controlled Breaker	250 A		
BATTERY	Remote Emergency Button	Yes (Integrated With The Inverter Emergency Function)	
	Min. Battery Voltage	680 V	
	Min. Number Of Batteries In Series	15 Battery Modules	
	Max. Battery Voltage	1000 V	
	Max. Number Of Batteries In Series	17 Battery Modules	
AC SIDE	Battery Input Channels	4	
	Max. Charging / Discharging Power	120/120 kW	180/120 kW
	Grid Type	3L + N + GND	
	Rated Power Output AC Side	120 kW	120 kW
	Rated Current	172 A	172 A
	AC Breakers And Interruption Capacity	250 A / 50 kA	250 A / 50 kA
	Rated Voltage	400 VAC	
	Voltage Range	400 VAC ± 15 %	
	Rated Frequency (Hz)	50 Hz / 60 Hz	
	Frequency Range	± 3 Hz	
	Power Factor (Off Grid)	-0.8 ~ +0.8	
	Frequency Accuracy	0.2 Hz	
	Voltage Ripple	< 3 %	
	Current Ripple	< 2 %	
BACKUP (Optional)	Output Harmonic Wave	< 3 %	
	Phase Unbalance Load (Off-Grid w/STS Only)	100%	
	STS For EPS	Optional Accessory	
	STS Switch Time On To Off Grid	20 ms (Linear Load)	
	STS Switch Time OFF To ON Grid	30 ms	
	EPS Overload Support	0%	
	EPS Max Power (Only With STS installed)	Support 100% of the Inverter Full Power	
AC AUXILIARY INPUT	EPS Output AC Breaker Interruption Capacity	250 A / 50 kA	250 A / 50 kA
	AC Generator Input Voltage	400 V 3P + N + GND	
	AC Input Voltage Range	400 V +/- 15%	
SYSTEM	AC Input Voltage Protection Breaker	250 A / 40 kA	250 A / 40 kA
	Reaction Time To External Commands	200 ms	
	Switch Time From Charge To Discharge	20 ms	
	Switch Time From Discharge To Charge	20 ms	
	Operation Mode PV + Grid Only (No Battery)	Supported	
	System Start Up Capability ON Grid (No Battery)	PV + Grid = Operation Granted	
ENVIRONMENT	System Start Up Capability OFF Grid	Battery Only = Operation Granted	
	Emergency Stop Intervention	600 ms	
	IP rating	IP20	
	Working Temperature	-20 °C ~ 55 °C (Derating T > 45 °C)	
INTERFACE	Humidity	0 % RH ~ 95 % RH, Non-condensing	
	Working Altitude	T < 45 °C: 2000 m (No Derating), 2000 m ~ 4000 m Derating	
	Noise	< 75 dB	
OTHERS	Communication	RS485, CAN, Wi-Fi (SUNSPEC)	
	Protocol	CAN, ModBus TCP/IP	
	Installation	Indoor In Controlled Temperature Room	
	Maximum Efficiency	97%	
	Isolation	Transformer-less	
	Protection Class	Class I	
	Cooling Type	Forced Air	
	Dimensions (W x D x H) (mm)	1077 x 1000 x 2150	
	Weight	570 kg	600 kg



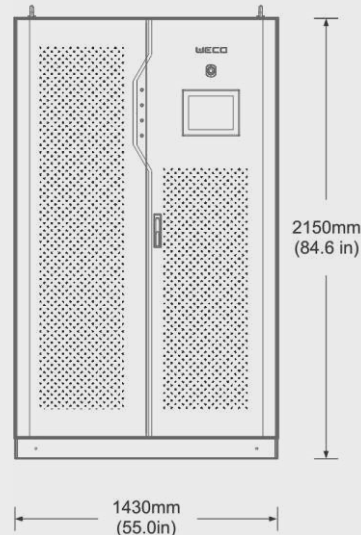
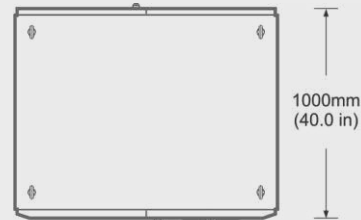
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HYBO TL HYBRID

TRANSFORMERLESS HYBRID INVERTER

Specifications

	180/120	180/180	180/240	240/180	240/240	
PV INPUT	MPPT Max. Voltage Input					650 V
	MPPT Max. Current Input					200 A
	MPPT Max. Power Output					60 kW x 2 60 kW x 3 60 kW x 3 60 kW x 4 60 kW x 4
	PV Max. Design Power Input					84 kW x 2 84 kW x 3 84 kW x 3 84 kW x 4 84 kW x 4
	MPPT Input Terminals					2*70 mm ² 3x 70 mm ² 3x 70 mm ² 4x 70 mm ² 4x 70 mm ²
	MPPT Start Up Voltage					200 V
	MPPT Low Voltage Cut Off					130 V
	MPPT Operative Working Range					200-650 V
	MPPT Input Breaker And Capacity					2 x 250 A 3 x 250 A 4 x 250 A 3 x 250 A 4 x250 A
	MPPT Input Protection Breaker					Automatic Over Current Protection / 20 kA Interruption Capacity
PV COMBINER BOX	Combiner Box Strings Inputs Per MPPT					12 Strings 6 mm ² per input
	Number Of Combiner Box Per Each HYBO					2 3 4 3 4
	PV String Max. Current Per Channel					16 A
	Anti Reverse Connection Protection Per Channel					Yes
	Max. PV Input Design Power Per Channel					7000 W
	Max. Voltage Input					680 V
	Combiner Output Per MPPT					70 mm ² (1x Positive 1x Negative)
	Input String Protection Fuse					1 x Channel 20 A (Positive Line)
	PV Combiner Box IP Rating					IP65
	PV Combiner Communication Mode					RS485
BATTERY	Combiner Box Remote Controlled Breaker					250 A
	Remote Shut Down					Yes (Integrated With The Inverter Emergency Function)
	Min. Battery Voltage					680 V
	Min. Number Of Batteries In Series					15 Battery Modules
	Max. Battery Voltage					1000 V
	Max. Number Of Batteries In Series					17 Battery Modules
	Battery Input Channels					4
	Max. Charging / Discharging Power					180/180 kW 180/180 kW 240 kW/180 kW 240 kW/240 kW 240 kW/240 kW
	Grid Type					3L + N + GND
	AC SIDE	Rated Power Output AC Side				
Rated Current					258 A 258 A 258 A 344 A 344 A	
AC Breakers And Interruption Capacity					315 A / 70 kA 315 A / 70 kA 315 A / 70 kA 400 A / 70 kA 400 A / 70 kA	
Rated Voltage					400 Vac	
Voltage Range					400 Vac ± 15 %	
Rated Frequency (Hz)					50 Hz / 60 Hz	
Frequency Range					± 3 Hz	
Power Factor (Off Grid)					-0.8 ~ +0.8	
Frequency Accuracy					0.2 Hz	
Voltage Ripple					< 3 %	
BACKUP EPS (OPTIONAL)	Current Ripple					< 2 %
	Output Harmonic Wave					< 3 %
	Phase Unbalance Load (Off-grid With STS Only)					100%
	STS For EPS					Optional
	STS Switch Time On To Off Grid					20 ms (Linear Load)
	STS Switch Time OFF To ON Grid					30 ms
	EPS Overload Support					0%
	EPS Max Power (Only With STS Installed)					100%
	EPS Output AC Breaker Interruption Capacity					315 A / 70 kA 315 A / 70 kA 315 A / 70 kA 400 A / 70 kA 400 A / 70 kA
	AC AUXILIARY INPUT	AC Generator Input Voltage				
AC Input Voltage Range					400 V +/- 15%	
AC Input Voltage Protection Breaker					315 A / 70 kA 315 A / 70 kA 315 A / 70 kA 400 A / 70 kA 400 A / 70 kA	
SYSTEM	Reaction Time To External Commands					200 ms
	Switch Time From Charge To Discharge					20 ms
	Switch Time From Discharge To Charge					20 ms
	Operation Mode PV + Grid Only (No Battery)					Supported
	System Start Up Capability ON Grid (No Battery)					PV + Grid = Operation Granted
ENVIRONMENT	System Start Up Capability OFF Grid					Battery Only = Operation Granted
	Emergency Stop Intervention					600 ms
	IP rating					IP20
	Working Temperature					-20 °C ~ +55 °C (Derating T > 45 °C)
	Humidity					0 % RH ~ 95 % RH, Non-condensing
INTERFACE	Working Altitude					T < 45 °C: 2000 m (No Derating), 2000 m ~ 4000 m Derating
	Noise					< 75 dB
	Communication					RS485, CAN, Wi-Fi (SUNSPEC)
	Protocol					CAN, ModBus TCP/IP
	Installation					Indoor In Controlled Temperature Room
OTHERS	Maximum Efficiency					97%
	Isolation					Transformer-less
	Protection Class					Class I
	Cooling Type					Forced Air
	Dimensions (W x D x H) (mm)					1430 x 1000 x 2150
Weight					720 kg 750 kg 780 kg 780 kg 800 kg	



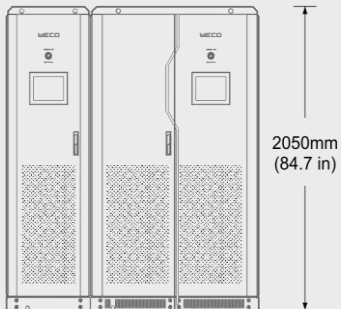
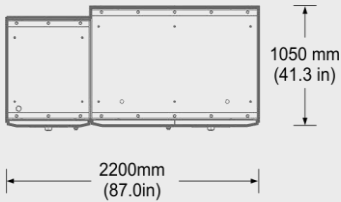


HYBO CS

TRANSFORMER BASED HYBRID INVERTER

Specifications

	100 + MPPT	150 + MPPT	250 + MPPT	500 + MPPT	
PV INPUT	MPPT Max. Voltage Input 650 V				
	MPPT Max. Power Output	120/180/240kW	120/180/240kW	300/360kW	600/660/720kW
	Number Of MPPT	2/3/4	2/3/4	5/6	10/11/12
	MPPT Max. Current Input	200 A			
	PV Max. Design Power Input	84 kW each			
	MPPT Max. Power Output	60 kW each			
	MPPT Input Terminals	70 mm ² each			
	MPPT Start Up Voltage	250 V			
	MPPT Low Voltage Cut Off	150 V			
	MPPT Operative Working Range	250-650 V			
PV COMBINER BOX	MPPT Input Protection Breaker Automatic Over Current Protection / 20 kA Interruption Capacity				
	Combiner Box Strings Inputs Per MPPT 12 Strings Inputs 6 mm ² each MPPT				
	Combiner Box Output Cables 70 mm ² each				
	Numbers Of Combiners Per Each HYBO	2/3/4	2/3/4	5/6	10/11/12
	PV String Max. Current Per Channel	16A			
	Max. PV Input Design Power Per Channel	7000 W			
	Max. Voltage Input	650 V			
	String Output To Inverter	70 mm ²			
	String Protection Fuse	1 x Channel 20 A			
	PV Combiner Box IP Rating	IP65			
BATTERY	PV Combiner Communication Mode RS485				
	Combiner Box Remote Controlled Breaker 250 A				
	Remote Emergency Button Yes				
	Min. Battery Voltage 680V				
	Number Of Batteries In Series 15				
	Max. Battery Voltage 850 V				
	Battery Input Channels (*2) 1				
	Max. Charging	120/180/240 kW	150/180/240 kW	300/360 kW	600/660/720 kW
	Max. Discharging Power	100 kW	150 kW	250 kW	500 kW
	AC SIDE	Grid Type 3L + N + GND			
Rated Power Output AC Side		100 kW	150 kW	250 kW	500 kW
Rated Current		144 A	216 A	361 A	722 A
AC Breakers And Interruption Capacity		200 A/25 kA	250 A /25 kA	600 A/35 kA	1250 A/50 kA
Rated Voltage		400 VAC / 208 VAC (*3)			
Voltage Range		400 VAC ± 15 % / 208 VAC ± 15 % (*3)			
Rated Frequency (Hz)		50 Hz / 60 Hz			
Frequency Range		± 3 Hz			
Power Factor (Off-Grid)		-1 ~ +1			
Frequency Accuracy		0.2 Hz			
BACKUP (OPTIONAL)	Voltage Ripple < 3 %				
	Current Ripple < 2 %				
	Output Harmonic Wave < 3 %				
	Phase Unbalance Load (Off-Grid w/STS Only) 100%				
	STS For EPS Optional Accessory				
	STS Switch Time ON To Off Grid 20 ms (Linear Load)				
	STS Switch Time OFF To ON Grid 30 ms				
	EPS Overload Support 110% Continuous				
	EPS Max. Power (Only With STS Installed) 100%				
	AC AUXILIARY INPUT	EPS Output AC Breaker Interruption Capacity 200 A / 25 kA 250 A / 25 kA 600 A / 35 kA 1250 A / 50 kA			
AC Generator Input Voltage (*1) 400 V 3P + N + GND / 208 V 3P + N + GND (*3)					
AC Input Voltage Range 400 V +/- 15% / 400 V +/- 15% (*3)					
AC Input Voltage Protection Breaker 200 A / 25 kA 250 A / 25 kA 600 A / 35 kA 1250 A / 50 kA					
Reaction Time To External Commands 200 ms					
Switch Time From Charge To Discharge 20 ms					
Switch Time From Discharge To Charge 20 ms					
Operation Mode PV + Grid Only (No Battery) Not Supported					
System Start Capability Off-Grid Battery = Operation Granted					
Emergency Stop Intervention 600 ms					
ENVIRONMENT	IP Rating IP20				
	Working Temperature -20 °C ~ +60 °C (Over 50 °C Derating)				
	Relatively Humidity 0 % RH ~ 95 % RH, Non-condensing				
	Working Altitude At 45 °C, 2000 m (No Derating), 2000 m ~ 4000 m Derating				
	Noise < 70 dB				
	Communication RS485, CAN, Wi-Fi (SUNSPEC)				
	Protocol CAN, ModBus TCP, ModBus RTU				
	Installation Indoor, In Controlled Temperature Room				
	Maximum Efficiency 97%				
	Isolation Transformer-less				
OTHER	Protection Class Class I				
	Cooling Type Forced Air				
	Dimensions (W x D x H) (mm)	1200 x 800 x 2050	1200 x 800 x 2050	600 x 720 x 2050 + 1200 x 800 x 2050	600 x D720 x 2050 + 1600 x 1050 x 2050
	Weight	1120/1150/1180 kg	1250/1280/1310 kg	1980/2010 kg	3265/3295/3325 kg
	(*1) The cabinet has one AC input interface only; to connect both the generator and the grid please install an external ATS				
	(*2) The cabinet has one BAT Power input interface; to connect more than 1 battery pack, use the BAT Power Combiner accessory				
	(*3) Available upon request				



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HYBO TS

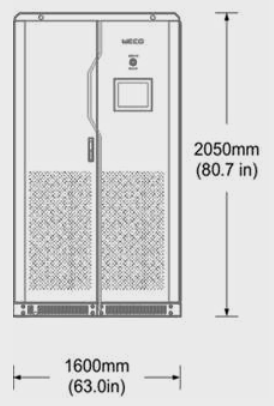
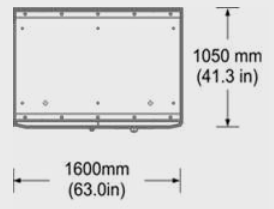
TRANSFORMER BASED PCS INVERTER



Specifications

100 150 250 500

	100	150	250	500		
BATTERY	Min. Battery Voltage		450 V		500 V	
	Min. Number Of Batteries In Series		10		11	
	Max. Battery Voltage		850 V			
	Max. Number Of Batteries In Series		15 Battery Modules			
	Battery Input Channels		1			
	Max. Charging Current		270 A	405 A	670 A	1120 A
AC SIDE	Max. Charging / Discharging Power		100 kW	150 kW	250 kW	500 kW
	Grid Type		3L + N + GND			
	Rated Power Output AC Side		100 kW	150 kW	250 kW	500 kW
	Rated Current		145 A	215 A	360 A	720 A
	AC Breakers And Interruption Capacity		200 A/25 kA	250 A /25 kA	600 A/35 kA	1250 A/50 kA
	Rated Voltage		400 Vac			
	Voltage Range		400 Vac ± 15 %			
	Rated Frequency (Hz)		50 Hz / 60 Hz			
	Frequency Range		± 3 Hz			
	Power Factor (Off Grid)		-1~ +1			
	Frequency Accuracy		0.2 Hz			
	BACKUP EPS (OPTIONAL)	Voltage Ripple		< 3 %		
Current Ripple		< 2 %				
Output Harmonic Wave		< 3 %				
Phase Unbalance Load (Off-Grid With STS Only)		100%				
STS For EPS		Built In				
STS Switch Time ON To Off Grid		20 ms (Linear Load)				
STS Switch Time OFF To ON Grid		30 ms				
EPS Overload Support		110%				
EPS Critical Load Support		EPS output ports can be paralleled between inverters (max. 4 inverters in parallel)				
EPS Output AC Breaker Interruption Capacity		200 A/25 kA	250 A /25 kA	600 A/35 kA	1250 A/50 kA	
SYSTEM	Reaction Time To External Commands		200 ms			
	Switch Time From Charge To Discharge		20 ms			
	Switch Time From Discharge To Charge		20 ms			
	System Start Capability OFF Grid		OFF Grid + Battery = Operation Granted			
	Emergency Stop Intervention		600 ms			
ENVIRONMENT	IP Rating		IP20			
	Working Temperature		-20 °C ~ +55 °C (Over 45 °C Derating)			
	Humidity		0 % RH ~ 95 % RH, Non-condensing			
	Working Altitude		At 45 °C, 2000 m (No Derating), 2000 m ~ 4000m Derating			
	Noise		< 70 dB			
INTERFACE	Communication Protocol		RS485, CAN, Wi-Fi (SUNSPEC) CAN, ModBus TCP, ModBus RTU			
	Installation		Indoor In Controlled Temperature Room			
	Maximum Efficiency		97%			
OTHERS	Isolation		Isolation Transformer (Built-In)			
	Protection Class		Class I			
	Cooling Type		Forced Air			
STANDARDS	Dimensions (W x D x H) (mm)		800 x 800 x 2050	800 x 800 x 2050	1200 x 800 x 2050	1600 x 1050 x 2050
	IEC And Grid Codes		CE LVD EN62109-1/-2, EN62447-1, EN61000-6-2, EN61000-6-4, CGC NSR097 (South Africa)			



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HYBO CS

HYBRID INVERTERS

WECO

The Next
Generation
**BESS
INVERTER** is
here and
it's WeCo.



Hybo Hybrid Indoor Inverters encompass economic, environmental, and operational benefits, making them a compelling choice for those seeking a sustainable and reliable energy solution for indoor spaces.

WECO

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