

WECCO

Efficient.
Flexible.
Durable.



HYBO CABINET INVERTERS

OUTDOOR FAMILY

Innovative Hybrid Inverters for BESS Applications ON and OFF grid

120 kW - 300 kW

HYBO TL

IP 55 **OUTDOOR**

WECO



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

Black RAL 9011



COLOURS



White RAL 9003

HYBO TL OUTDOOR

Scalability x10
Transfer Time 20 ms

ON/OFF GRID CAPABILITY

HYBO TL & BESS

IP 55 **OUTDOOR**



HYBO TL OUTDOOR & Li-Kool 233 kWh



HYBO TL OUTDOOR & A-Kool 115 kWh ~ 215 kWh

HYBO TL OUTDOOR + LI-KOOL & A-KOOL

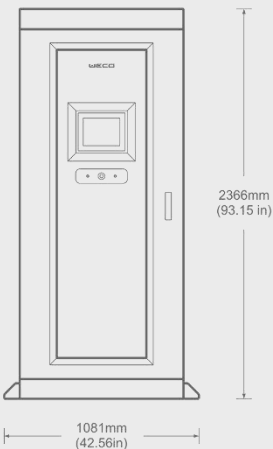
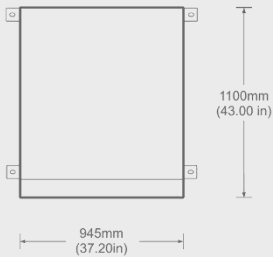
SIDE BY SIDE SEAMLESS ASSEMBLY

HYBO TL IBRIDO

OUTDOOR VERSION SINGLE DOOR

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
	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 COMBINER BOX	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	
Remote Emergency Button		Yes (Integrated With The Inverter Emergency Function)	
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	120/120 kW	180/120 kW
AC SIDE	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 %	
	Output Harmonic Wave	< 3 %	
Phase Unbalance Load (Off-Grid W/STS Only)	100%		
BACKUP (Optional)	STS For EPS	Optional Accessory	
	STS Switch Time On To Off Grid	20ms (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 / 50 kA	250 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)	Supported	
	System Start Up Capability On-Grid (No Battery)	PV + Grid = Operation Granted	
	System Start Up Capability Off-Grid (No Battery)	Battery Only = Operation Granted	
ENVIRONMENT	Emergency Stop Intervention	600 ms	
	IP rating	IP55	
	Working Temperature	-20 °C ~ 55 °C (Derating T > 45 °C)	
	Humidity	0 % RH ~ 95 % RH, Non-condensing	
	Working Altitude	T < 45 °C: 2000 m (No Derating), 2000 m ~ 4000 m Derating	
INTERFACE	Noise	< 75 dB	
	Communication Protocol	RS485, CAN, Wi-Fi (SUNSPEC)	
	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)	1081 x 1100 x 2366	
Weight	670 kg	700 kg	



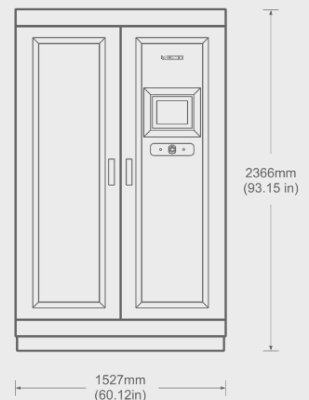
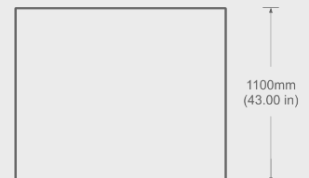
IP 55 OUTDOOR

HYBO TL IBRIDO

OUTDOOR VERSION DOUBLE DOOR

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 3	60 kW x 3	60 kW x 4	60 kW x 4
	PV Max. Design Power Input		84 kW x 3	84 kW x 3	84 kW x 4	84 kW x 4
	MPPT Input Terminals		3x 70 mm ²	4x 70 mm ²	3x 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		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		3	3	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					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
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 (kW)		180/180	180/180	240/180	240/240
	Grid Type					3L + N + GND
	AC SIDE	Rated Power Output AC Side		180 kW	180 kW	240 kW
Rated Current		258 A	258 A	258 A	344 A	
AC Breakers And Interruption Capacity		315 A / 70 kA	315 A / 70 kA	315 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, W/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
	AC Generator Input Voltage		400 V 3P + N + GND			
AC AUXILIARY INPUT	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
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		IP55			
	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)			
OTHERS	Protocol		CAN, ModBus TCP, ModBus RTU			
	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)		1527 x 1100 x 2366				
Weight		920 kg	950 kg	980 kg	980 kg	1010 kg



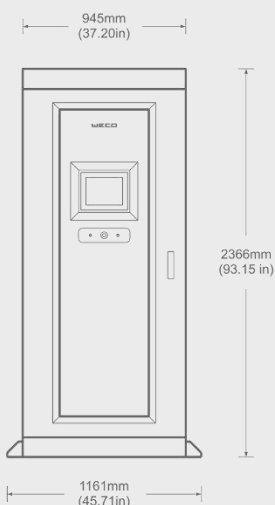
IP 55 OUTDOOR

HYBO TL PCS

OUTDOOR VERSION SINGLE DOOR

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/TS Only)				100%
BACKUP EPS (OPTIONAL)	STS For EPS (Blackout Load Support)			Optional Accessory	N/A
	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 Critical Load Support				EPS Output Can Support Individually Connected Loads Under Each Inverter
	EPS Output AC Breaker Interruption Capacity				250 A / 70 kA / 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				IP55
	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
INTERFACE	Noise				< 75 Db
	Communication				RS485, CAN, Wi-Fi (SUNSPEC)
OTHERS	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)				1161 x 1100 x 2366
Weight				570 kg / 600 kg / 630 kg / 630 kg	



IP 55 OUTDOOR

BATTERY MATCHING CHART



HYBO TL + LI-KOOL 233

0.5C CHARGE



	Power Device	ESS Model	Number of ESS	AC Power	PV Power	Std Capacity	Ratio C-rate	Systems in parallel	Max. Parallel Combined Capacity
PCS	HYBO TL PCS 120	Li-Kool 233	1	120 kW	-	233 kWh	0.5	10	1.2 MW / 2.3 MWh
	HYBO TL PCS 180		1	180 kW		233 kWh	0.5		1.8 MW / 2.3 MWh
	HYBO TL PCS 240		2	240 kW		466 kWh	0.5		2.4 MW / 4.6 MWh
	HYBO L PCS 300		2	300 kW		466 kWh	0.5		3.0 MW / 4.6 MWh
HYBRID	HYBO TL HYBRID 120/120	Li-Kool 233	1	120 kW	120 kW	233 kWh	0.5	10	1.2 MW AC/1.2 MW PV/2.3 MWh
	HYBO TL HYBRID 180/120		1	180 kW	120 kW	233 kWh	0.5		1.8 MW AC/1.2 MW PV/2.3 MWh
	HYBO TL HYBRID 240/180		2	240 kW	180 kW	466 kWh	0.5		2.4 MW AC/1.8 MW PV/4.6 MWh
	HYBO TL HYBRID 240/240		2	240 kW	240 kW	466 kWh	0.5		2.4 MW AC/2.4 MW PV/4.6 MWh



HYBO TL + A-KOOL 215

0.5C CHARGE



	Power Device	ESS Model	Number of ESS	AC Power	PV Power	Std Capacity	Ratio C-rate	Systems in parallel	Max. Parallel Combined Capacity
PCS	HYBO TL PCS 120	A-Kool 215	1	120 kW	-	215 kWh	0.5	10	1.2 MW / 4.3 MWh
	HYBO TL PCS 180		1	180 kW		215 kWh	0.5		1.8 MW / 4.3 MWh
	HYBO TL PCS 240		2	240 kW		430 kWh	0.5		2.4 MW / 8.6 MWh
	HYBO TL PCS 300		2	300 kW		430 kWh	0.5		3.0 MW / 8.6 MWh
HYBRID	HYBO TL HYBRID 120/120	A-Kool 215	1	120 kW	120 Kw	215 kWh	0.5	10	1.2 MW AC/1.2 MW PV/2.1 MWh
	HYBO TL HYBRID 180/120		1	180 kW	120 kW	215 kWh	0.5		1.8 MW AC/1.2 MW PV/2.1 MWh
	HYBO TL HYBRID 240/180		2	240 kW	180 kW	430 kWh	0.5		2.4 MW AC/1.8 MW PV/4.3 MWh
	HYBO TL HYBRID 240/240		2	240 kW	240 kW	430 kWh	0.5		2.4 MW AC/2.4 MW PV/4.3 MWh



HYBO TL + A-KOOL 115

1C FAST CHARGE



	Power Device	ESS Model	Number of ESS	AC Power	PV Power	Std Capacity	Ratio C-rate	Systems in parallel	Max. Parallel Combined Capacity
PCS	HYBO TL PCS 120	A-Kool 115	1	120 kW	-	115 kWh	1.0	10	1.2 MW / 1.15 MWh
	HYBO TL PCS 180		1	180 kW		115 kWh	1.0		1.8 MW / 1.15 MWh
	HYBO TL PCS 240		2	240 kW		230 kWh	1.0		2.4 MW / 2.3 MWh
	HYBO TL PCS 300		2	300 kW		230 kWh	1.0		3.0 MW / 2.3 MWh
HYBRID	HYBO TL HYBRID 120/120	A-Kool 115	1	120 kW	120 kW	115 kWh	1.0	10	1.2MW AC/1.2 MW PV/1.1 MWh
	HYBO TL HYBRID 180/120		1	180 kW	120 kW	115 kWh	1.0		1.8 MW AC/1.2 MW PV/1.1 MWh
	HYBO TL HYBRID 240/180		2	240 kW	180 kW	230 kWh	1.0		2.4 MW AC/1.8 MW PV/2.3 MWh
	HYBO TL HYBRID 240/240		2	240 kW	240 kW	230 kWh	1.0		2.4 MW AC/2.4 MW PV/2.3 MWh

HYBO TL

HYBRID INVERTER



WECO

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

HYBO hybrid outdoor inverters encompass economic, environmental, and operational benefits, making them a compelling choice for those seeking a sustainable and reliable energy solution for outdoor spaces.

Efficient.
Flexible.
Durable.

WECO

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