

TCL



RESIDENTIAL ESS

THREE PHASE HIGH-VOLTAGE

TCL

**THREE PHASE
HIGH-VOLTAGE**





SAFETY

- Overheating protection
- IP65 certification



HIGH EFFICIENCY

- Modular battery design
- Up to 10 inverters in parallel



EASY TO INSTALL

- Compact design
- Easy to setup



FLEXIBLE

- Hybrid system,
AC and DC coupling



INTELLIGENT MANAGEMENT

- Visualize energy flow
- Monitor and optimize energy use
- Easy to setup and connect



TCL-R1-H2 / H3 / H4 / H5 / H6 / H7

Battery Model	TCL-R1-H2	TCL-R1-H3	TCL-R1-H4	TCL-R1-H5	TCL-R1-H6	TCL-R1-H7
ELECTRICAL CHARACTERISTICS						
Battery Type	LiFePO4 Prismatic Cell					
Battery Module	1*TCL-R1-B4.6M 1*TCL-R1-B4.6S	1*TCL-R1-B4.6M 2*TCL-R1-B4.6S	1*TCL-R1-B4.6M 3*TCL-R1-B4.6S	1*TCL-R1-B4.6M 4*TCL-R1-B4.6S	1*TCL-R1-B4.6M 5*TCL-R1-B4.6S	1*TCL-R1-B4.6M 6*TCL-R1-B4.6S
Nominal Capacity[Wh]	9320	13980	18640	23300	27960	32620
Nominal Voltage [V]	89.6	134.4	179.2	224	268.8	313.6
Operating Voltage[V]	81.2 ~ 103	121.8 ~ 154.5	162.4 ~ 206	203 ~ 257.6	243.6 ~ 309.1	284.2 ~ 360.6
Recommend Discharge Current [A]	25					
Max.Charge/Discharge Current [A]	50					
Peak Discharge Current [A]	65 @30sec					
Battery Pack Round-Trip Efficiency [%]	>95					
Depth of discharge [%]	90					
Cycle Life *1	≥6000					
Communication	CAN					
Display	CS: LED*1, CM: LED*6					
Scalability	Max. 7 Modules in Series					
OPERATING CONDITIONS						
Installation Location	Outdoor/ Indoor (Stand)					
Operating Temperature [°C] *2	Charge: 0°C ~ +55°C Discharge: -10°C ~ +55°C					
Storage Temperature [°C]	-10°C ~ +35°C					
Cooling method	Natural Convection					
Humidity [%]	5 ~ 95 (No Condensing)					
Altitude [m]	Max. 2,000					
Mechanical Characteristics						
Dimensions (W*H*D) [mm]	570*380*386	570*380*524	570*380*662	570*380*800	570*380*938	570*380*1076
Weight [kg]	82±1	121±1.5	160±2	199±2.5	238±3	277±3.5
Certificates						
Safety	IEC 62619					
EMC	EN IEC 61000-6-1/2/3/4					
Transportation	UN38.3					
Ingress Protection	IP65					

*1, 25 °C, @90% DOD, 0.5C charging/discharging.

*2, Charge derating will occur between 0°C and +15°C.

TCL-R2-H2 / H3 / H4 / H5 / H6 / H7

Battery Model	TCL-R2-H2	TCL-R2-H3	TCL-R2-H4	TCL-R2-H5	TCL-R2-H6	TCL-R2-H7
ELECTRICAL CHARACTERISTICS						
Battery Type	LiFePO4 Prismatic Cell					
Battery Module	1*TCL-R2-B2.8M 1*TCL-R2-B2.8S	1*TCL-R2-B2.8M 2*TCL-R2-B2.8S	1*TCL-R2-B2.8M 3*TCL-R2-B2.8S	1*TCL-R2-B2.8M 4*TCL-R2-B2.8S	1*TCL-R2-B2.8M 5*TCL-R2-B2.8S	1*TCL-R2-B2.8M 6*TCL-R2-B2.8S
Nominal Capacity[Wh]	5760	8640	11520	14400	17280	20160
Nominal Voltage [V]	115.2	172.8	230.4	288	345.6	403.2
Operating Voltage[V]	97.2 ~ 131.4	145.8 ~ 197.1	194.4 ~ 262.8	243 ~ 328.5	291.6 ~ 394.2	340.2 ~ 459.9
Recommend Discharge Current [A]	25					
Max.Charge/Discharge Current [A]	50					
Peak Discharge Current [A]	65 @30sec					
Battery Pack Round-Trip Efficiency [%]	>95					
Depth of discharge [%]	90					
Cycle Life *1	≥6000					
Communication	CAN, RS485					
Display	CS: LED*1, CM: LED*6					
Scalability	Max. 7 Modules in Series					
OPERATING CONDITIONS						
Installation Location	Outdoor/ Indoor (Stand)					
Operating Temperature [°C] *2	Charge: 0°C ~ +55°C Discharge: -10°C ~ +55°C					
Storage Temperature [°C]	-20°C ~ +55°C					
Cooling method	Natural Convection					
Humidity [%]	5 ~ 95 (No Condensing)					
Altitude [m]	Max. 2,000					
Mechanical Characteristics						
Dimensions (W*H*D) [mm]	570*350*380	570*470*380	570*590*380	570*710*380	570*830*380	570*950*380
Weight [kg]	67.1	99.5	131.9	164.3	196.7	229.1
Certificates						
Safety	IEC 62619					
EMC	EN IEC 61000-6-1/2/3/4					
Transportation	UN38.3					
Ingress Protection	IP65					

*1, 25 °C, @90% DOD, 0.5C charging/discharging.

*2, Charge derating will occur between 0°C and +15°C.

TCL-RTH-8K / 10K / 12K

Hybrid Inverter Model	TCL-RTH-8K	TCL-RTH-10K	TCL-RTH-12K
INPUT PV (only for hybrid)			
Max. Input Power [W]	A:8000 B:5000	A:8000 B:5000	A:9000 B:6000
Max. Input Voltage [V]	1000		
Start-up Input Voltage [V]	160		
Rated Input Voltage [V]	720		
MPPT Operating Voltage Range [V]	160-950		
Max. Input Current [A]	26/14	26/14	26/14
Max. Short-circuit Current [A]	32/16	32/16	32/16
No. of Independent MPP Trackers	2		
No. of Strings per MPP Tracker	2/1	2/1	2/1
BATTERY CONNECTION			
Battery Type	Lithium Battery (LFP)		
Battery Voltage Range [V]	180 - 600 [1]		
Max. Charge/Discharge Current [A]	26.0		
Communication Interface	CAN(Communicate with inverter), RS485 (Upgrade BMS)		
AC INPUT AND OUTPUT (GRID)			
Max. AC Input Power [VA]	16000	16000	16000
Max. AC Input Current (per phase) [A]	24.2	24.2	24.2
Rated Output Power [W]	8000	10000	12000
Max. Output Apparent Power [VA]	8800	11000	13200
Rated Output Current (per phase) [A]	11.6	14.5	17.4
Max. Output Current (per phase) [A]	14.1	17.6	21.2
Rated Grid Voltage [V]	3L/N/PE 380/220; 400/230; 415/240		
Rated Grid Frequency [Hz]	50/60		
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)		
THDI [%]	<3 @Rated Power		
EPS OUTPUT			
Max. Output Apparent Power [VA]	8000	10000	12000
Peak Output Apparent Power (60s) [VA]	14000	15000	15000
Max. Current (per phase) [A]	11.6	14.5	17.4
Rated Output Voltage [V]	3L/N/PE 400/230		
Rated Output Frequency [Hz]	50/60		
Power Factor	1 (Adjustable from 0.8 leading to 0.8 lagging)		
THDv (linear Load) [%]	<3 @Rated Power		
Switch time [ms]	<20		
EFFICIENCY			
Max. Efficiency [%]	98.00		
Euro Efficiency [%]	97.30		
Max. Battery Charge Efficiency (PV to BAT) (@full load) [%]	98.50		
Max. Battery Discharge Efficiency (BAT to AC) (@full load) [%]	97.00		
PROTECTION			
Insulation Monitoring	YES		
Residual Current Monitoring	YES		
DC Reverse Polarity Protection	YES		
Anti-islanding Protection	YES		
AC Short-circuit Protection	YES		
AC Overcurrent/Overvoltage Protection	YES		
DC Switch	YES		
SPD	DC: Type II, /AC: Type II		
AFCI	Optional		
GENERAL DATA			
Dimensions (WxHxD) [mm]	449 x 519 x 198		
Weight [kg]	28		
Installation	Wall-Mounted		
Topology	Transformerless		
Cooling Method	Natural	FAN Cooling	
Noise Emission [db]	35	45	
Max. Operating Altitude [m]	2000		
Operating Temperature Range [°C]	-25 - 60		
Humidity (No Condensation) [%]	0 - 100		
Protection Degree	IP65		
Standby consumption [W]	< 15		
Monitoring Module	WiFi, LAN, 4G, GPRS (Optional)		
Communication	2*RS485, DRM, Ripple Control, USB		
Display	LCD, App, Website		
STANDARD COMPLIANCE (MORE AVAILABLE UPON REQUEST)			
Safety	EN 62109-1, EN 62109-2, EN 62477-1		
EMC	IEC 61000-6-1, IEC 61000-6-3		
Grid Regulation	EN50549-1, C10/11, VDE-AR-N 4105, G98, CEI 0-21		

* More technical characteristics are available on demand and customized.

[1] Minimum operation battery voltage is 150V.



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TCL PHOTOVOLTAIC TECHNOLOGY



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