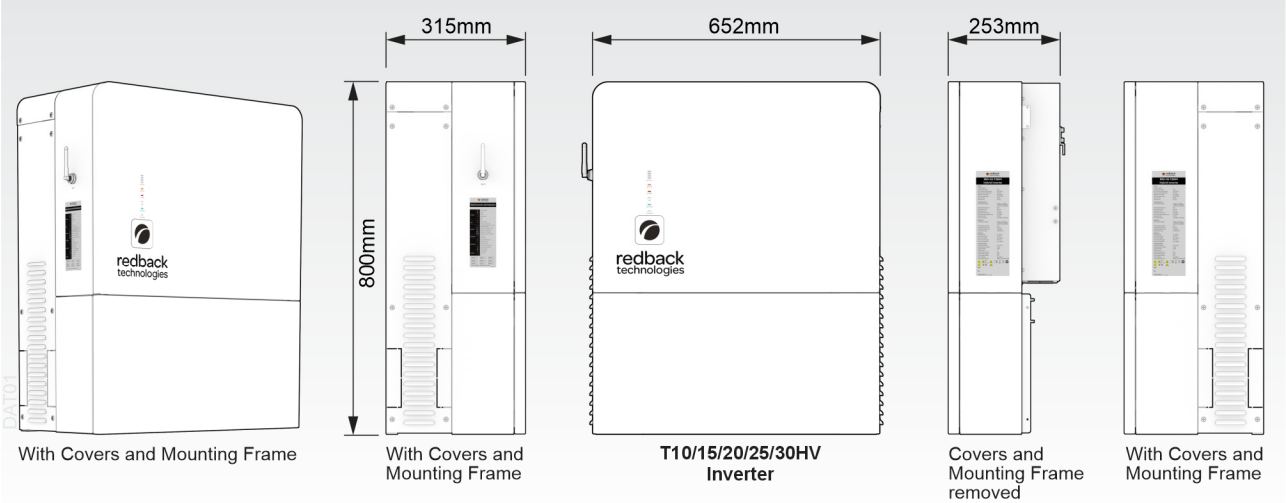
Product Data Sheet

Redback 3-Phase HV Hybrid Inverter



INVERTER MODEL (PREFIX: RED-H3-)	T10HV	T15HV	T20HV	T25HV	T30HV
System rating	9.9kW	15kW	20kW	25kW	29.9kW
PV PORT					
Number of MPPTs	3				
Strings per MPPT Input	2/2/2				
MPPT Operating Voltage (range)	DC 180 – 900V				
Startup Voltage	DC 100V				
MPPT Full Load (Range)(DC V)	220-850V	220-850V	290-850V	245-850V	290-850V
Maximum Input Voltage (Vmax)	DC 900V				
Maximum Current (Imp)	DC 40/40/40A				
Short Circuit Current (Isc)[1]	DC 50/50/50A				
Maximum PV Input Power (Wp)[2]	20000	30000	40000	45000	45000
Maximum Back Feed Current	0A				
Decisive Voltage Class (DVC)	DVC-C				

[1] Manufacturer's declared and tested Max Short Circuit Current (I_{SC} Max) [2]Over-panelling benefits vary by location

GRID INTERACTIVE PORT	T10HV	T15HV	T20HV	T25HV	T30HV
Nominal Voltage (V AC, all models)	3+N+PE, 220/380V, 230/400V, 240/415V				
Nominal Frequency (Hz, all models)	50				
Rated Current (AC A/phase)	14.5	21.7	29	36.2	43.4
Max. Output Current (AC A/phase)	14.5	24.0	31.9	39.9	43.4
Rated Active Power (AC W)	9999	15000	20000	25000	29999
Rated Apparent Power (VA)	9999	15000	20000	25000	29999
Max Output Apparent Power (VA)	9999	16500	22000	27500	29999
Max Input Current (AC A/phase)	28.3	28.3	37.7	47.2	56.6
Max Input Apparent Power (VA)	19500	19500	26000	32500	39000
Power Factor (range)	0.8 lagging to 0.8 leading				
Output Current THD	<3%				
Inrush Current (A, µs)	150				
Maximum Output Fault Current (A, µs)	120				
Maximum Output Overcurrent Protection (A)	63	75		100	100
Decisive Voltage Class (DVC)	DVC-C				

BACKUP PORT	T10HV	T15HV	T20HV	T25HV	T30HV
Nominal Output Voltage (AC V, all models)	3+N+PE, 220/380V, 230/400V, 240/415V				
Nominal Output Frequency (Hz, all models)	50				
Rated Current AC (A/Per phase)	14.5	21.8	29	36.3	43.5
Rated Active Power (AC W)[1]	9999	15000	20000	25000	29999
Nominal Apparent Power (VA)	9999	15000	20000	25000	29999
Rated Apparent Power (VA)	9999	15000	20000	25000	29999
Peak Apparent Power (VA, 3 seconds)	15000	22500	30000	37500	45000
Power Factor (range)	0.8 lagging to 0.8 leading				
Output Voltage THD	<3%				
Inrush Current (A)	120		180		
Maximum Output Fault Current (A)	64		95		
Maximum Output Overcurrent Protection (A)	95.5		140		
Decisive Voltage Class (DVC)	DVC-C				

BATTERY PORT	T10HV	T15HV	T20HV	T25HV	T30HV
Voltage (nominal) (DC V)	180 - 800				
Max. Current (charge)(DC A)	2*50				
Max. Power (charge) (DC W)	9999	15000	20000	25000	29999
Max. Current (discharge) (DC A)	2*50				
Max. Power (discharge) (DC W)	10000	15000	20000	25000	29999
Battery Type	LiFePO4				
Battery Depth of Discharge	95%				
Short Circuit Current	400A				
Decisive Voltage Class (DVC)	DVC-C				

GENERAL INFORMATION	
Operating Temperature	-40°C to 60°C
Operating Temperature Derated Output	Over 45°C
Operating Relative Humidity	0 - 100%
Operating Altitude	0-4000m (derated above 3000m)
Protective Class	I
Ingress Protection Rating	IP66
AC Overvoltage Category	OVC III
DC Overvoltage Category	OVC II
Active Anti-islanding Method	Active Frequency Shifting
Moisture Location Category	4K4H
External Environment Pollution Degree	Grade 1, 2 and 3
Inverter Topology	Non-isolated
Country of Origin	China
Demand Response Modes	DRM 0
Standby Self-Consumption (Night)	32W
Noise Emissions (Inverter only)	<50 dBm♦
Warranty	10 years

♦ Measured in Redback laboratory at 1m in front of Inverter.

EFFICIENCY	
Maximum Efficiency	97.6%
European Efficiency	97%

INVERTER PHYSICAL DATA	
Dimensions (W x D x H mm excluding antennas)	652 x 253 x 800
Weight (Bare, as lifted onto wall mount during installation)	65 kg
Weight (installed, with covers and wall mount, excluding AC cables)	68.6 kg
Materials	Aluminium; Stainless steel fittings
Finish	Powdercoat and internal sealant

ISOLATORS	PV PORT	GRID INTERACTIVE PORT	BACKUP PORT	BATTERY PORTS
Manufacturer Part Number	PROJOY PEDS150R-HM55R-6	NOARK B1E-3P-100	NOARK B1E-3P-80	PROJOY PEDS150R-HM55R-2
Rated Insulation Voltage	1500V	500V	500V	1500V
Rated Impulse Withstand Voltage	8000V	8000V	8000V	8000V
Rated Operational Current	55A	100A/phase	80A/phase	55A
Rated Short-time Withstand Current (Icw)	780A	640A	512A	780A
Rated Short-circuit Making Capacity (Icm)	1200A	960A	768A	1200A
Rated Breaking Capacity (Isc)	-	6000A	6000A	-

COMMUNICATIONS PORTS AND PROTOCOLS	
Ethernet	RJ45; Straight-through; for LAN connection.
Meter	RJ45 (shared); RS485 MODBUS
DRED	RJ45 (shared); DRM0
BMS	RJ45; straight-through; For comms to Battery Enclosure
PART1	Reserved for future use
PART2	Reserved for future use
Wi-Fi	802.11b/g/n/ac; 2.4GHz; For LAN connection if Ethernet not used; External antenna required
4G	Optional; External 4G module required
Bluetooth (on EMS)	BLE, for inverter configuration using Installer app
NFC (on EMS)	For starting Installer app
Relay	Controllable via connection to Redback power meter
Interlock	Not supported

USER INTERFACE	
Front Panel Display	Coded, coloured LEDs
Communications	Bluetooth for commissioning; Wi-Fi, ethernet or 4G for remote access
Remote Access	Web Portal; MyRedback app
Remote Firmware Updates	Supported
Power/Energy Monitoring	Includes 1 x utility grade Power Meter (class 1)

CERTIFICATIONS AND APPROVALS			
AS/NZS 4777.2:2020	IEC 62116:2014	IEC 60529	RCM
IEC 62109-1:2010	IEC 62040-1:2017	EN 61000	CE Mark (LVD, EMC, RoHS directives)
IEC62109-2:2011	IEC 62477-1:2012		

DESIGNED WITH INSTALLATION STANDARDS CONSIDERED		
AS/NZS 3000:2018	AS/NZS 5139:2019	AS/NZS 5033:2021

CONTACT INFORMATION	
Company:	Redback Energy Pty Ltd
ACN:	682 761 548
Address:	172 Evans Road Salisbury QLD 4107 Australia
Email:	customersupport@redbacktech.com
Website:	Redbacktech.com
Phone:	1300 240 182
International:	+61 7 3180 2325