

zero

AUTOMOTIVE



First

ADR MINING SPEC bELV



Ready

FOR UNDERGROUND USE



Renewable

MODULAR PLATFORM



Zero

EMISSIONS DRIVE



Safety

IN DESIGN



Easy

FLEXIBLE CHARGING



Renewable Modular Platform

- A Protected Electric Drive System can be transferred from one chassis to the next multiple times through whole-of-life vehicle support
- Over time modular platform delivers increased savings



Zero Emissions Drive

- Reduces Carbon footprint
- Eliminates diesel particulates



First ADR Mining Spec bELV

- ADR engineered and approved for road registration, allowing public road use
- ADR provides operators with assurance that the vehicle meets Australian safety standards



Ready For Underground Mining Use

- Designed for underground mining and maximum safety
- Validated, commissioned and operating in Australian underground mines
- Programmable charging ensuring site specific operation, including descent regeneration requirements



Safety In Design

- Electrical risks all but eliminated
- ZED70 Ti LTO battery chemistry significantly reduces risk of thermal runaway and toxic vapour release due to accident



Easy Flexible Charging

- Wide range of charging options
- Fast charging to minimise turn around times and maximise vehicle operation

zed70



zed70_{Ti}



Battery Options	ZED70 (NCM)	ZED70 Ti (LTO)
Type	Lithium Nickel Manganese Cobalt Oxide	Lithium Titanate Oxide
Capacity	88kWh	60kWh
Depth of Discharge	85%	98%
Effective Battery Capacity	75 kWh	59 kWh
Life Cycle	1,200 Cycles (~360,000kms) to 80% State of Health	20,000 Cycles (~4,000,000kms) to 80% State of Health
415V 3-phase Charge Time	4.5 hrs	3 hrs
DC - DC Charge Time	~80% Charge in 1 hour	~80% Charge in 16 mins

Common Specifications

Base Vehicle	
Chassis & Cab	Toyota LandCruiser 79 Series
Passengers	(Dual Cab) 5 Single Cab 2
Tray	Aluminium Tray Galvanised Steel Tray
GVM	3,300kg

Motor	
Type	3 Phase Asynchronous with regenerative braking
Emissions Control	Zero Emissions
Power	134kW (peak) 75kW (cont.)
Torque	700Nm (peak) 358Nm (cont.)
Efficiency	95.5% (peak)

Electrical Safety Systems	
Standard	Isolator Switch
	Manual Service Disconnect
	Battery Management System
	Automatic Electrical Isolating Contactors
	Multiple Mechanical HV Isolators
	Fast Acting Fusable Links
	eBrake

Suspension & Drive-train	
Transfer Case	Toyota 1:1, 1:2.41
Front Suspension	Toyota Coil Spring
Rear Suspension	Toyota Leaf Spring
Differential Ratios	Toyota 3.909, 4.1, 4.3
Steering	Hydraulic, Electric Pump
Brakes	Toyota Hydraulic Disc Brakes

Ancillaries	
Heater	6kW HV Battery Powered Unit
Air- Compressor	1kW HV Battery Powered Unit

Electrical (LTO)	
System Voltage	331V (Tractive)
Charging	22kW On-board Charger
Fast Charging	180kW - External Charger (DC-DC)
Low Voltage Battery	Toyota 12V Lead Acit

Features	
Display	6" multimedia display
Battery Box Protection	3mm Steel + 1.6mm Stainless Bash Plates

ZERO EMISSION DRIVE



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