LUCHS A

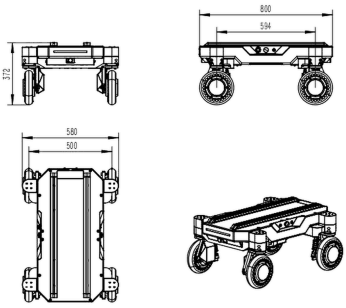
FOUR-WHEEL-STEER ROBOT CHASSIS

CHASSIS BY RJ TECH LIMITED · AUTONOMY BY TERRAAGENT ROBOTICS

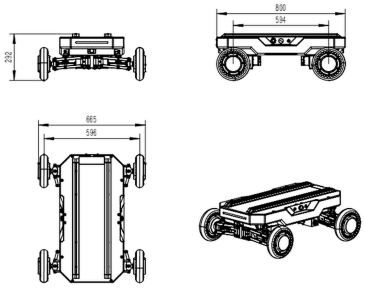




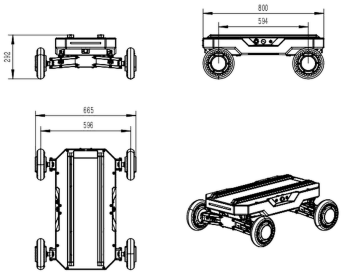




A-4WS



A-FA · A-DA



A-DF

MODEL LINE-UP – LUCHS A / B / C

	Luchs A this data sheet	Luchs B full-size · built for harder duty	Luchs C custom
Built for	Robots that need many motion modes and interfaces, indoors and out	Off-road and site work: speed, range, clearance, heat and dust	Your specification
External dimensions	800×580×372 mm (A-4WS) 800×665×292 mm (other builds)	1990×1150×800 mm	Customisable
Chassis weight	40–65 kg	230 kg	Customisable
Working / max. payload	— / 100 kg	80 kg / 200 kg	Customisable
Max. climb grade	15°	30°	30°
Ground clearance	77 mm / 136 mm (A-4WS)	300 mm	Customisable
Steering	Skid-steer, Ackermann, dual Ackermann or four-wheel steer	Single or dual Ackermann (dual EPS)	Customisable
Max. speed	11.6 km/h	40 km/h	55 km/h
Drive	4 × 250 W hub motors	4 × in-wheel motors, 5 kW peak each	260 N·m×4 / 330 N·m×4
Battery	$LiFePO_4$, 48 V 30 Ah	$LiFePO_4$, 72 V 60 Ah / 73 V 127.4 Ah	$LiFePO_4$, up to 96 V 130 Ah
Endurance	Up to 12 h (no load)	≥60 km (full load), up to 300 km in desert mode	≥60 km, up to 300 km with range extender
Ingress protection	IP33 (IP54 build available)	IP67 (≤440 mm) / IP65 (>440 mm)	IP67
Host interface	CAN 1 Mbit/s (Luchs A protocol v1.1) · RS-485 / RS-232	CAN 1 Mbit/s, LCI v1.0 with heartbeat and live limits	LCI over CAN / CAN FD
Software	ROS 2 · ROS 1 · C++ SDK	ROS 2 · ROS 1 · C++ SDK	ROS 2 · ROS 1 · C++ SDK

FOUR BUILDS, ONE CHASSIS

	A-DF skid-steer	A-FA front Ackermann	A-DA dual Ackermann	A-4WS four-wheel steer
Motion models	Skid-steer	Skid-steer, Ackermann	Skid-steer, Ackermann, dual Ackermann	Skid-steer, Ackermann, dual Ackermann, 4WS
Special manoeuvres	Pivot turn	Pivot turn	Pivot turn	Pivot turn, sideways (crab) travel
Min. turning radius	0 m (pivot)	0 m · 0.89 m (Ackermann)	0 m · 0.445 m (dual Ackermann)	0 m
Pivot clearance circle	1.01 m	1.01 m	1.01 m	0.857 m
Dimensions (L×W×H)	800×665×292 mm	800×665×292 mm	800×665×292 mm	800×580×372 mm
Track width	596 mm	596 mm	596 mm	500 mm
Ground clearance	77 mm	77 mm	77 mm	136 mm
Suspension	Double wishbone, front and rear			Independent swing arm
Chassis weight	40 kg	45 kg	50 kg	65 kg
Steering motors	None	1 × 140 W servo	1 × 140 W servo	4 × 140 W servo
Ultrasonic sensors	2 (front, rear)	2 (front, rear)	2 (front, rear)	6 (1 front, 1 rear, 2 per side)

SIZE AND WEIGHT

Wheelbase	594 mm
Wheel diameter	206 mm
Max. payload	100 kg
Frame	Carbon steel and aluminium alloy
Mounting rails	2 × 2040 aluminium extrusion, 700 mm long, 200 mm centres

POWERTRAIN

Drive motors	4 × 250 W servo hub motors
Battery	$LiFePO_4$, 48 V 30 Ah (1,440 Wh)
Runtime	Up to 12 h unloaded
Payload power	48 V / 10 A × 1 · 12 V / 8 A × 1

CHARGING

Charger	48 V / 10 A, included
Charging time	On request
Charging interlock	Drive disabled while the charger is connected

SPEED AND PERFORMANCE

Max. speed	11.6 km/h
Max. gradient	15°
Parking brake	Electric motor hold
Operating modes	Remote control · automatic · maintenance
Emergency stop	Two buttons, left and right; remote control
Protection	Power-on self-test and fault warning, BMS, ultrasonic collision stop, output over-current protection

AUTONOMY INTERFACE

Protocol	Luchs A CAN protocol v1.1: speed, yaw rate and steering commands, odometry-grade feedback. Core frames as in LCI
Physical layer	CAN 2.0B, 1 Mbit/s, big-endian · RS-485 · RS-232
Software	ROS 2 (Humble, Jazzy) and ROS 1 (Noetic) drivers, one code base for the Luchs family; C++ SDK, robot model, simulator, DBC files
Remote control	10-channel 2.4 GHz transmitter with receiver

ENVIRONMENTAL

Operating temperature	−10 °C to +45 °C
Ingress protection[2]	IP33 (standard build) · IP54-sealed A-4WS build available

LIGHTING

Lights	Status lights, breathing light, warning lights, charge-progress bar

WHAT'S INCLUDED

Chassis	Luchs A in the ordered build
Remote control	Included
Charger	Included
Documentation and software	User manual, data sheet, CAN and serial protocols with DBC files, ROS 2 and ROS 1 software with robot model, 3D model (A-4WS)

WARRANTY [3]

Chassis	As set out in your sales contract

NOTES

1. Values from the manufacturer's specification. The product may differ from the pictures.
2. The IP54-sealed build is available for the A-4WS.
3. Excludes normal wear, consumables and damage from misuse, accident or unauthorised modification.

Pricing and technical consultation: **sales@rjtech-offroad.com** · www.rjtech-offroad.com