

Overview

BURRO is an indoor/outdoor collaborative robot, designed to help laborers work more productively. To date, Burro has primarily been deployed to assist harvest workers in permanent crop settings. However, Burro is well-suited for countless other carrying applications indoors and outdoors. The XL version of the Burro widens and lengthen the burro platform for additional carrying capacity and additional stability.

No matter how complex Burro may be under the hood, we know that it must be practical, durable, and easy-to-use.



Dimensions & Weight

LENGTH 54.4 in (138.2 cm)	HEIGHT 28.6 in (72.64 cm)
WIDTH 36.25 in (92.1 cm)	PAYLOAD AREA 36 (91.44 cm) x 47.825 (121.48 cm) Slatted Steel Tray
WEIGHT 400lb (182 Kg)	

Carrying & Towing Capacity

MAX CARRYING PAYLOAD¹ 750 lbs (226 kg)	MAX TOWING PAYLOAD² 2000 lb (907 kg)
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¹Rated for concrete/asphalt. Up to 750lbs (xx kg) allowable on mud/gravel

²Will vary based on speed, terrain, and carrying/towing payload

Power & Range

MOTORS
4 x Right angle drive brushed motors

PEAK POWER
5.2 hp (3.88 kW)

CONTINUOUS TORQUE
92.7 ft-lb (125.68 Nm)

PEAK TORQUE
323.8 ft-lb (439 Nm)

MAX SPEED⁴
4.8 mph

BATTERY
2.4 kWh / 24V

BATTERY RANGE⁵
10 mi (16km)

OPERATING TEMPERATURE
-4°F to 113°F (-20°C to 45°C)

CHARGE TIME
8 hours

CHARGING INPUT
100-240 VAC, 50-60Hz: 8-10A at 120 VAC, 4-5A at 240 VAC

CHARGING OUTPUT
Onboard: 24VDC, 13A

CHARGING TEMPERATURE
32°F to 122°F (0°C to 50°C)

⁴ BURRO can go up to this speed. Autonomy, load, and field conditions can/ will reduce its maximum speed

⁵ Additional batteries can be added for extended range. Will vary based on speed, carrying/towing payload, and terrain (type & grade)

Wheels & Tires

WHEEL

6" split rim (2-13/16" Bolt pattern)

TIRE⁶

R1, 14 x 4.5-6 in; Tube - 13 x 5-6

TIRE PRESSURE

15 psi (xx kPa)

⁶This is the standard/default tire for BURRO. Alternative tire options can be available in the future

Computing & Sensors

CAMERA SYSTEM

4 x Stereo Camera (12 Cameras in Total)

GPS

RTK (NTRIP Compatible)

LIDAR

N/A

MODEM

4G LTE Modem

CPU & GPU

All Computing Onboard/Local

RAM

16GB (upgradeable to 32GB)

STORAGE

256 GB SSD

COOLING

Zero-ingress Forced-Air Cooling System

Interface & Safety Features

SCREEN

7" LCD Touch Monitor

BRIGHTNESS

1000 nits

RESOLUTION

1024 x 600

BUMPER BAR/SAFETY EDGE

Front & Rear

REMOTE VIEW

Online dashboard view: See robot on map, what it's doing, and what it's seeing

VISUAL

Front & Rear LEDs provide cues & safety/area lighting

AUDIO

Cues inform users of Burro's autonomy & when it's in motion

Autonomy

PERSON FOLLOWING

Vision Based

AUTONOMOUS ROUTES (TEACH & REPEAT)

Vision + GPS

DOCKING

Vision + GPS

ROW NAVIGATION + ROW TO ROW

Vision Based

ATLAS (ONLINE ROUTE CREATION & MANAGEMENT + DESTINATION BASED NAVIGATION)

GPS

OBSTACLE HANDLING (STOPPING & AVOIDANCE/PATH PLANNING)

Vision

CROP SCOUTING

Vision Based

DATA COLLECTION

Up to 1 TB/hour

