![fetch robotics logo]

freight100 Base
Autonomous Mobile Robot Platform

Freight100 Base Features

- Collaborative fully autonomous mobile robot base
- Modular top plate with 73-threaded mount points
- Auxiliary access via top surface to 2 power ports, direct communication bus, Ethernet, and USB 3.0 ports
- Side interface panel with Ethernet, USB 3.0, and DisplayPort
- Indicators providing WiFi, power, battery, runstop status and FetchCore status
- FetchCore software for precise and reliable movement and position
- REST API and PartnerAPI for task and function customizability
- Additional post accessory for increasing mounting height
- Available charge dock for autonomous charging

Freight100 Specifications

Weight	68 kg (150 lbs)	**3D Depth Cameras**	2x Intel RealSense D435
Height	359 mm (14 in)	**Processor**	Intel Core i7-9700E
Base footprint	528 mm (20.8 in) wide, 573 mm (22.6 in) long	**RAM**	32GB
Payload	100 kg (220 lbs)	**Hard Drive**	256GB SSD
Maximum Speed	1.5 m/s (3.4 mph)	**Wireless**	Intel AX200 802.11.ax and Bluetooth 5.1
Turning Radius	Turn in place	**Side Interface Panel**	DisplayPort, 2x USB 3.0, Ethernet
Battery	Deka 8G22NF Sealed Lead Acid	**Audio**	4x Speakers, 10W per channel
Nominal continuous runtime	9 hrs	**Environment**	Indoor
Charging	Autonomous Docking	**Traversable Aisle**	95 cm (37.4 in)
Charge Time	3 hrs to 90%	**Traversable Gap**	15 mm (0.59 in)
2D Laser Sensor	SICK TiM 571, 25 m, 220 degrees	**Torque for M5 Mounting Points**	3.6 N-m (31.9 in-lb)

# Turn Your Mobile Automation Vision Into Reality

Create your own customized automated solution

Autonomous mobile robots have become great enablers for individuals and companies looking to develop automated products and solutions that operate safely amongst people. Freight100 was designed as a highly extensible platform to help accelerate these development efforts. Integrators and software partners can take advantage of Freight100's hardware and software extensibility features to quickly bring up custom automated solutions.
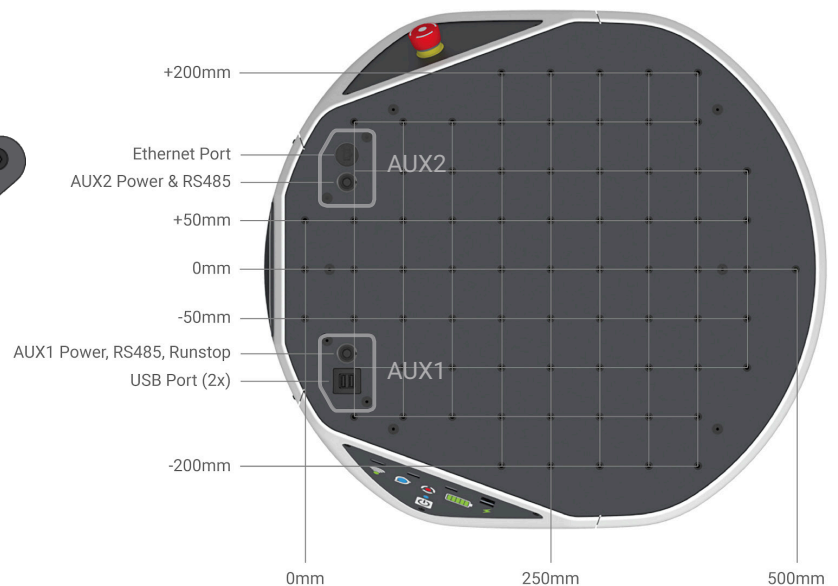
Freight100 Side Interface Panel

Interfacing with the Freight100 is direct and easy. The access and status panel features a DisplayPort interface to connect a screen, as well as (2) USB 3.0 ports and an Ethernet port. Battery, charge, wireless, runstop, and FetchCore status are also provided via LED indicators on the panel.
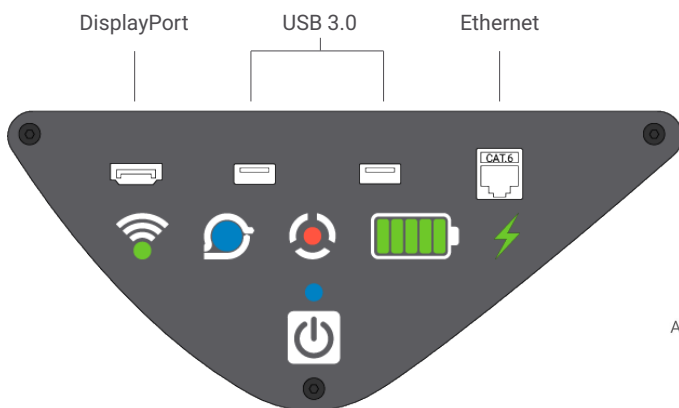
Freight100 Top Surface

The Freight100 top plate provides (73) threaded M5x0.8x4mm mounting points, oriented in a 50mm x 50mm grid, for easily and securely mounting hardware and additional sensors. There are also 2 auxiliary power and communication panels provided on the top surface for flexible connectivity to your custom top module.

DisplayPort   USB 3.0   Ethernet

CAT.6

+200mm

Ethernet Port
AUX2 Power & RS485   AUX2

+50mm

0mm

-50mm

AUX1 Power, RS485, Runstop
USB Port (2x)   AUX1

-200mm

0mm   250mm   500mm

Power and Signal Specifications

The top panel of the Freight100 Base robot has two accessory panels. AUX1 supports 360W, RS485, Runstop, and has 2 USB ports. AUX2 supports 180W (not connected to Runstop), RS485, as well as Ethernet.

AUX1 Receptacle (Mounted on top panel):
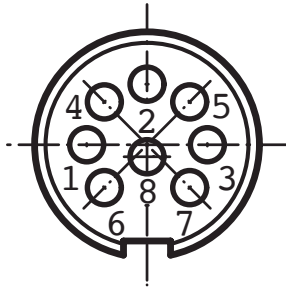
Pin #	Signal
1	GND
2	AUX1 PWR
3	RS-485-1A
4	AUX1 PWR
5	RUNSTOP-A
6	GND
7	RS-485-1B
8	RUNSTOP-B

AUX2 Receptacle (Mounted on top panel):
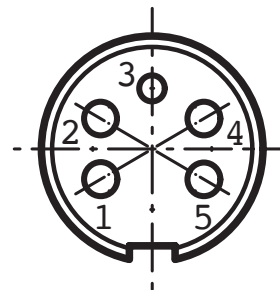
Pin #	Signal
1	GND
2	AUX2 PWR
3	NC
4	RS-485-2A
5	RS-485-2B

Corresponding Plug Connector:

Recommended Connectors:
Amphenol T 3504 551
or T 3504 055

Pin #	Signal
1	GND
2	AUX1 PWR
3	RS-485-1A
4	AUX1 PWR
5	RUNSTOP-A
6	GND
7	RS-485-1B
8	RUNSTOP-B

Corresponding Plug Connector:

Recommended Connectors:
Amphenol T 3356 551
or T 3360 055

Pin #	Signal
1	GND
2	AUX2 PWR
3	NC
4	RS-485-2A
5	RS-485-2B

AUX1 Output Power Specifications:

Output Power	Minimum	Typical	Maximum
Voltage	20V	25V	33V
Current	-	15A	18A*

*15A is guaranteed by design. Absolute maximum varies based on internal circuitry tolerances, 16A to 19A.

AUX2 Output Power Specifications:

Output Power	Minimum	Typical	Maximum
Voltage	20V	25V	33V
Current	-	7.5A	10A*

*7.5A is guaranteed by design. Absolute maximum varies based on internal circuitry tolerances, 9A to 11A.

FetchCore™ Makes It Simple To Deploy and Manage

Get up and running in hours with the ability to modify workflows on-demand
- Create and change workflows from anywhere with just a few clicks
- Track, analyze, and optimize robot performance
- Annotate, update, and share maps
- Schedule robot operations
- Find WiFi cold spots

Workflow Builder allows you to program complex robot tasks using a dragging and dropping graphical blocks
- Send robot to multiple locations
- Manage exceptions
- Program conditionals
- Add triggers and actions
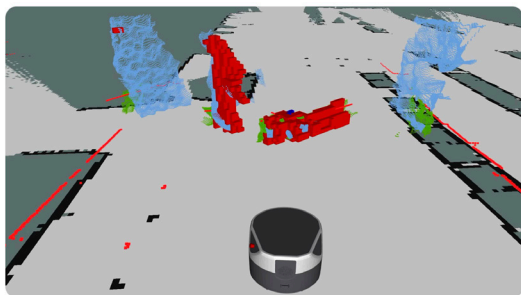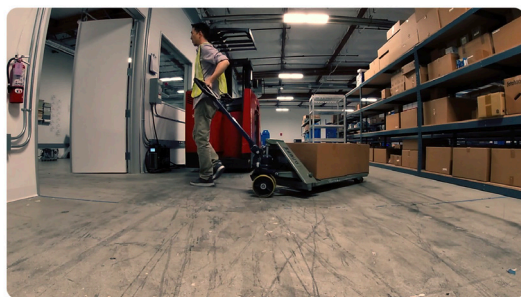
Uncompromising Safety

The Freight100 Base robot comes equipped with some of the most advanced safety features in the industry. A 2D laser scanner with 25m range enables mapping, localization, obstacle avoidance, as well as object detection. Two 3D depth cameras allow for superior robot vision to avoid both ground-based and overhanging dynamic obstacles.

Each Freight100 Base also has a runstop button for safe shutdown when needed. Freight100 Base carries the CE mark, FCC registration, and is an ISO 13849 PLb device.

Operating Environments
- Indoor use with WiFi availability
- Minimum 3.1 ft aisle width for movement
- No significant temperature changes or wet floors

About *fetch*robotics

Fetch Robotics is an award-winning intralogistics automation company headquartered in Silicon Valley. We provide innovative, on-demand automation solutions for material handling and inventory management by combining mobile robotics with the power of the cloud to find, track, and move almost anything in any facility. Fetch Robotics' solutions and services are deployed in leading distribution, fulfillment, and manufacturing centers around the world, augmenting workforces to drive increased efficiency and productivity.

CE Fetch Robotics' CartConnect carries a CE mark and meets regulatory requirements for product safety.
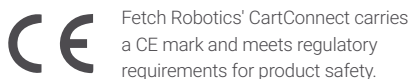
WARNING: This product uses components which emit invisible laser radiation. Incorrect use or observing the safety laser scanner through optical instruments (such as magnifying glasses, lenses, telescopes) may be hazardous for the eyes.

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