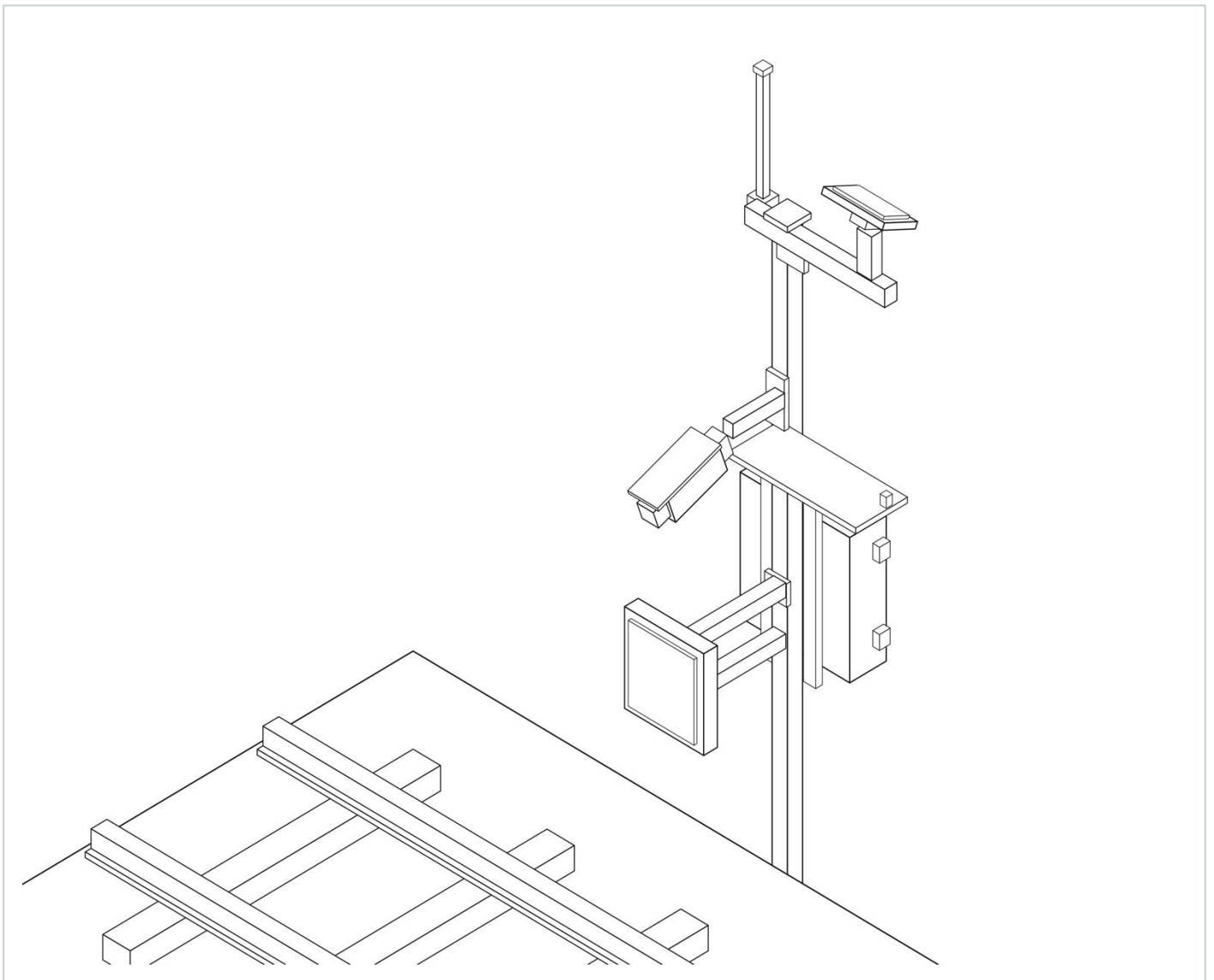




AEI/RFID Reader And Camera for Railcars

Cost-effective RFID reader for private and industrial yards to read railcar numbers, capture photo and video data, and view data on an interactive web-based dashboard.



Representation of installed hardware – exact mounting and installation details to be confirmed prior to installation.



OVERVIEW

Read car numbers, capture visual data

Canopy Vision's AEI railcar reader pairs a trackside RFID antenna with an integrated camera, with mounting options on a single post on one side of the tracks. As each car passes, it reads the AEI RFID tag on the railcar, resolves direction of travel, and records video.

Traditional AEI installations use antennas on both sides of the track along with wheel sensors to determine the car's direction of travel. The Canopy Vision reader resolves direction from one side using an A.I. camera, which also records video of the railcar for documentation purposes.

If the site would like to record video/photos of both sides of the car, a second camera and optional RFID antenna can be added across the track, which would require conduit under or over the tracks. Both cameras are connected to the same system for unified reporting.

Single-side installation

Car direction determined via camera. No need for conduit under the tracks or wheel sensors.

Solar + Battery add-on available

Solar and battery options available for remote installations where power is not available.

Railcar tag and video together

Car numbers are read and synchronized with video footage.

Demurrage, detention, and more

Integrated dashboard and database allow you to track car dwell times, demurrage charges, and more.

Interactive dashboard

Web-based dashboard, searchable video library, and an open API for your own systems.

Multiple connectivity options

Cellular and Starlink options available, with both options available for redundancy if needed.



POWER

Multiple power options available

110 V AC

Standard utility service. Power supplies inside the NEMA enclosure convert to DC power.

24 / 12 V DC

Low-voltage DC from an existing power supply.

Solar + battery

Self-contained power for sites with no service at the track. Sized appropriately for the site location

OPTIONAL ADD-ON

INSTALLATION

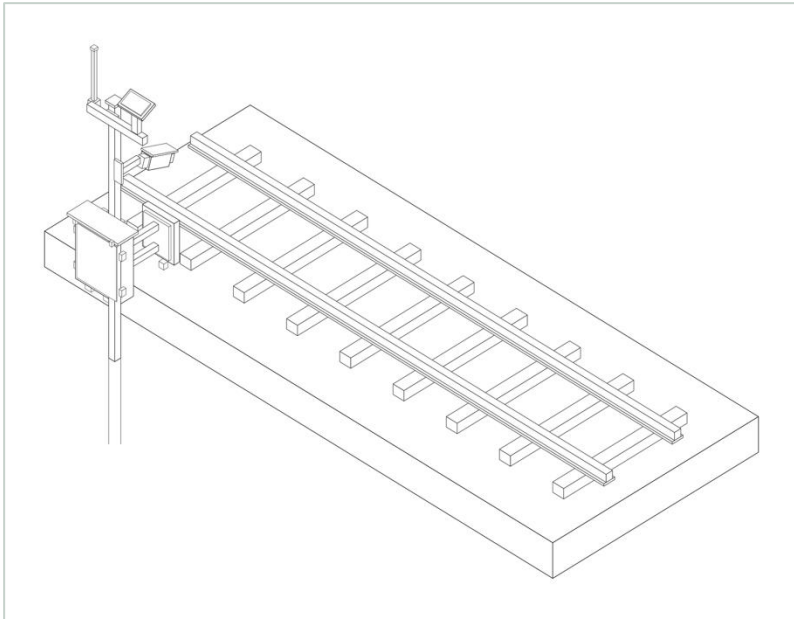
10-14 feet from centerline

Both the camera and the RFID antenna should be positioned 10-14 ft from track centerline. This distance keeps the equipment clear of the tracks while keeping the antenna close enough for a reliable tag read and the camera close enough to capture necessary details. If needed, the camera can be placed farther from the tracks with a zoom lens.

Everything mounts on a single post on one side of the track. If a second camera is requested for the other side of the tracks, then conduit will need to be run under or over the tracks to connect the camera back to the NEMA enclosure.

INSTALLATION REFERENCE

Recommended standoff, camera and RFID antenna	10-14 ft from track centerline
Track sides required	One
Opposite-side camera and antenna	Optional, for both-side capture
Structure	Single post or wall
Enclosure position	18" off the ground
Enclosure type	NEMA-rated, post-mounted
Mounting heights and offsets	Configured per site
Communications	Cellular standard; Starlink optional
Wheel sensors	Not required



DATA AND INTEGRATION

Every railcar, logged and watchable

Each railcar is displayed on the web dashboard with its car number, direction, and timestamp, and the photo and video of that pass are stored beside it in a searchable library. An open API exposes the same records to your own systems.

TECHNICAL SPECIFICATIONS

Car number, direction, timestamp, video/photo data

2TB onboard storage, 1080p camera, 30FPS

Power consumption: 30-60W depending on configuration

Up to 20mph yard speeds

APPLICATIONS

Loading verification

Damage and claims review

Demurrage and dwell

Inventory forecasting

Yard gates

Loadouts

Switch points

Industrial and private yards

CUSTOMIZATION

Configured for your site

Not all locations are the same. Post location and details, mounting orientation, single- or both-side capture, power source, and communications are all configured for the installation. Get in contact with us to help determine your specific needs and for a detailed quotation.

An additional service agreement is required for data, licensing, and support.

Email: sales@canopy-vision.ai