

# BA-440 DualBeam Barcode Reader For Long Range Vehicle Identification



Barcode Automation, inc. (BAi) is an industry leader at solving the challenges of automatic vehicle identification for gated entrances and parking facilities. For over 20 years BAi has manufactured the most reliable and longest lasting vehicle access solutions. Solutions engineered for both today's vehicles and tomorrow's.

## BAi Company Values

**Barcode Automation, inc. (BAi)** was founded in 1997 to provide high performance, cost effective solutions for vehicle identification. BAi developed the flagship BA-440 DualBeam Barcode Reader to meet the specific needs of electronic security integrators, it will identify authorized vehicles traveling up to 25mph with 100% accuracy. BAi assembles, configures, and tests every BA-440 in our Central Florida facility and includes a 5 year performance guarantee on every new unit.

## BA-440 Laser Advantage

The BA-440 is most often compared to UHF RFID solutions. Here are a few key differences to help integrators decide when the BA-440 is the better option.

The BA-440 does not use any radio technology, is immune to RF interference, and doesn't create interference for other systems. This gives integrators an opportunity to offer long range vehicle identification at data centers, airports, industrial sites and anywhere else that has critical radio infrastructure.

Additionally, as more sensors and autonomous features are added to personal vehicles, more locations will benefit from our laser solution. Window tints, xenon headlamps, sensors, WiFi hotspots, and more reduce UHF RFID performance. None of those impact the BA-440 making it an ideal solution for gated communities, high rise buildings, universities, employee parking lots, and more.

Only BAi Laser Barcode systems are ready for the challenges of tomorrow's vehicles. Integrators can specify our BA-440 DualBeam Barcode Reader today, and trust it will work reliably for 10 years or more.

## BA-440 Strengths

- Identifies vehicles traveling up to 25mph
- Processes up to 99,999 unique ID numbers
- No radio interference
- Ignores all copied decal credentials
- Reliable in rain, snow, sleet, hail, and sand
- Repairable unit reduces long term system costs
- ETL listed - conforms to UL Std 294

## Communication Outputs

- Wiegand 26-, 30-, or 31- bit communications
- Serial RS232 and USB port (requires driver installation)
- Data rate: 2400, 4800, 9600, 19200, 38400 baud
- Configuration: 8N1, 7E1

## Environmental

- External operating temperatures: -22 to 130° F
- Relative humidity: 10% to 100% (non-condensing)
- NEMA IV enclosure

## Power

- Low voltage 24Vdc @ 1.5A max

## Laser Classification

- Visible laser diode
- Output wavelength (nominal): 658nm
- CDRH safety class II, less than 1mW/cm<sup>2</sup>

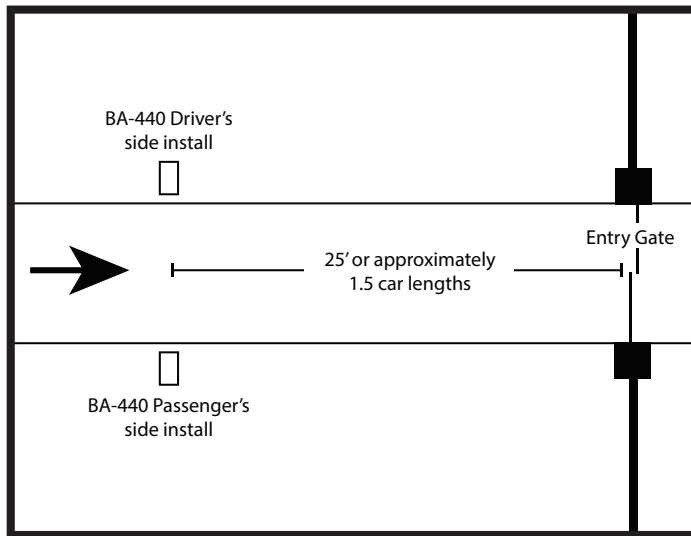
## 5 Year Performance Guarantee

BAi guarantees craftsmanship and materials for 5 years from date of purchase. Additionally, all components except the wiegand verifier output board are protected from lightning and power surge. BAi offers advance replacement parts to reduce downtime during repairs. Limitations apply, contact us for the full 5 year warranty policy.

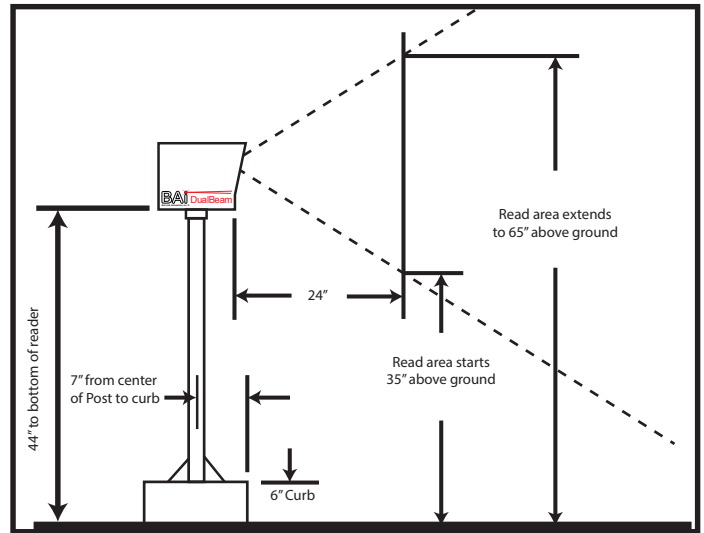
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## BA-440 Position and Read Area

The BA-440 should be installed facing the vehicles on either the passenger or driver side. BAi Decals, used for identification, will be applied to vehicles on the same side as the reader. We recommend positioning the BA-440 approximately 25' from the gate (or barrier arm) and 2' back from the nearest side of vehicles. The dual lasers extend vertically for reliable identification on vehicles of all heights: at 2' from the reader the lasers cover 35" to 65" above the ground, at the guaranteed maximum range of 6' from the reader the lasers cover 6" to 95" above the ground.



Top View

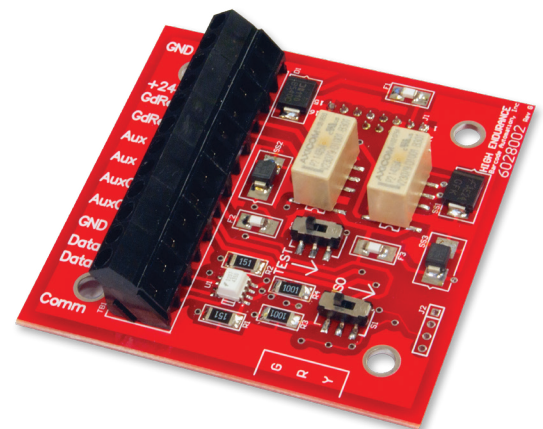


Side View

## BA-440 Wiring Fundamentals

The wiegand verifier output board serves as the terminal block and protects all of the primary electronics from lightning and power surge. The recommended wire for power is using 18 AWG copper minimum for runs up to 200'. For communication to an access panel using wiegand use 3 conductor shielded cable 18 AWG. The following terminals are available:

GND IN	POWER INPUT Ground or common input from 24Vdc source
+24V	POWER INPUT Positive input from 24Vdc source
GdRead+	RELAY OUTPUT, gate, normally open (NO)
GdRead-	RELAY OUTPUT, gate, normally open (NO)
Aux In+	INPUT for vehicle presence trigger
Aux In-	INPUT for vehicle presence trigger
Aux Out+	RELAY OUTPUT, auxiliary, normally open (NO)
Aux Out-	RELAY OUTPUT, auxiliary, normally open (NO)
GND	GROUND from reader power input
Data1	WIEGAND 1 (data 1) communication output to access system
Data0	WIEGAND 0 (data 0) communication output to access system
Comm	GROUND or common signal connection to access system



Wiegand verifier output board