



Axle Counter

The new concept of axle counting
based on Artificial Intelligence

- Onboard AI processing
- Self-triggering
- Vehicle reconstructed image
- Fully customizable
- Intuitive user interface
- API REST compliant

⚙ Axle Counter is targeted to free flow tolling applications; with aboveground layout, no road works are needed for installation and maintenance and no distraction for the drivers, thanks to the infrared illumination.

⚙ An on-board dedicated neural network processor allows fast image processing capability to detect vehicles and their characteristics, such as axles, raised axles status and speed estimation, at any time of the day and of the night.

⚙ Axle Counter system doesn't require external triggering, it detects transits by image analysis thanks to its processing capability. Optionally, Axle Counter

can be triggered by different triggering sources, allowing flexible interfacing with existing devices and perfect integration with Tattile devices.

⚙ Axle Counter supports HD video streaming.

⚙ Axle Counter provides the resulting metadata together with the reconstructed image of the vehicle, giving evidence of the transit to the tolling operators.

⚙ Axle Counter through his image analysis is able to detect:

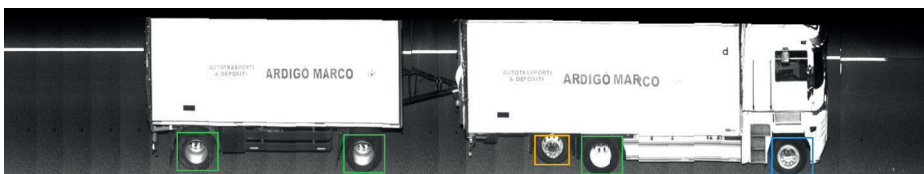
- Raised axles
- Twins wheels

Optional: Expandable local storage / GPS / WIFI



FREE FLOW TOLLING

Axle Counter



	AXLE COUNTER
Software features and Performance	
Processed Lane	1
Installation	Gantry
Installation height	7m (typical) - 23ft
Detection accuracy	99%
Managed vehicles	Up to 2400 v/hour
Axles counting accuracy	>95% over 4 classes (2,3,4,5+ axles)
Raised axles detection	Yes
Twin wheels detection	Yes
Speed estimation	Yes
Processing	Onboard processing
AES256	Yes
SHA2	Yes
Data buffering and storage	Yes
Compression	JPG
Configuration	
Web Server	Installation and configuration with on board Web Application
Integration	REST and binary protocol available
Date and Hour	Synchronization via NTP protocol or optional internal GPS
Software Update	Upgrading via Web Application and integration protocols
Data Transmission	
FTP	FTP Client mode for remote data transmission
Standard protocols	REST and binary protocol
Configuration	Actions and content customizable
Serial Port	Insulated RS485
Operating Mode	
Autotrigger	Self triggering based on image analysis
Trigger Ethernet	Image capture and processing triggered by Ethernet with start and stop message
Trigger Input	Image capture and processing triggered with start and stop digital signal

	AXLE COUNTER
System	
Image capture sensor	2 Megapixels grayscale
Illuminator	Infrared External Illuminator
Lenses	Fixed lens configuration
Operating System	Linux Operating System
Digital I/O	2 Inputs – 2 Outputs – 1 Strobe output
IP Protection	IP68
Ethernet	Gigabit Ethernet 10/100/1000
Storage	uSD up to 128 GB
Vandal proof Connector	Yes
Antitamper sensor	Yes
Internal SSD	Optional, up to 1TB
GPS	Optional
Wifi	Optional
Technical Data	
Operating & Storage Temperature	From -40° to +60° C - From -40° to +140° F
Operating & Storage Humidity	Up to 95% non condensing
Dimensions	225x244x132mm
Weight	3,6kg
Power supply voltage	24 Vdc
Power consumption	24W

Part Numbers

AXLE COUNTER SYSTEM	
F02002-000	Axle Counter Camera
F01920-000	External IR Illuminator