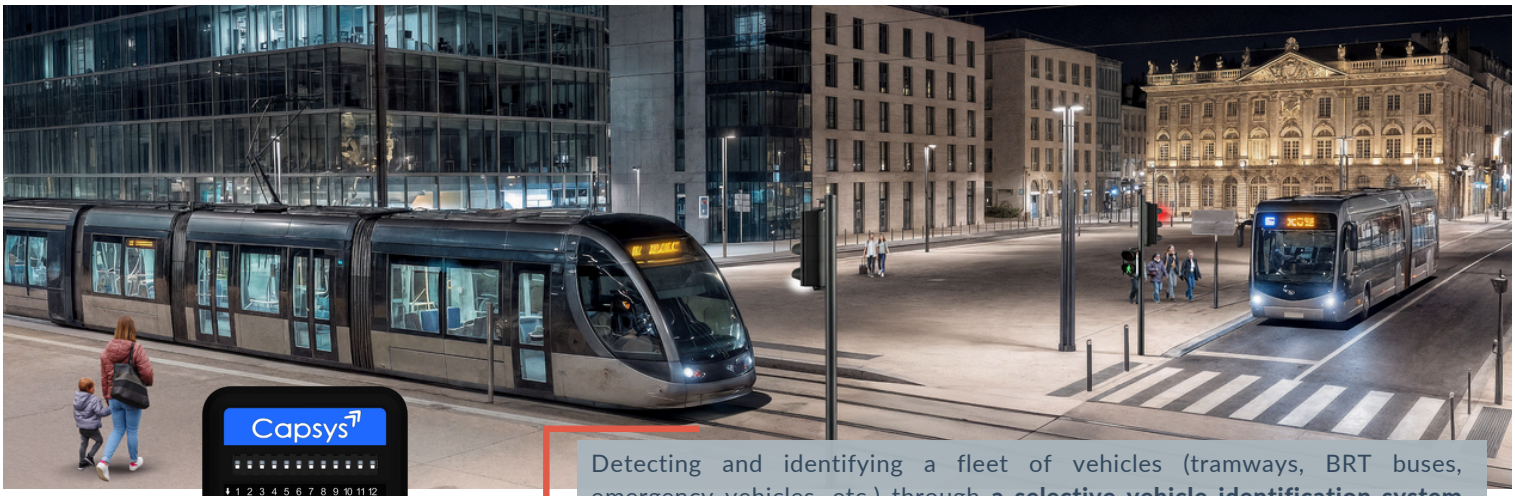
IVR SENSOR

SELECTIVE RECEIVER





Detecting and identifying a fleet of vehicles (tramways, BRT buses, emergency vehicles, etc.) through **a selective vehicle identification system** helps improve traffic flow efficiency and ensures smoother operations in dense urban environments.

The IVR receiver grants traffic signal priority to public transport vehicles as well as emergency vehicles such as fire trucks and ambulances. It can also be used to control and secure access to restricted areas, private parking facilities, toll stations or rising bollards.

APPLICATIONS

- Traffic signal priority for public transport and emergency vehicles
- Service fleet management
- Selective control of gates, barriers, toll stations and rising bollards
- Industrial access control

PRODUCT BENEFITS

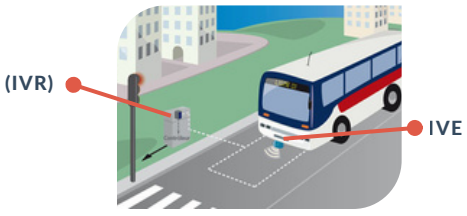
- Fast vehicle identification
- Real-time data transmission
- Robust and field-proven product

OPERATING PRINCIPLE

This selective vehicle identification system consists of: **an onboard transmitting beacon** (IVE) installed on the vehicle, **a fixed roadside receiver** (IVR), an **upstream inductive loop** connected to the control unit.

The beacon, mounted underneath the vehicle chassis, transmits a specific programmable code. The code can be configured either manually (coding wheel, joystick) or automatically (destination display system or AVLS/SAE system).

When the vehicle passes over the inductive loop, the code is detected and transmitted by the IVR receiver to the control controller.



IVR RECEIVER

The IVR detector is a **selective receiver** designed to identify buses, tramways and any other priority vehicles. Through dry-contact relay outputs, it delivers the information transmitted by an onboard IVE beacon installed on the vehicle.
Communication between the IVE and the IVR is established via a magnetic loop embedded in the roadway.
The IVR therefore provides **both magnetic vehicle detection and selective vehicle identification functions**.

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FEATURES



Receiver (IVR)

- Compact plug-in receiver unit equipped with a standard 11-pin connector and DIN rail mounting base
- Front-panel configuration via 12 ON/OFF switches and potentiometer
- LED status indicators: red LEDs 1 to 6 for relay outputs, HF power LED, FREQ LED for beacon frequency, DEF LED for self-test and diagnostics, 3-color LED bargraph indicating acquisition reliability
- Magnetic and selective vehicle detection
- Single loop for both functions
- Selective detection validated and maintained by magnetic detection
- Magnetic detection information available on 1 output
- Selective information available on 4 outputs

System Flexibility

- 3 versions available depending on the control system type: manual, automatic, selectable transmitted code system (8 or 16 codes)
- Adjustable sensitivity for selective and magnetic detection to ensure reliable operation in disturbed environments
- Adjustable hold time
- Loop fault detection: number of turns, Short circuit, open circuit

TECHNICAL SPECIFICATIONS

Technology	Magnetic and selective detection through inductive loop
DL/L sensitivity	Constant over the entire inductance range used
Loop inductance	Min: 40 µH / Max: 1500 µH
Operating mode	Omnidirectional
Output type	AON outputs
Switched power	Optocoupler: 12/24 V – 100 mA max
Response time	Constant over the entire inductance range and independent of frequency: typical 80 ms
Power supply	12VDC / 24VDC /12VAC / 24VAC / 230VAC.
Supply voltage tolerance	AC = + - 15% / DC = -10% + 20%.
Power consumption	<20mA to 24V / <40mA to 12V / <25mA to 230Vac
Operating temperature range	Storage : -40°C to +85°C Operating : -30°C to +70°C.
Housing / Dimensions / Weight	With Plug-in : Height 80 mm / Width 40 mm / Depth 60 mm Weight : Version 12/24 : 72g + 56g Plug-in Version 230V : 109g + 56g Plug-in
Protection Rating	IP40
Connection	Plug-in 11-pin DIN rail base
Configuration	DIP switches and potentiometer
Indications	LED diagnostics, loop operating frequency and relay output status indication
Compliance	European Directive 2014/53/EU 2012/19/EU (WEEE) Electrical insulation class 2

Robustness & Safety

- Data security ensured through CRC encoding
- Excellent robustness with high EMC immunity

Reliability & High-Precision Information

- Accurate vehicle localization with high environmental immunity (EMC, operating temperature range)
- Status visualization: detection, signal strength, interfering HF presence level, relay output status

Ease of Use

- Real-time transmission
- Vehicle approach management through loop association: call loop, stop-line loop, acknowledgement loop

Compatibility

- Compatible with all loop types, controllers and command systems (manual or automatic)

Scalability

- System designed to support future network extensions: additional lines sharing intersections with existing lines, migration from manual to automatic control systems

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