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# CITADIS DUALIS

ACCESSIBILITY  
MODULARITY  
RELIABILITY  
COMFORT  
CUSTOMIZATION



COMBINING THE BEST  
OF TRAINS AND TRAMWAYS

**ALSTOM**

*We are Shaping the future\**

**ALSTOM**

# CITADIS DUALIS



## Optimized access for all

With its full low floor and wide gangways, Citadis Dualis is the first tram-train vehicle certified according to STI PRM\* standards.



## Passenger comfort

Citadis Dualis offers many options dedicated to passenger comfort, depending on the profile of the line served. Among the possibilities are toilets, more comfortable seats, window shades and umbrella racks... Citadis Dualis makes on-board comfort a priority.



## Operating tools

Citadis Dualis also offers anti-vandalism and passenger-counting options to optimize public transit operations for maximum vehicle availability.



## Modular Design

Citadis Dualis may be configured to the needs of each operator. Urban or peri-urban configuration, number of doors per side, interior spaces... the design and layout of your Citadis Dualis are modular to fit the type of itinerary.



\* Excluding the toilet option

# 4 DEGREES OF FREEDOM

## LENGTH

42 Meters and 52 Meters

## WIDTH

2.4 Meters and 2.65 Meters

## INTERIOR FITTINGS

## ELECTRIC POWER SUPPLY

Dual voltage 750 Vdc / 25 KVac 50 Hz  
Or dual voltage 750 Vdc / 1500 Vdc



- Length: 42 m
- Width: 2.4 m
- 4 doors
- 93 seated places
- 141 standing places



- Length: 42 m
- Width: 2.65 m
- 4 doors
- 98 seated places
- 153 standing places



- Length: 42 m
- Width: 2.65 m
- 5 doors
- 92 seated places
- 159 standing places



- Length: 51.5 m
- Width: 2.4 m
- 6 doors
- 116 seated places
- 176 standing places



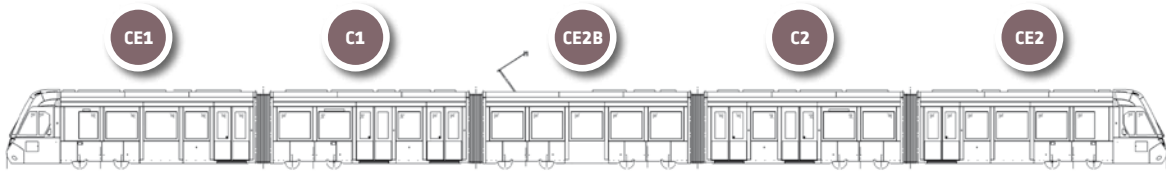
2.4 meters



2.65 meters

# CAPACITIES

	VERSION 2.65 M 4 CARS 4 DOORS	VERSION 2.65 m 4 CARS 5 DOORS	VERSION 2.40 m 4 CARS 4 DOORS	VERSION 2.40 m 5 CARS 6 DOORS
<b>Seats + Tip-up seats</b> CE2 C2 CE2B C1 CE1	18 + 2  32 24 + 2 18 + 2	18 + 2  32 20 18 + 2	16 + 2  32 22 + 3 16 + 2	16 + 2 20 40 20 16 + 2
<b>Total</b>	92 + 6	88 + 4	86 + 7	112 + 4
Passenger in Wheelchair space Bicycle rack Luggage rack	2 1 1	2 0 0	2 1 1	2 0 0
<b>Total passengers</b> 4 persons/m <sup>2</sup> 6 persons/m <sup>2</sup> 8 persons/m <sup>2</sup>	251 330 410	251 332 414	234 307 381	292 382 472



# TECHNICAL SPECIFICATIONS

Type	Articulated – 4 to 5 car bodies
Length	4 car bodies: 42 m 5 car bodies : 52m
Width	2.65 m (4 car bodies) or 2.40 m (4 or 5 car bodies)
Height	3.5 m
Floor height (4 pers/m² + seats folded, new wheels) • Access (gap-filler) • Corridor central part • Corridor above bogies	370 mm 405 mm 537 mm
Multiple Unit	Up to 3 units (MU3) with 4 car bodies
Structure • Compression • Passive safety	600 kN complies with standards EN12663 and EN15227
Performance • Maximum speed • Maximum acceleration from start up	100 km/h 1,09 m/s² from 0 to 40 km /h (base version)
Braking • Types • Maximum Emergency braking deceleration	Electric, Electrohydraulic and Electromagnetic 2.8 m/s speed ≤ 70 km/h 2.5 m/s speed > 70 km/h
Weight • Tare weight • Maximum load per axle (6 persons/m2 + seats extended )	≈77 t (4- car vehicle) 11.5 t
Traction • Type • Continuous Motor power	IGBT, 3-phase permanent magnet synchronous motor Motor 6 x 150 kW
Train Control / Command	Redundant MVB network / WTB Cabled commands for safety functions
Electric power supply	Dual voltage 750 Vdc / 25 kVac 50 Hz Dual voltage 750 Vdc / 1500 Vdc
Auxiliary power	400 Vac /50 Hz 24 Vdc
Minimum curve radius	25 m
Capacity in EL4 (4 pas/m²) • 4-car vehicle • 5-car vehicle	Fixed seats / Total 86-92 / 234-251 112 / 292
Corridor width	600 mm (2.65 m version)
Passenger access width	Double sliding door / 1,300 mm passage
Platform access	Fill-gap
Passenger Information • Base • Option	Interior and exterior LED display screens + audio TFT screens

# OPTIONS

DESIGN OPTIONS	Length (in m.)	42	42	42	52
	Width (in m.)	2,65	2,65	2,4	2,4
	Number of cars	4	4	4	5
	Number of doors per side	4	5	4	6
	Luggage space	●	●	●	●
	Bicycle space	●	●	●	●
	Retractable steps	●	●	●	●
	Maximum number of doors per side	5	5	5	7
CONTRACTUAL OPTIONS	Toilets	●			
	Fixed steps for the doors	●	●	●	●
	Supply and installation of passenger-counting system	●	●	●	●
	Lengthwise umbrella rack	●		●	
	Exterior livery	●	●	●	●
	Trash receptacles	●	●	●	●
	Passenger window shade	●	●	●	●
	More comfortable seats (cannot be combined with anti-vandalism option)	●			
	Anti-vandalism (cannot be combined with more comfortable seat option)	●			



# COMFORT OPTIONS

## TOILET OPTION\*

The toilet option\* is offered aboard the CITADIS DUALIS in a suburban configuration (2 m65 in width) in order to improve passenger comfort for trips that exceed 30 minutes. This is a unique option in a tramway-type LRV. Two variants are possible for this option:

- Factory-fitted toilets,
- Preparation for toilet integration at a later time (for example in the case of a line extension)

\* Option non-certified STI PRM



## LENGTHWISE UMBRELLA RACK OPTION

CITADIS DUALIS can also be equipped with lengthwise overhead racks. These allow passengers to put small objects, umbrellas, jackets... above their seats and also improve passenger comfort in freeing up space.

## TRASH RECEPTACLE OPTION

Trash receptacles can be installed as an option aboard the CITADIS DUALIS. They facilitate maintaining a high level of on-board cleanliness, improving both the trip's ambiance and the cleaning work.

## PASSENGER WINDOW SHADE OPTION

Passengers are able to adjust sunlight to what's comfortable.

## MORE COMFORTABLE SEAT OPTION (CANNOT BE COMBINED WITH THE ANTI-VANDALISM OPTION)

Improved seating and an added headrest offer passengers greater travel comfort.





# TECHNICAL OPTIONS

## FIXED STEPS OPTION

Removal of the retractable steps (standard edition) in order to reduce passenger exchange times at stations. This option requires an appropriate infrastructure.



## PASSENGER COUNTING OPTION

All vehicle accesses are equipped with a system that makes it possible to note passengers getting on and off. The number of passengers aboard is thus known at all times. This is an essential element for tram-train operations.



## INDIVIDUALIZED EXTERIOR LIVERY

To facilitate its integration in the regional landscape, the livery of the CITADIS DUALIS can be individualized with the colors of the region.



## ANTI-VANDALISM OPTION

CITADIS DUALIS's anti-vandalism resistance can be reinforced with an interior and exterior film protection on the car.

## BICYCLE SPACE / LUGGAGE SPACE (OPTION DEPENDS ON THE BODY CAR' DESIGN)

