

# Regional and Suburban Transport

## ITINO\* family



New concepts in rail transport result in a requirement for modern and economic vehicles for regional networks. Bombardier Transportation's ITINO product family aims to fulfil this changing demand.

On the basis of other operationally successful vehicles Bombardier Transportation has developed a product family, which sets new standards in regard to safety, reliability, design and ride comfort. The ITINO product family comprises low-floor vehicles with diesel propulsion, capable of maximum speeds of up to 160 km/h. The vehicle's modular design enables the creation of individual solutions and vehicle configurations on the basis of specific customer needs.

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***nonstop***

The ITINO satisfies the higher expectations of both operators and passengers. An attractive design provides an appealing exterior. As far as the interior fittings were concerned, particular attention was paid to the effective use of space and balanced ride comfort. In addition to seats in rows or opposite one another, the seat configuration can also be adapted to individual customer requirement. Regardless of the configuration selected, the trapeze-shaped windows always give an excellent view of the outside world. A multipurpose compartment offers space for prams, wheelchair users, heavy luggage and bicycles. The vehicle concept also includes a modern passenger information system, a video monitoring system, a closed toilet for the disabled, as well as air conditioning in both the passenger compartment and driver's cab. Wide doors (1.400 mm), an entry area at platform level and generously proportioned connections in the vehicle's interior ensure a rapid and safe passenger exchange.



The vehicle's carbody has an aluminum integral construction. The fiberglass paneling on interior side walls and roof enable a modular design of the passenger compartment. The carbody sits on bogies fitted with air suspension. The bogie frame is supported by the primary suspension arranged in pairs on the wheelset bearing housing. Both the motor and Jacobs trailer bogies have electro-pneumatic wheel disk brake systems. A magnet rail brake is installed in the motor bogie. Each braking function is reinforced by wear-free brakes. The ITINO has necessary retarder for this integrated in the automatic gears.

All elements of modern vehicle design were realized and future crash requirements considered in the development of the ITINO product family. The ITINO achieves very good acceleration values and a maximum speed of up to 160 km/h based on the two separately functioning diesel motors. The ITINO thus fulfils the growing requirements placed on regional rail transport by operators and even enables use in inter-regional application.





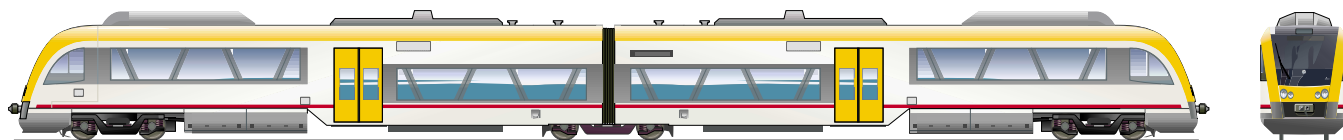


Optimal energy consumption values are achieved by the lightweight design: The ITINO's power weight is approximately 12 kW/t (operating weight at 50 % capacity). Noise emission is reduced to a minimum by noise protection measures and motor containment, thus enabling night-time operations even in urban areas.

The individual train configuration with 2-, 3- and 4-car vehicles also allows economic operations on lines with varying passenger demand. The vehicles can be operated in multiple traction configurations.

The production of the ITINO is carried out based on strict environmental guidelines: Since 1998 all Bombardier Transportation locations involved in production are certified in accordance with ISO 14001 (ecological audit).




**TECHNICAL DATA**

Dieseltriebzüge	2-Car ITINO D2	3-Car ITINO D3	4-Car ITINO D4
Length over Carbody	38 400 mm	54 750 mm	71 100 mm
Carbody Width	2 850 mm		
Max. Height over Top of Rail	3 735 mm		
Height of entry area / low-floor area	600 mm / optional 800 mm		
Height of high-floor area	1 260 mm		
Door Width (open)	1 400 mm		
Car profile	In accordance with UIC 505-1 or EBO § 22, Attachment 8		
Gauge	1 435 mm		
Distance between Bogie Axles			
- Motor bogie	2 200 mm		
- Trailer bogie	2 700 mm		
Minimum Track Curve Radius			
Coupled Train Configuration	120 m		
Uncoupled Motor Vehicle in Depot	90 m		
Low Floor Portion	57 %	70 %	77 %
Max. Axle Load: Motor/Trailer Bogie	15 t / 17 t		
Tare Weight	69 t	89 t	109 t
Derailment safety	According to ORE B55 RP8		
Electro-pneumatic Brake	According to UIC 544-1		
Number of Doors	4	6	8
Number of Bogies	3	4	5
Propulsion	2 x 500 kW		
Maximum Speed	160 km/h		
Max. Seat Number (Fixed/Folding)	136	212	288
Max. Standing Passengers (4 per/m <sup>2</sup> )	120	170	220
Maximum Passenger Capacity	256	382	508

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