



**EDMONTON, ALBERTA**

# SD160 High-Floor Light Rail Vehicle

In 1978, Edmonton, Alberta became the first North American city to open a light rail system with a base fleet of 37 U2 Siemens Mobility light rail vehicles (LRV). Thirty years later, a new generation of vehicles was born, the city of Edmonton expanded their network by 2.1 km, and is currently operating 57 SD160 Next Generation light rail vehicles.

A steel carbody construction; fully bi-directional; single articulated; high-floor vehicle ideal for high platform operation and built in North America. Each six-axle SD160 light rail vehicle is equipped with two power trucks (one under each cab end) and on non-powered center truck.

The interior of this next generation SD160 LRV has been designed to maximize passenger space, incorporating wide doorways and a predominately knee-to-back seating arrangement.

Each LRV is equipped with eight wide opening sliding plug doors, with four to each side of the vehicle. The door spacing has been optimized to allow for greater passenger flow entering and exiting the vehicle, which ultimately decreases the station dwell times.

## Performance and Capacity

Maximum operational speed	80 km/h	50 mph
Maximum allowable speed	80 km/h	50 mph
Service acceleration	1.07 m/s <sup>2</sup>	2.37 mphps
Service deceleration	1.31 m/s <sup>2</sup>	2.95 mphps
Emergency braking rate	2.63 m/s <sup>2</sup>	5.9 mphps
Passenger capacity	60 seats Approx. 190 total passengers @ 6 p/m <sup>2</sup> 2 wheelchair spaces	
Maximum operational gradient	7%	
Motor power rating	145 kW x 4	194 hp x 4
Catenary supply voltage	600 Vdc	

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The vehicle is also equipped with two designated wheelchair spaces allowing for priority seating to disabled passengers and doorway ramps to assist in the boarding and exiting of disabled passengers.

To maximize passenger comfort, each vehicle is also equipped with two roof-mounted HVAC units per LRV.

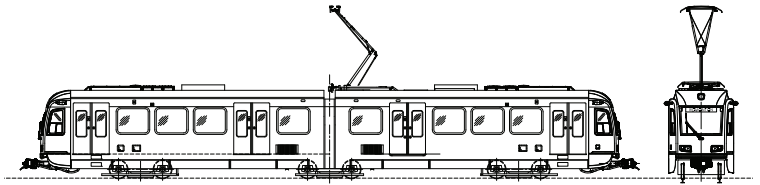
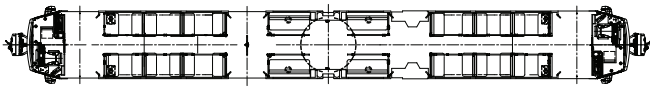
Also, to combat the extreme winter conditions in Edmonton, this vehicle features sidewall heaters in the passenger area, dual pane insulated windows and increased thermal insulation throughout the vehicle.

The SD160 utilizes a passenger information system consisting of operator and automated announcements, passenger-operator intercoms and interior and exterior electronic destination signs, as well as interior surveillance system for increased passenger safety.

Each LRV is electrically powered from an overhead catenary system (OCS) and for Edmonton operates at



speeds up to 80 km/h, carrying close to 200 passengers in each vehicle with the ability to operate in multiple vehicle consists (up to five) as the maximum operational length. These light rail vehicles remove automobiles off the road, in turn helping cities decrease their CO2 emissions.



### Vehicle Dimensions and Weight

Length over coupler	24820 mm	81.4 ft
Width	2654 mm	8.7 ft
Height with pantograph (locked down)	3840 mm	12.6 ft
Maximum pantograph height	7010 mm	up to 23 ft
Vehicle empty weight	41500 kg	91,500 lbs (AWO)
High-floor section above TOR	985 mm	3.2 ft
Low-floor section above TOR	n/a	n/a
Minimum turning radius	25 m	82 ft
Vertical curve, crest	250 m	820 ft
Vertical curve, sag	350 m	1,150 ft
Track gauge	1435 mm	4.7 ft
Wheel base	1800 mm	5.9 ft



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