

# Electric School Buses Available for Purchase

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# Type A Electric School Buses



Manufacturer	TransTech	Lion	Blue Bird	Collins
<b>Body</b>	TransTech	Lion	MicroBird – Girardin	Collins
<b>Chassis</b>	Ford E-450	Lion	Ford E-450	Ford E-450
<b>Powertrain</b>	Ford eQVM approved Motiv All-Electric Powertrain	TM4 / Dana	Ecotuned	Ford eQVM approved Motiv All-Electric Powertrain
<b>Battery Manufacturer / Chemistry</b>	FIAMM Sodium Nickel	Lithium Ion NMC	Lithium-ion	FIAMM Sodium Nickel
<b>Standard Battery Size / Capacity</b> <i>(Optional Larger Batteries)</i>	106 kWh	Up to 160 kWh	89 kWh	106 kWh
<b>Passenger Capacity</b> <i>(Without Wheelchair Lift)</i>	25	Up to 24 passengers; wheelchair lift available	Up to 30	25
<b>Approximate Range Standard Battery</b> <i>(Optional Larger Battery)</i>	Up to 100 miles	Up to 150 miles	Up to 100 miles	Up to 100 miles
<b>Top Speed</b>	65 mph	65 mph	65 mph	65 mph
<b>Gradeability</b>	17%	Up to 20%	12%, likely steeper	17%
<b>Cabin Heating System</b>	All-Electric Heating Available	Auxiliary Heater Available	All Electric Webasto System	All-Electric Heating Available
<b>Charge Systems Voltage and Power</b>	J1772 208/240V Single Phase 15 kW	208/240 V single phase power 19.2 kW - requires 80 amps	J1772 65A/240V	J1772 208/240V Single Phase 15 kW
<b>Vehicle-to-Grid Capability</b>	V2G Capable	Optional: Bidirectional (V2G)	Optional: Unidirectional flow (V1G)	V2G Capable
<b>Compatible Charging Manufacturers</b>	Any brand using J1772	Clipper Creek (and other brands using J1772)	2x 6.6 kW Level 2	Any brand using J1772
<b>Estimated Charging Time</b> <i>(50%)</i>	2.5 hours	2 - 4.5 hours	3.5 hours	2.5 hours
<b>Estimated Charging Time</b> <i>(0% to 100%)</i>	8 hours	4-9 hours	7 hours	8 hours
<b>Approximate Price</b>	Local Dealers Provide Quote	\$265,000 - \$335,000	Local Dealers Provide Quote	Local Dealers Provide Quote
<b>Deployed in the U.S.</b>	New York, California	Taking Orders	Taking Orders	New York, California



# Type C Electric School Buses



Manufacturer	Starcraft	Lion	Thomas Built Buses	Blue Bird	IC Bus
<b>Body</b>	Starcraft eQuest XL	Lion	Saf-T-Liner C2	Blue Bird Vision	IC Bus
<b>Chassis</b>	Ford F59	Lion	Freightliner Custom	Blue Bird (BBCV)	IC Bus
<b>Powertrain</b>	Ford eQVM approved Motiv All-Electric Powertrain	TM4 / Dana	Proterra ProDrive	Cummins	Dana / TM4
<b>Battery Manufacturer / Chemistry</b>	BMW Lithium Ion	Lithium Ion NMC	Proterra Lithium-ion NMC	Li-NMC-G (Lithium-Nickel-Manganese-Cobalt-Gel)	Lithium-Ion
<b>Standard Battery Size / Capacity</b> <i>(Optional Larger Batteries)</i>	127 kWh	up to 220 kWh	up to 220 kWh	155.4kWh	107, 214 & 321 kWh
<b>Passenger Capacity</b> <i>(Without Wheelchair Lift)</i>	48	Up to 72	Up to 81	Up to 77	Dependent on wheelbase
<b>Approximate Range Standard Battery</b> <i>(Optional Larger Battery)</i>	105 miles	Up to 155 miles	Up to 119 miles	Up to 120 miles	50-90 miles, (90-170 miles), (170-250 miles)
<b>Top Speed</b>	65 mph	65 mph	65 mph	Up to 60 mph programmable	65 mph
<b>Gradeability</b>	20%	Up to 20%	19%	21% (11 mph speed)	20%
<b>Cabin Heating System</b>	All-Electric Heating Available	Auxiliary Heater Available	Electric	Electric	TBD
<b>Charge Systems Voltage and Power</b>	J1772 208/240V Single Phase 15 kW	208/240 V single phase 19.2 kW - requires 80 A	Input - 480VAC 3 Phase Output - 60kW - 270-875VDC Or: 25kW Level 2 Charger	Input: 208-240 VAC, 100 amps, single-phase, 60 hz; Output: 208-240 VAC, 80 amps	208/240 V single phase 19.2 kW - requires 80 A DC Fast charge (special equipment required)
<b>Vehicle-to-Grid Capability</b>	V2G Capable	Optional: Bidirectional (V2G)	Optional: Bidirectional (V2G)	Optional: Unidirectional flow (V1G)	Optional
<b>Compatible Charging Manufacturers</b>	Any brand using J1772	Clipper Creek (and other brands using J1772)	Most SAE Combo (CCS) DC Fast Chargers; and Level 2 J1172 brands	Clipper Creek	Multiple AC & DC charger manufacturers
<b>Estimated Charging Time</b> <i>(50%)</i>	2.5 hours	2 – 5.5 hours	Up to 2 hours	3.6 hours	2.1, 4.2 & 6.5 hours on AC (depending on battery) Less than 1 hour on a DC fast charger
<b>Estimated Charging Time</b> <i>(0% to 100%)</i>	8 hours	4 – 11 hours	3 hours with 60kW charger	7.3 hours	4.3, 8.5 & 13 hours on AC (depending on battery) Less than 2 hours on a DC fast charger
<b>Approximate Price</b>	\$300,000	\$305,000 - \$395,000	\$320,000 - \$400,000	Quote from local dealer	Quote from local dealer
<b>Deployed in the U.S.</b>	CA	CA, MA, NY, MN	Taking Orders	CA, ND, NJ & NY	Taking limited orders



# Type D Electric School Buses



Manufacturer	Lion	Blue Bird
Body	Lion	Blue Bird All American
Chassis	Lion	Blue Bird (T3RE)
Powertrain	TM4 / Dana	Cummins
Battery Manufacturer / Chemistry	Lithium Ion NMC	Li-NMC-G (Lithium-Nickel-Manganese-Cobalt-Gel)
Standard Battery Size / Capacity <i>(Optional Larger Batteries)</i>	up to 220 kWh	155.4 kWh
Passenger Capacity <i>(Without Wheelchair Lift)</i>	Up to 83	Up to 84
Approximate Range Standard Battery <i>(Optional Larger Battery)</i>	Up to 155 miles	Up to 120 miles
Top Speed	65 mph	Up to 60 mph programmable
Gradeability	Up to 20%	21% (11 mph speed)
Cabin Heating System	Auxiliary Heater Available	Electric
Charge Systems Voltage and Power	208/240 V single phase 19.2 kW - requires 80 A	Input: 208-240 VAC, 100 amps, single-phase, 60 Hz; Output: 208-240 VAC, 80 amps
Vehicle-to-Grid Capability	Optional: Bidirectional (V2G)	Optional: Unidirectional flow (V1G)
Compatible Charging Manufacturers	Clipper Creek (and other brands using J1772)	Clipper Creek
Estimated Charging Time <i>(50%)</i>	2 – 5.5 hours	3.6 hours
Estimated Charging Time <i>(0% to 100%)</i>	4 – 11 hours	7.3 hours
Approximate Price	\$345,000 - \$410,000	Quote from local dealer
Deployed in the U.S.	Taking Orders	CA, ND, NJ & NY