Xcelsior CHARGE™
On-Route Charging

January 2019
xcelsior CHARGE

XE60
Long Range & Rapid Charge

XE35/XE40
Long Range & Rapid Charge
Design Highlights

New! On-Route Charging Compliant with Oppcharge Interoperable with multiple charger and vehicle OEM’s.

New! Extended Range and Rapid Charge Energy Storage Configurations

New! High Gradeability Traction Motor Options

New! On-Route Rapid Charger Interface

New! Plug In Charging Compliant with SAE Standards Interoperable with multiple charger and vehicle OEM’s.

New! Shop Plug-in Charging Port
Depot Plug-in Charging
100 - 150 kW

Overhead On-Route Charging
300 - 450 kW
Siemens or ABB Equipment

650V DC nominal voltage output (750V max)

Continuous charge current 400A (increasing to 600A)

~ 6 min charge per hour of driving (reducing to ~4 min charge per hour of driving)

Wireless communications bus to charger

Ground fault and high voltage isolation monitoring

NEMA Type 3R (Outdoor) enclosures

Multiple redundant fail safes and fault checks

Easy alignment of vehicle to charger (2’ x 2’ alignment tolerance)

>91% efficiency in power transfer

Ambient temperature operating range -40C to 50C

Full UL and CSA certification

OppCharge Compliant
### Arrival: 0 min
- Driver stops at parking reference
- Parking brake is activated
- Safety checks
- Pantograph lowered onto bus rails
- If the bus is in the correct position wireless communication between the bus and the charging station begins.
- Bus then initiates charging

### Charging
- Driver notified that charging session started
- Main circuit of charger switched on
- Bus batteries are connected to charger
- Continuous monitoring of charging begins
- At the end of the charging session the driver releases the parking brake to stop power transfer

### Departure: 6 min
- The pantograph is raised and charger notifies bus when complete
- The bus is able to depart the parking zone
• Xcelsior CHARGE™ is Interoperable, conforming to emerging industry standards

  • SAE J3068 and SAE J1772 compliant depot charging equipment can be used to charge buses, coaches, trucks and cars from other manufacturers

  • Opportunity charging accomplished with OppCharge compliant fast charging equipment. Efforts to align with the forthcoming SAE J3105 (Overhead Fast Charge – Standard under development)

• New Flyer charging equipment available from globally recognized suppliers
New Flyer – Siemens Charger
M42 Route (by East River)

Charger Enclosure

Overhead Mast – Charger in Background
The Complete Solution.

American Basd Lithium Ion Battery Technology
Established Supply Chain, Parts and Service organization
Highest GVWR and Passenger Capacity
Interoperable Charging Systems From Multiple Suppliers
CONNECT Telemetry to Optimize Performance
Proven Xcelsior Platform

Xcelsior CHARGE™

NEW FLYER®