

Battery Charging Standards for Construction Equipment Fleets

The American Rental Association (ARA) and Association of Equipment Management Professionals (AEMP) have formed a joint task force to request that manufacturers of construction equipment align on specifications for jobsite charging to increase adoption of electrified fleet.

Electrification of equipment is becoming increasingly popular, and fleet managers are now seeking battery electric-powered machines as an alternative to traditional fossil-fuel powered equipment. However, the lack of standardization in charging infrastructure and connectors can be a significant challenge for them. Fleet managers in both the ARA and AEMP's combined membership manage a large portion of all equipment found on construction jobsites. Due to the nature of their businesses, these fleet managers normally operate and maintain a mixed fleet using multiple vendors.

By adopting a standard charging infrastructure and connector, manufacturers can help reduce this challenge for fleet managers, enabling them to incorporate electric-powered equipment more easily and cost-effectively into their fleets. Additionally, standardization can lead to increased adoption of electric equipment, as it can help to reduce the uncertainty and confusion that often comes with introducing new technology and can improve the experience for customers. This can ultimately help to drive customer satisfaction and loyalty.

While we understand the need for manufacturers to differentiate their products, we ask that charging capabilities are standardized. We understand that differentiation can occur without limiting interoperability in other areas like battery capacity, charging speed, maintenance, durability, and battery degradation.

We propose manufacturers align around a charging standard that is similar to that of electric vehicle manufacturers with options for a range of charging scenarios.

We see three main scenarios for charging –

- EV style fast charging – used to charge equipment at installed EV chargers at branch or office locations as well as on the road on a third-party charging network. These would include level 1/2 for all machines and CCS for units with a large capacity where DC fast charging is an option.
- Mobile Charging w/ charging cable with adapters – used to charge equipment in locations off the grid with a generator or electric vehicle with two way charging capabilities.
- On-site Charging w/ charging cable with adapters – used to charge equipment with installed grid options like temporary power pole or installed standard power at offices, branches, or jobsites.

We have provided a sample manufacturer charging recommendation on the back of this one pager.

Sincerely,
ARA and AEMP Membership

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LINDE E25SH CHARGING SCENARIOS



EV CHARGING



Level 1 & 2 Charging Capability

SCENARIO 1



GENERATOR



FORD LIGHTNING



T/W Adapter
L14-30P to 14-50R
Part #180219



Included: EVSE
Charging Cable

SCENARIO 2



CUSTOMER SITE



BRANCH LOCATION



TEMPORARY POWER POLE



14-50R



TT-30R



5-15R
110V Outlet



EV TT-30P to 14-50R Adapter
Part #180222



EV 5-15P to 14-50R Adapter
Part #180216



Included: EVSE
Charging Cable

SCENARIO 3

