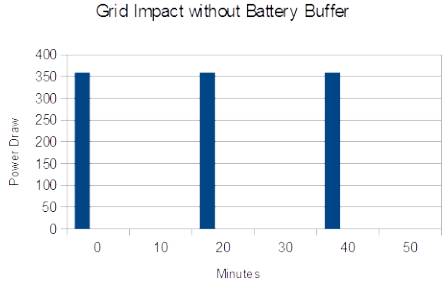
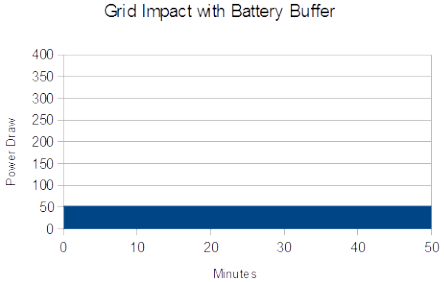
Industrial Design by IDesign, Stockholm

OPBRID BŮSBAAR ALL-IN-ONE OPPORTUNITY CHARGING STATION WITH BATTERY BUFFER

SMALL FOOTPRINT – LOW GRID DEMAND

The Opbrid Bůsbaar All-in-One Opportunity Charger with Battery Buffer integrates all charging electronics plus a battery buffer into the vertical mast for a remarkably small footprint of less than 0,5m2. The battery buffer smoothes out charging spikes and levels out grid power draw for big savings in grid upgrades and peak demand charges. The low continuous power draw also makes the Opbrid Bůsbaar with Battery Buffer much easier to situate due to the low electricity requirement.





BENEFITS

- Low impact on cycle paths and pedestrians because of the small footprint.
- Continuous power draw, as low as 20kW, from the grid.
- Profitable operation with low TCO and high uptime.
- Politically popular due to elegant design and low noise.
- Low risk since it uses the “Volvo Compatible” connection system.

COST EFFECTIVE

- Savings of up to 100.000 euros over 10 years in peak demand charges (Sweden).
- Grid upgrades are almost eliminated due to low grid power requirement.
- Less complicated site preparation with minimum excavation.
- Parallel, redundant power electronics for high availability.

DESCRIPTION

The Opbrid Bůsbaar All-In-One Opportunity Charging Station with Battery Buffer reduces or eliminates problems when situating an opportunity charger. Many more locations are now available for installing a charging station since space requirements are minimal, and grid demand is drastically reduced. Opportunity chargers for bus routes with lower bus frequencies are now practical and cost effective.

Example: A bus route with a frequency of three buses per hour requires electrification in Goteborg, Sweden. The bus route is 15km from end to end, so an average of 20kWh is needed to run to the other end. A 300kW charger is required to charge the bus with 20kWh in 4 minutes. Since there are 3 buses per hour, 60kWh are needed in one hour. Without a battery buffer, the grid demand is 300kW for 12 minutes per hour. However, with the Opbrid Bůsbaar with Battery Buffer, only a continuous draw of 60kW is required. This translates into big savings in electricity charges, since there is a “peak demand charge” based on the peak electricity demand, in addition to the basic electricity cost per kWh. In this example, this would translate into a yearly savings of 12.500 Euros per year, or 125.000 euros in 10 years. (Source Goteborg Energi electrical rates 2015).

SPECIFICATIONS

DESCRIPTION	DETAILS
Battery Buffer size	20 or 40kWh
Battery technology/cycle life	LTO/30.000
Power draw from grid (continuous)	20, 40, 60 or 80kW
Charging Interface	Volvo Compatible
Output Voltage	400 to 750V
Output Power to vehicle	120, 240 or 300kW
Input Voltage	380 or 400VAC 3 Phase

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