

BELATRON

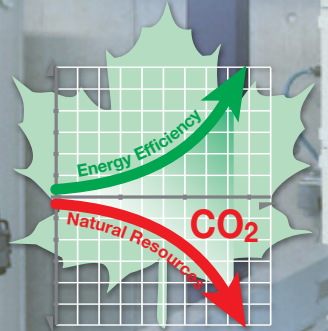
Industrial Designs

Highly efficient charging systems
specifically for industrial requirements!

BENNING

World Class Charging Systems

Excellent Technology, Efficiency and Quality



Particular benefits:

- Extreme high power density and thus low floor space requirements at the installation site
- Possibility for different system combinations in confined spaces.
- Special ventilation concept for protecting the power supply from dust and dirt
- Excellent efficiency up to 95 %
- Reduction of the required mains power through sinusoidal current consumption
- Remote monitoring option
- An optimally smoothed charging current extends the life of the traction battery
- Large charging status traffic light for good visibility

BELATRON IS and BELATRON UC charging systems Perfection for industrial applications

BELATRON IS and BELATRON UC are high efficiency charging systems built into cabinets designed for industrial applications.

In opposite to the BELATRON IS type with single output, the modular design of the BELATRON UC range with multiple outputs allows individual configurations of max. 12 charging modules with different output voltages and currents.

Due to the high power density and the modular design BELATRON UC chargers offer a lower footprint at the installation site.

For control, monitoring and remote maintenance BENNING provides a high quality monitoring system.



BELATRON IS



BELATRON UC

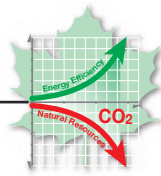


Fig. 1: Annual energy consumption and CO₂ emission when charging a 48 V – 500 Ah traction battery (240 charges per year)
 A: Conventional charger
 B: BELATRON high-efficiency charging system

Less electrical energy consumption and less CO₂ emission

BELATRON high efficiency charging systems reduce the TCO and make an important contribution to climate protection.

As the result of their excellent efficiency (up to 95%) and charge characteristic with optimized charge factor, BELATRON high efficiency systems need 25% less electrical energy and less CO₂ Emission compared with traditional chargers (see fig. 1). 25% less electrical energy will significantly reduce the TCO (Total Cost of Ownership) and the Return-On-Invest is achieved more quickly.

Special Measures for protection against acidic air, dirt and dust

Electronic chargers can be affected by dust, conductive dirt or acidic air. BENNING takes this very seriously and uses only coated printed circuit boards for the BELATRON high efficiency charging systems. Also a special designed airflow concept was designed to avoid corrosion on electronic components.

Individual configuration options for your battery charge location (Fig. 3)

With this modular concept, up to 12 charging units 48 V / 60 A or 6 charging units 48 V / 120 A or 3 charging units 80 V / 170 A can be housed (see fig. 3). Naturally, different charging systems can be combined. Ideal for confined spaces, i.e. in industrial battery charging rooms.

Remote monitoring and analysis

The monitoring software is highly comprehensive making control and remote maintenance of the charging systems both on site and from a remote control station possible. Connection can be via internet or LAN/WLAN. Usage of this software enables an even more efficient and rational application of all charging stations as well as the maintenance and service personnel.

Overview of all charging events:

- Optimum usage of the charging resources
- Remote reading of the charging parameters
- Notification in case of charge state change
- Remote maintenance



Fig. 2: Remote monitoring on site or from a decentralised control station

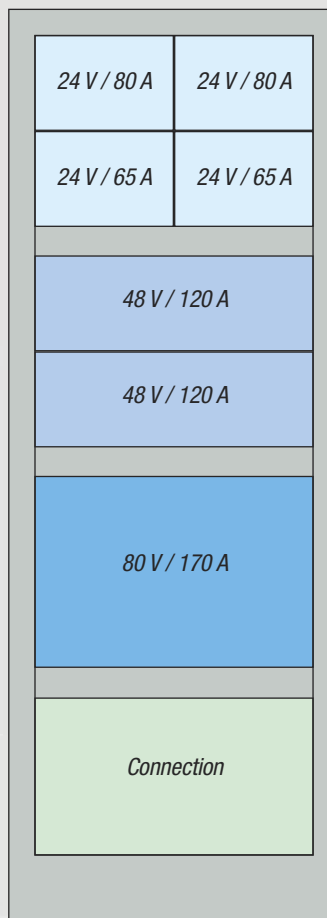


Fig. 3: Individual configuration possibilities of the BEALTRON UC industrial system



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