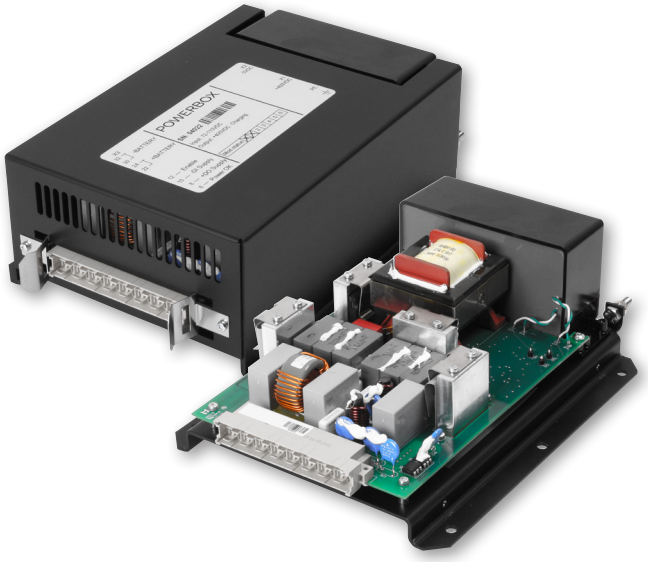
Precharger Unit

Two separate units. One for output 400VDC (model no ENR1000D110/400-PC), another for 600VDC (model no ENR1000D110/600-PC).

The precharger unit converts the input battery voltage to a regulated output voltage to charge capacitor bank. The unit will be used to charge the DC-link to a reduced voltage level of 400VDC/600VDC. En enable input signal is used to set the precharger unit in active mode or standby mode. A power OK output signal indicates normal/abnormal status.

The precharger unit will start to charge the DC-link when the enable input signal is set to high level. Enable signal is normally set to low level when the DC-link is charged to 400VDC/600VDC. The primary side, secondary side and the I/O interface are galvanic isolated from each other.



Input

- → Nominal input voltage 72-110VDC
- → Min voltage 50VDC
- → Max voltage 137.5VDC
- → Max peak voltage 154VDC, max 100ms
- → Input current max 20Arms
- → The converter is protected against reversed polarity
- → Input current level <5A after 1ms
- → Max peak inrush current <350A

Output

- → Output voltage nominal 400VDC/600VDC
- → Min voltage 380VDC/540VDC
- → Max voltage 420VDC/625VDC
- → Output ripple voltage <2%
- → Continuous output power 70W during 5 minutes at ambient temperature +70°C
- → Capacitance load 5 to 35mF at 400VDC, 10-12mF at 600VDC
- → External output reverse voltage max 5800VDC
- → Overvoltage, overload and short circuit protection
- → Thermal protection

Environmental

- → Operating temperature range -40°C to +70°C, EN50155 temperature class TX
- → The internal temperature protection circuit can be activated if the number of repetitive charging cycles will be more than 5
- → Storage temperature -40°C to +85°C
- → Shock and vibrations IEC61373, Cat 1 Class B

EMC

- → Design acc to EN50155, EN50121-3-2 and EN50121-5
- → ESD acc to IEC61000-4-2 and IEC62236-3-2
- → Fast transient immunity acc to IEC61000-4-4 and IEC62236-3-2
- → Surge acc to EN61000-4-5 and IEC62236-3-2

Electrical Design

- → Precharger unit is designed acc to EN50155, EN50124-1 and IEC61287-1
- → Insulation secondary side to ground 8.5kVDC, 1 min
- → Insulation primary to secondary side 8.5kVDC, 1 min
- → Primary input side to ground 1.5kVDC, 1 min
- → I/O interface 1.5kVDC, 1 min
- → Clearance and creepage distances acc to IEC664
- → Overvoltage category II, pollution degree II
- → Material group IIIa , CTI 175-400
- → Max working voltage between 0V output (X2) and ground (PE) 3000VDC

Mechanical

- → 229 x 184 x 86mm (output cables and connectors excl)
- → Weight max 2.5kg

About Powerbox

Founded in 1974, with headquarters in Sweden and operations in 15 countries across four continents, Powerbox serves customers all around the globe. The company focuses on four major markets - industrial, medical, transportation/railway and defense - for which it designs and markets premium quality power conversion systems for demanding applications. Powerbox's mission is to use its expertise to increase customers' competitiveness by meeting all of their power needs. Every aspect of the company's business is focused on that goal, from the design of advanced components that go into products, through to high levels of customer service. Powerbox is recognized for technical innovations that reduce energy consumption and its ability to manage full product lifecycles while minimizing environmental impact. Powerbox is a Cosel Group Company.

For more information

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