iseg
HIGH VOLTAGE. EXACTLY.

APPLICATION NOTE

CLD EOA

HIGH VOLTAGE POWER SUPPLIES FOR

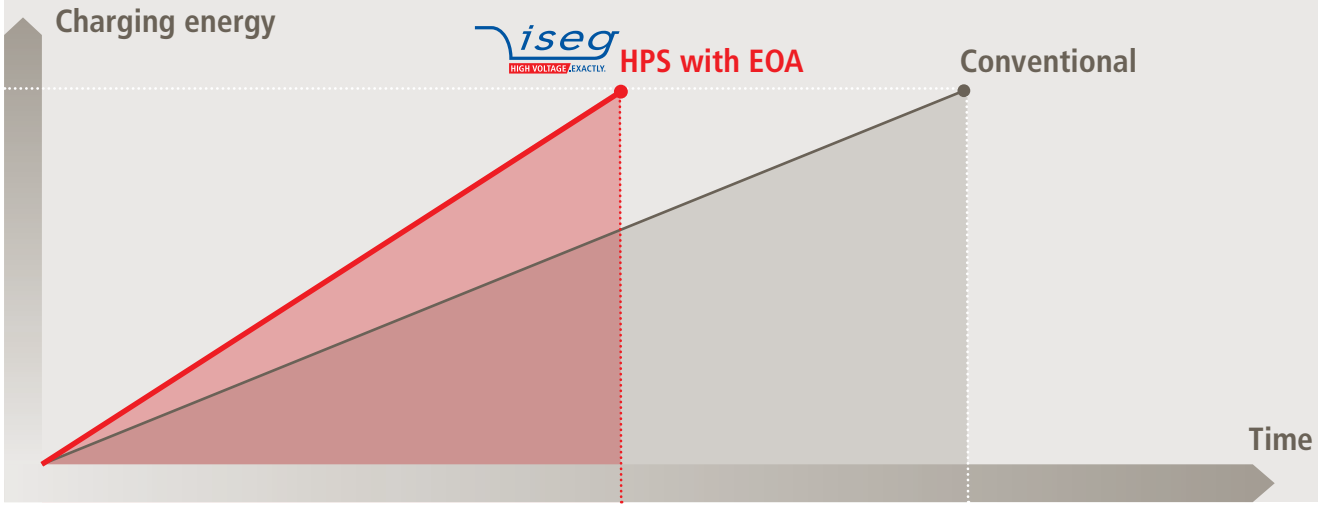
CAPACITOR CHARGING

Technological processes that require a high power density for a short time window are often supplied with energy that is temporarily stored in capacitors. The low internal resistance of special capacitors means that currents of several thousand amperes can be made available. This makes it possible to generate magnetic fields strong enough to plastically deform materials or to make special lamps shine brighter than the sun for a fraction of a second. Beforehand the converted energy must be stored in the capacitor by means of a charging process.

EFFICIENT CAPACITOR-CHARGING WITH ISEG POWER SUPPLIES

- Charging without overshooting (low overshoot) of the output voltage
- Trickle charging: when the nominal voltage is reached, the voltage on the capacitor is regulated
- Leakage currents from the capacitor are compensated by the charger
- Very good repeat accuracy
- Permitted charge/discharge frequency depends on the nominal output voltage
- Can be configured with many digital interfaces
- Can be connected in parallel to increase the output power

REACHES THE CHARGING ENERGY FASTER



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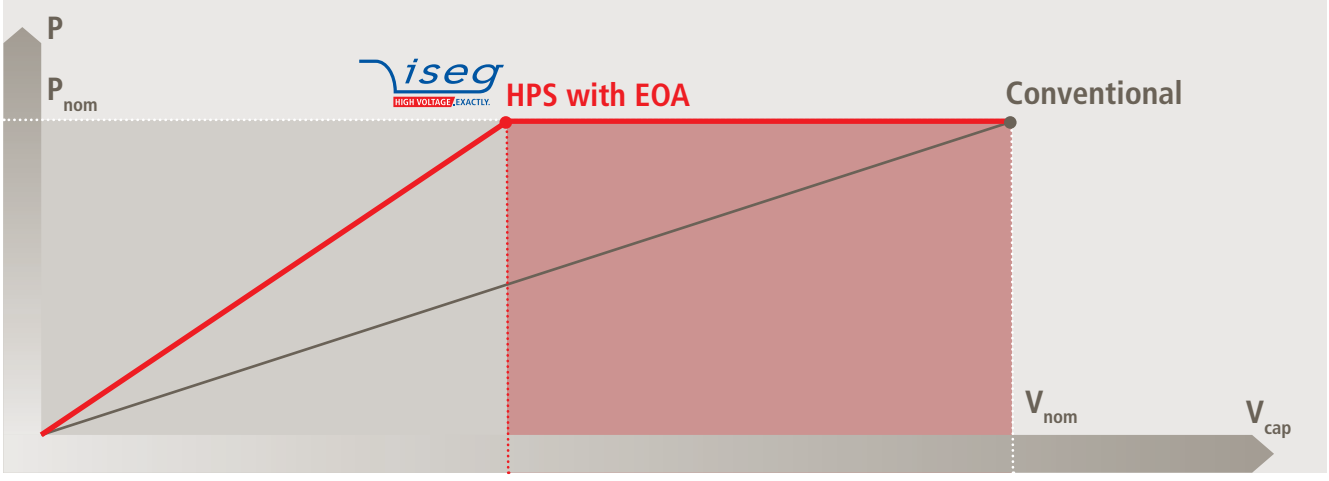
CAPACITOR-CHARGING

In a conventional charger, the power fed into the capacitor derives from the charging voltage of the capacitor and the nominal current of the charger in a straight line. The nominal power of a standard charger can only be utilised at its nominal voltage. The extended operating area (EOA) of the HPS series allows the capacitor to be charged with its rated power from a much lower voltage compared to the nominal voltage. This reduces the capacitor's charging time.

Introducing the extended operating area (EOA) makes it possible to combine several operating points in a single performance class. Different operating points can be approached under nominal power so that all process requirements can be handled by a single power class.

ISEG HPS WITH EXTENDED OPERATION AREA (EOA)



Example: iseg HPS with 3kV nominal voltage, 8A nominal current and 12kW short-term maximum power (continuous power 10kW). (compare unit without EOA 3kV, 4A)

ISEG HIGH VOLTAGE POWER SUPPLIES FOR CAPACITOR CHARGING

EPS SERIES — DC/DC

GPS SERIES — AC/DC

HPS SERIES — AC/DC

Get in touch.
We'll be happy to give you advice, and together we'll find the best solution for your high-voltage supply.

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