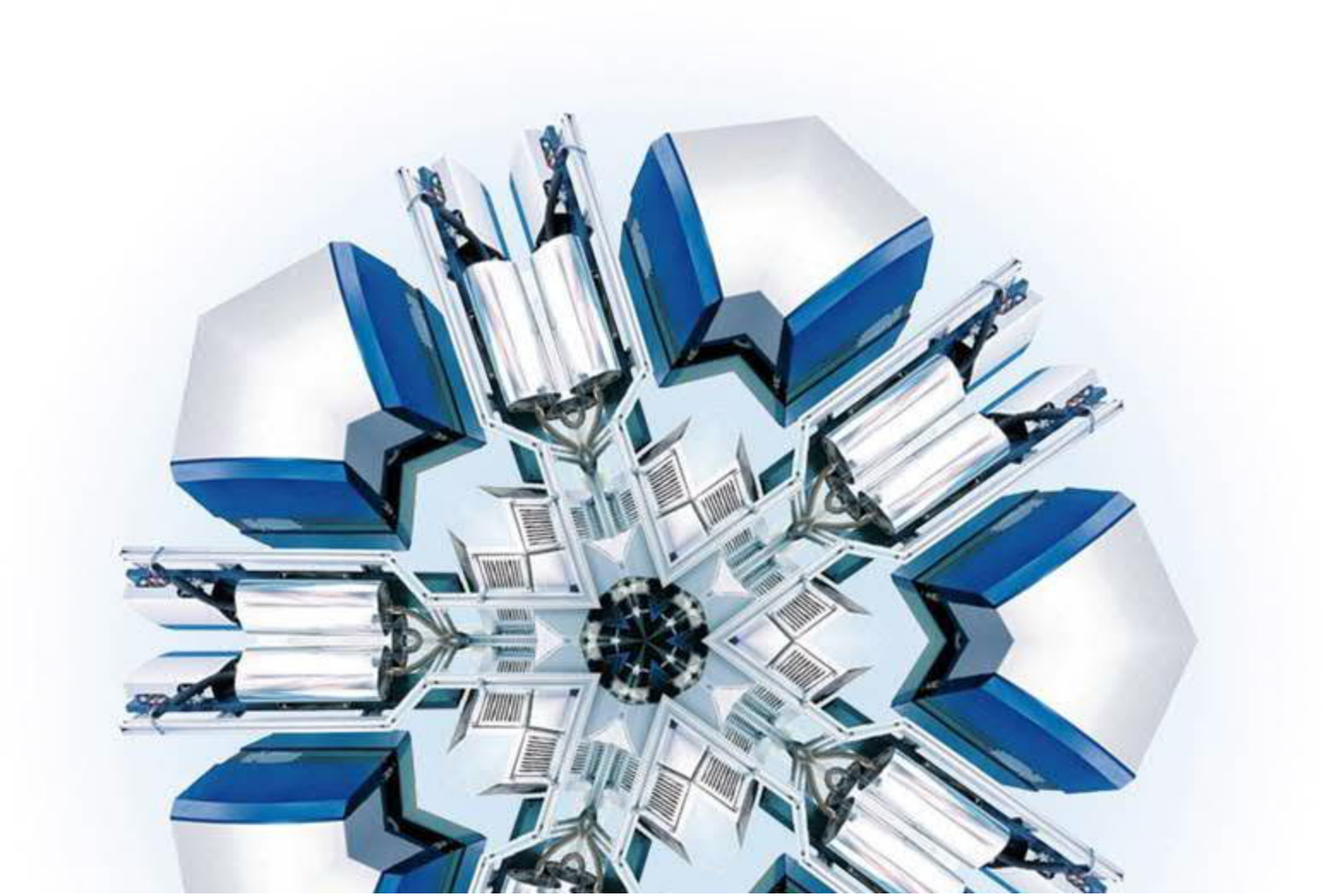
# AVL High End DC Power Supply

15.12.2020

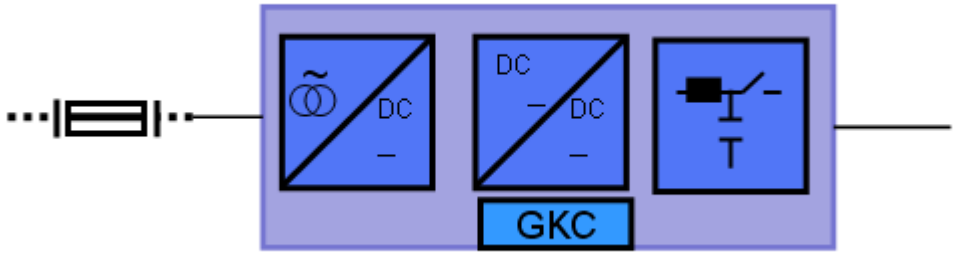


# High-End DC Power Supply

# High-End DC Power Supply
## Functional Summary

- Optimized IGBT technology - Optimized switching time (8ms) between feeding- and recovery mode via phase shift
- Power regeneration
- Galvanic isolation between main and load via isolation transformer
- Monitoring of limit values for power, voltage and current
- Integration of protective functions through hardware signals (Emergency shutdown, safe torque off)
- CAN Interface to test automation system or real-time simulation platform
- Analog interface 0-10V for U, I demand values
- Isolation monitoring device
- Consideration of voltage drops through integration of sensor leads
- Parallel operation of up to **4** DC Power Supply Units possible ( up to **1600kW**, up to **2400A**)
- DC Output voltage up **1000V** possible

# AVL High-End DC Power Supply
## Power Variants

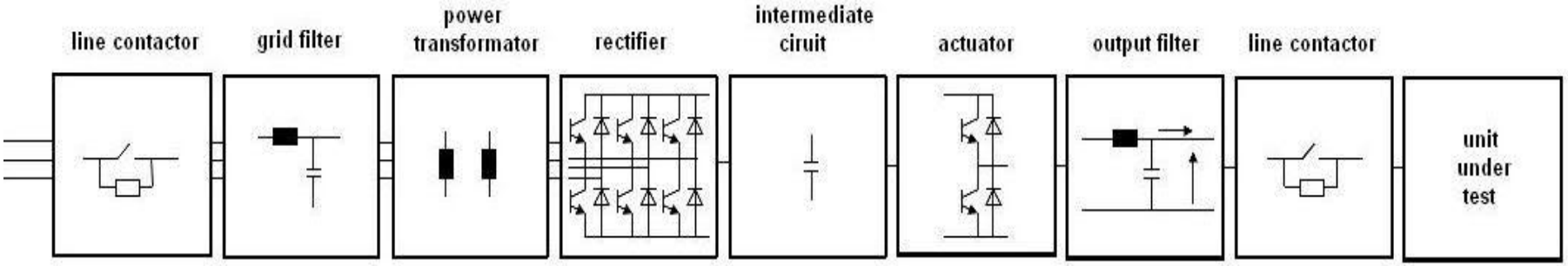



| VARIANTS | OUTPUT VOLTAGE | OUTPUT CURRENT | OUTPUT POWER |
|---|---|---|---|
| AVL BTS-DC/75 | 8V to 800V | +/- 600A | 75kW |
| AVL BTS-DC/100 | 8V to 800V | +/- 600A | 100kW |
| AVL BTS-DC/160 | 8V to 800V | +/- 600A | 160kW |
| AVL BTS-DC/250 | 8V to 800V | +/- 600A | 250kW |
| AVL BTS-DC/320 | 8V to 800V | +/- 600A | 320kW |

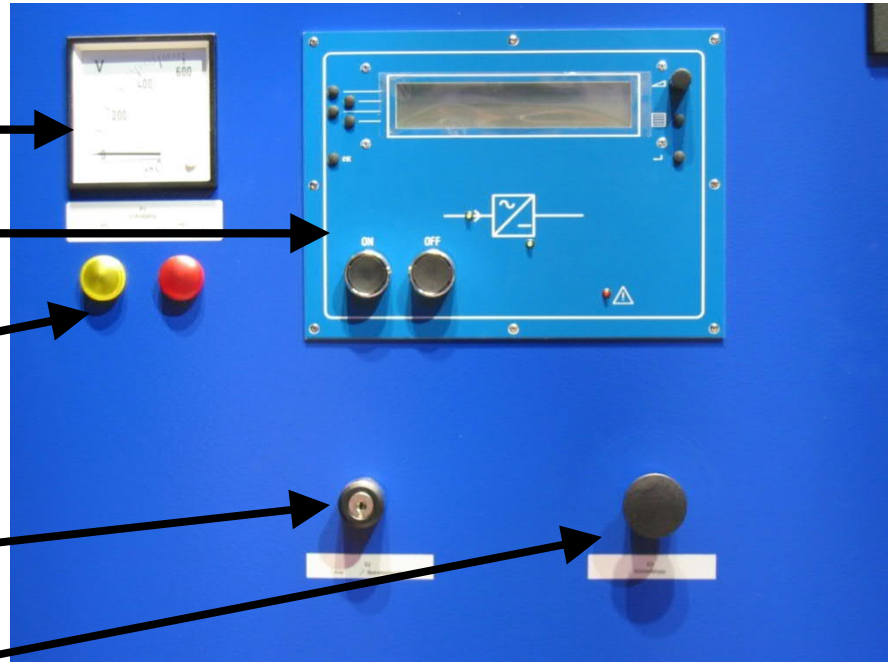
**Max. DC output voltages: up to 1000V**

**Parallel operation of up to 4 variants possible ( up to 1600kW, up to 2400A)**

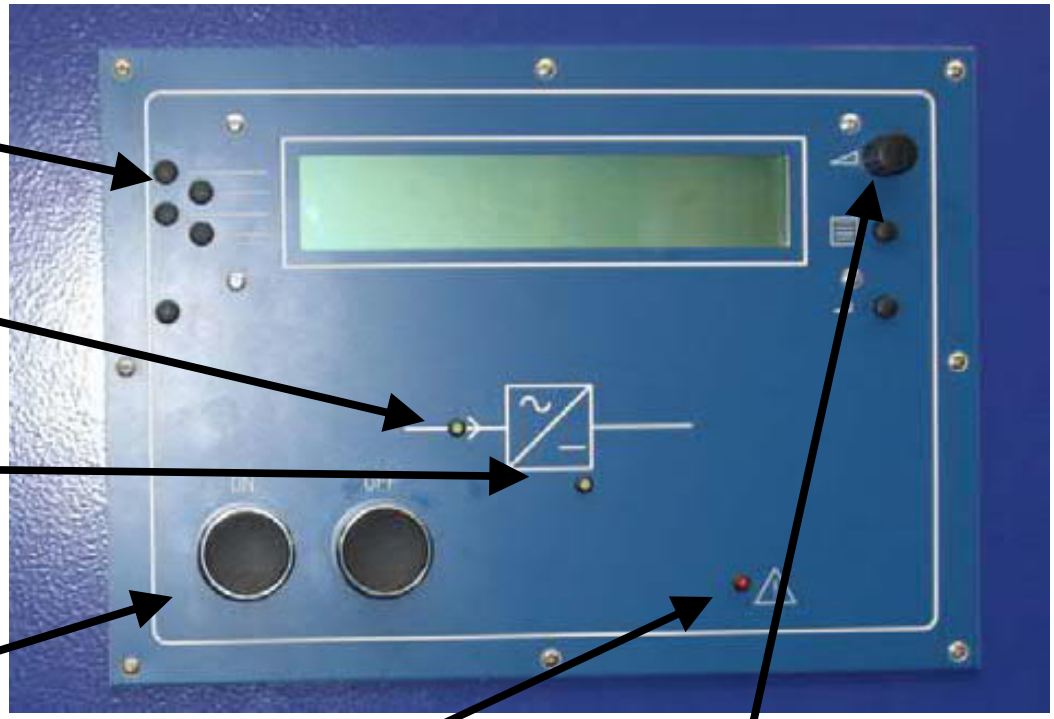
# AVL High-End DC Power Supply
## Architecture



# High-End DC Power Supply
## Front Panel



# High-End DC Power Supply
## Manual Operator Panel



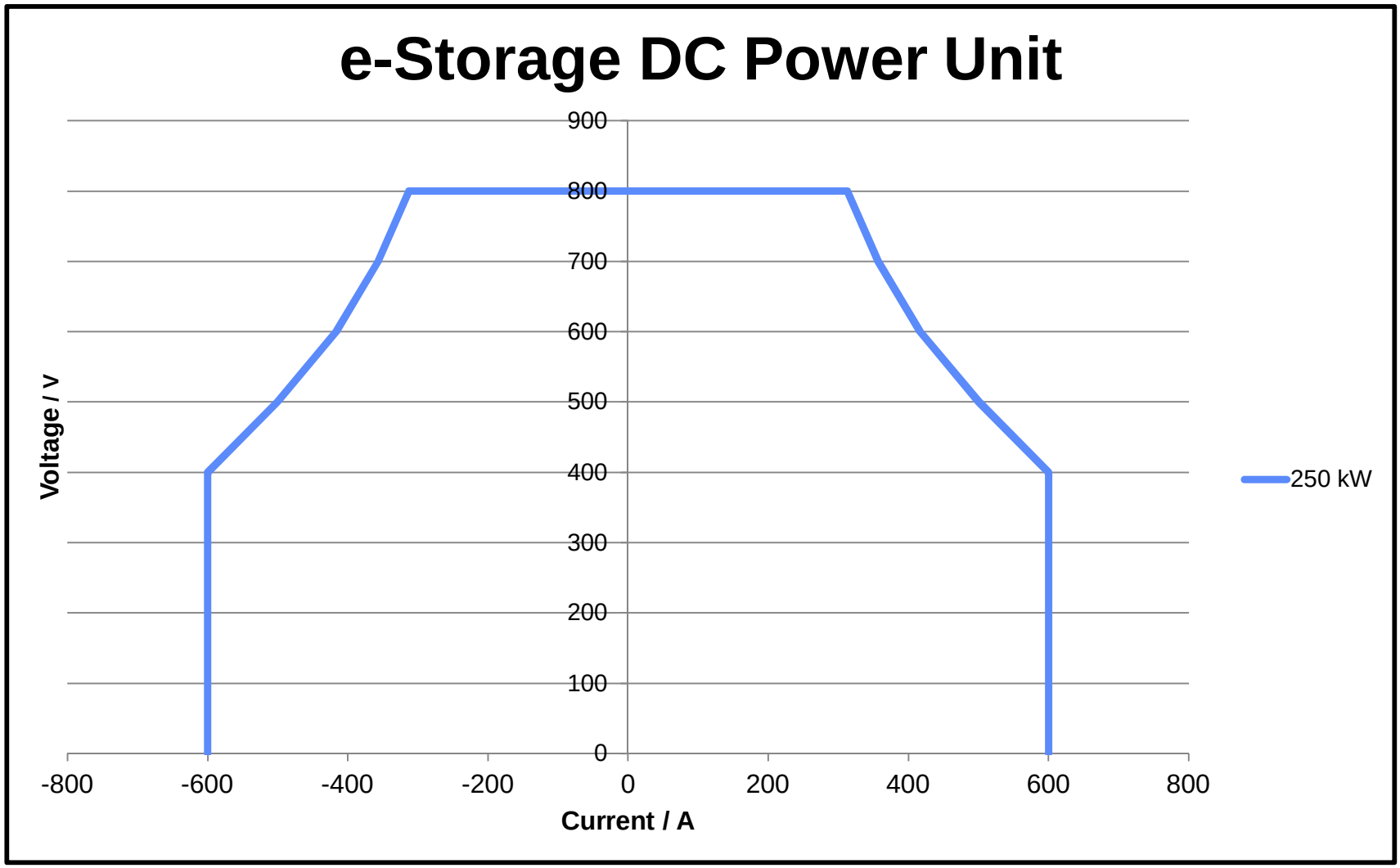
# High-End DC Power Supply
## 250kW Technical Data

| Technical Data | | |
|---|---|---|
| Nominal Power Output | kW | 250 |
| Power Factor | ƛ | >0.99 |
| Mains Supply | V | 380-480, 3 Phase, (N), PE, 50-60Hz |
| Mains Fuses | A | 500 |
| Output Voltage max. | V | 800 |
| Output Voltage min. | V | 8 |
| Output Current | A | +/- 600 |
| Voltage Tolerence, Static | % | +/- 0.5% f.s.  (Optional +/- 0.1% f.s.) |
| Voltage Tolerence, Dynamic (@ 100% load change) | % | < 5 |

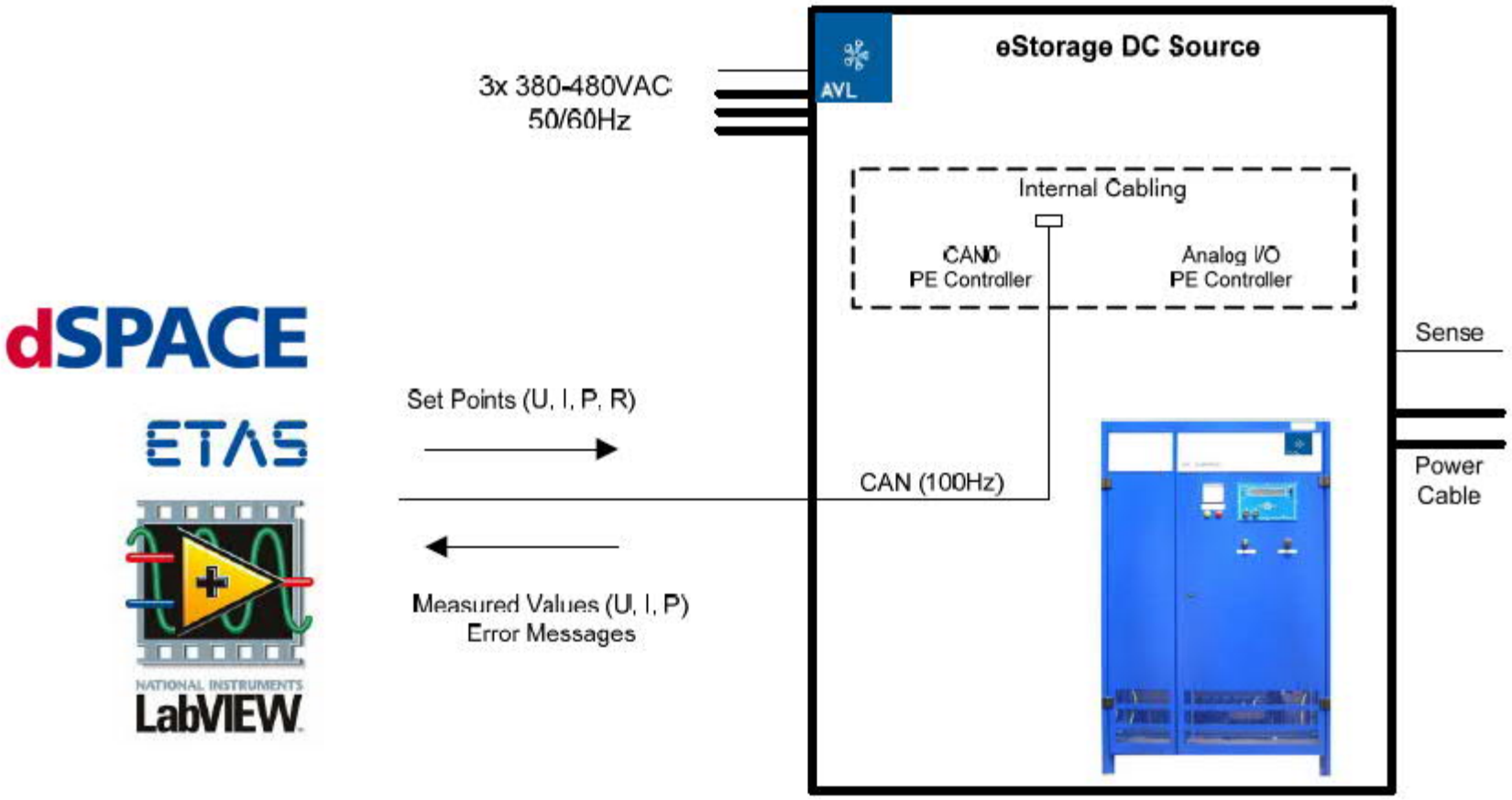
# High-End DC Power Supply
## 250kW Technical Data

| Technical Data | | |
|---|---|---|
| Voltage Ripple | % | < 0.5 f.s. |
| Measuring Accuracy | % | < 1.0 f.s. |
| Current Rise @ Ohmic Resistance | ms | <3 |
| EMC | | EN 61000-2-4 Net Disturbances EN61000-6-4 Radio Interference EN61000-4-6 Interference Resistance |
| Basic Standard | | IEC/EN 62040 |
| Short Circuit Properties | | Short-circuit proof |
| Ambient Temperature for Operation | C | 0 to 40 |
| Climatic Conditions | | 85% Humidity, non condensing |
| Cabinet Width | mm | 2400 (94 inches) |
| Cabinet Weight | kg | 2150 (4740lbs) |
| Cable Entry/Exit | | Bottom |
| Noise Level | db(A) | 80 |

# AVL High-End DC Power Supply
## 250kW Operating Envelope



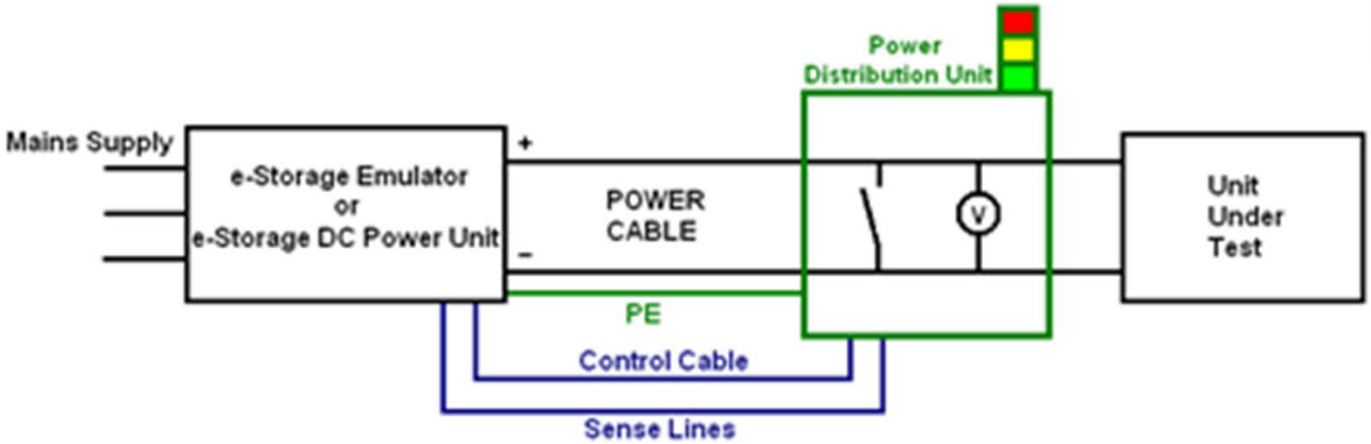
# AVL High-End DC Power Supply
## Control Interfaces



# Power Distribution Unit
# In-Cell Connection Box

The Power Distribution Unit provides a secure connection between the DC Power Supply and the Unit Under Test when remote mounting the DC Power Supply

- Compensation for voltage drop via sense lines
- Signal lights for operation mode
- Redundant DC-voltage indicator
- Door Switch
- On/Off key switch

# High End DC Power Supply
# Installation Example