



Magtech™

Magtech Voltage Booster — MVB

STABILISING LOW AND MEDIUM VOLTAGE LINES

www.magtech.no



MAGTECH VOLTAGE BOOSTER STABILISING LOW VOLTAGE LINES

SAVE MONEY

- Reduce or / and postpone investments
- Save man-hours for engineering and installation
- Increase technical and economical life span for existing grid
- Flexible—move installation to next site

POWER QUALITY

- Lifts and stabilizes voltages for each phase individually
- Corrects unbalanced voltages (symmetrical)
- Significantly increases single pole short circuit capacity in Y ground network
- Voltage is not influenced if N conductor is disconnected
- Reducing overvoltage caused by unbalanced loads
- Fast regulation; 10 ms response

QUICK INSTALLATION

- Easy to install— one day
- Pole mounted; no housing required, one or two poles
- Ground mounted; no housing required
- Free planning tool (Excel) available on www.magtech.no



ROBUST

- 25 years designed lifetime - no moving parts or semiconductors in power circuit
- Smart patented controllable inductor design with no moving parts
- Galvanized casing for outdoor use
- Oil cooled, standard transformer oil, optional with organic decomposable oil
- Hermetically sealed with overpressure valve
- Overvoltage protected



PROVEN

- Developed in close cooperation with several electric utilities (a.o. Vattenfall Eldistribution AB, Hafslund Nett AS)
- In compliance with EN50160 and CE-marking for domestic use
- A large number of units installed in Europe, first pilot installed 2003

SAFE

- Bypass contactor ensures fail safe (no power interruptions) at overload or faults
- Returns automatically to operation when fault is not present (e.g. high temperature, overload)
- Increases one pole short circuit capacity in ground Y networks.
- Ik1 increases typically by more than 60%
- Option: electronic circuit breaker on output takes care of very low short circuit levels

AREAS OF APPLICATION

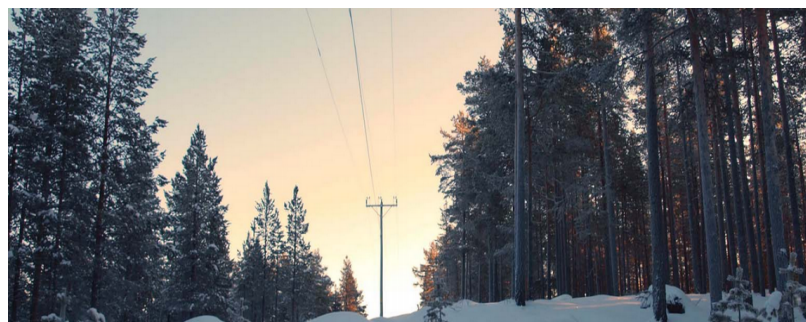
Stabilizing voltage for long LV lines or sea cables. Supporting telecom base station transmitters for GSM and UMTS, vacation homes, weekend cottages, rural homes and stores, farms, fish farms, production plants etc. Provisional power supply for construction areas, tunnels etc. Stabilizing voltage in the grid when voltage fluctuation is caused by distributed generation like solar cells, hydropower or wind-power-plants. Stabilizing and lifting voltage on the LV side, when voltage drop is caused on 1kV or higher. For ground cables in rural or densely populated areas. Mounted on the ground or on poles.



MAGTECH VOLTAGE BOOSTER STABILISING MEDIUM VOLTAGE LINES

POWER QUALITY

- Regulator lifts and stabilises medium voltage lines
- Lifts and stabilizes voltages for each phase individually
- Corrects unbalanced voltages (symmetrical)
- High dynamic, voltage correction 1000V/s
- Fast regulation; 500ms for a typical load change
- Continuous control – no steps



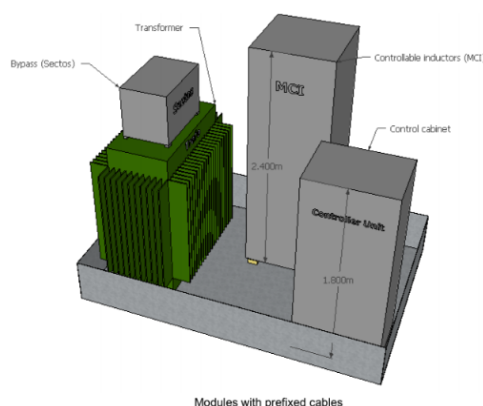


ROBUST

- 25 years designed lifetime - No moving parts or semiconductors in the power circuit
- The patented MCI, Magtech Controllable Inductor – a design with mainly copper and iron in power circuit
- Oil cooled, standard transformer oil, optional with organic decomposable oil
- System tested before shipment
- Lifts and stabilises frequent voltage changes – unlimited number of voltage corrections

SAFE

- Bypass function ensures fail safe (no power interruptions) at overload or faults
- Returns automatically to operation when fault is not present (e.g. high temperature, overload)
- Secures no reduction of short circuit capacity
- Safe bypass – direct bypass during operation



QUICK INSTALLATION

- Easy to install – prefixed pluggable cables between units
- All units in one kiosk
- Only two power cables to be connected externally, for over head lines or ground cables
- Ground mounted
- Free planning tool (Excel) available on www.magtech.no

PROVEN

- Developed in close cooperation with several Norwegian electric utilities
- In compliance with EN50160 and CE-marking for industrial EMC environment
- First pilot installed 2009
- Regulator uses same system solution as the low voltage version of Magtech Voltage Booster that has been delivered in large numbers all over Europe



AREAS OF APPLICATION

- Stabilizing voltage for long medium voltage (MV) lines or sea cables. e.g 5kV, 10kV, 22kV etc
- Supporting areas with vacation homes, weekend cottages, rural homes and stores, farms, fish farms, production plants etc.
- Provisional power supply for construction areas, tunnels etc.
- Stabilizing voltage in the grid when voltage fluctuation is caused by distributed generation like solar cells, hydropower or wind-power-plants.
- Stabilizing and lifting voltage on the medium voltage side, when voltage drop is caused on the HV side.

Voltages with and without Magtech Voltage Booster

- Description:
1. Choose voltage system
 2. Fill in parameters in the coloured fields:
 3. Choose cable type
 4. Observe voltage with and without MWB (Magtech Voltage Booster)

Existing line: **228V** **207V** **207V** **207V** **207V** **207V** **235V** **200V** **200V** **200V** **200V** **200V**

