



VS65

POWER ELECTRONICS

VS65

MV ELECTRONIC SOFT STARTER

CORPORATE PROFILE

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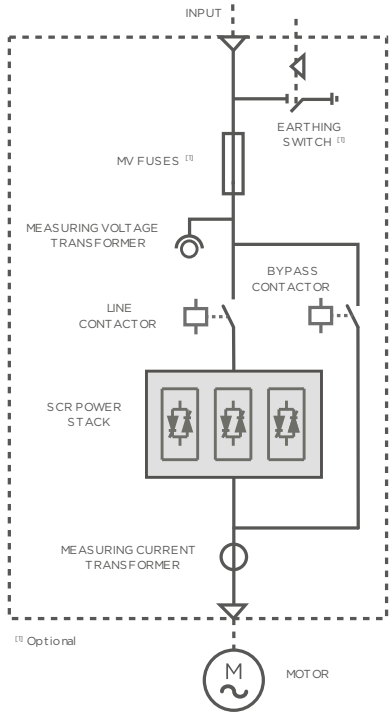
- Power range 200HP to 7500HP
- Voltage range 2,3kV to 11kV (13,8kV option)
- Multi-level cascaded H-Bridge topology
- proven and reliable low voltage technology
- Multi-pulse input transformer
- Quasi-sinusoidal output voltage, sinusoidal motor current
- Low harmonics IEEE519 compliant
- Low dV/dt no motor derating or cable length limit
- Suitable for retrofitting to existing motors
- Redundancy with power module override
- High Efficiency & p.f. even at light loads
- UL347A (US version 4,16kV)
- 50°C operation
- NEMA1 Indoor version & NEMA3R Outdoor.



Topology

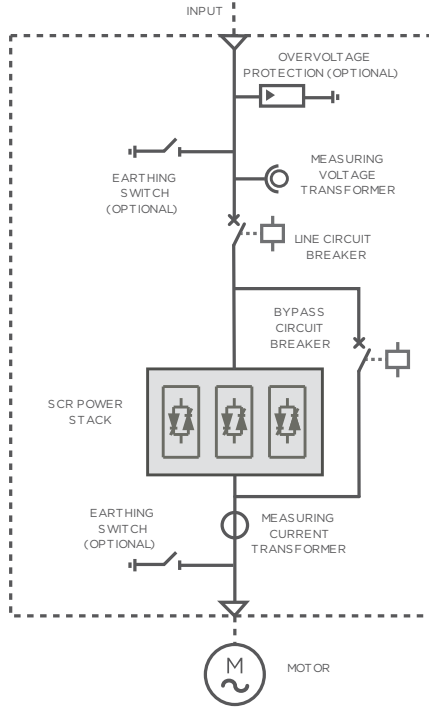
Operational Diagram

2.3 kW to 11 kW



⁽¹⁾ Optional

13.8 kW



Explosion Release Ducts

Line Vacuum Contactor

Bypass Vacuum Contactor

Output Busbar

Input Busbar



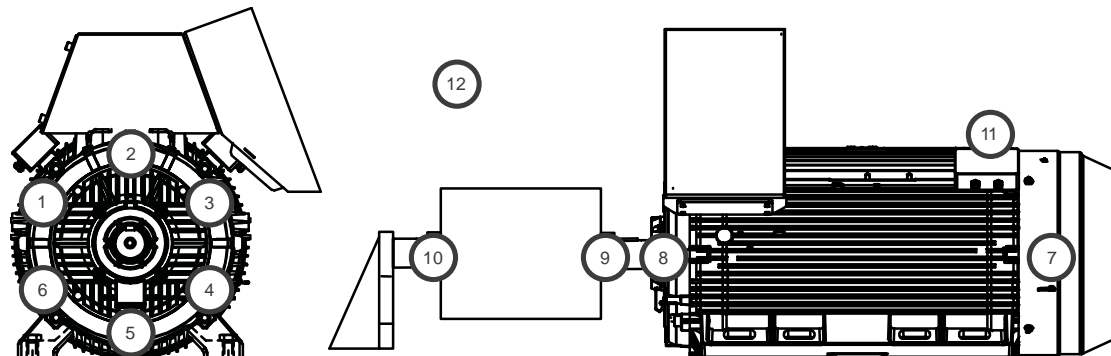
Motor Care and Soft Starter Protection

The VS65 soft starter includes built-in as standard the ultimate motor and soft starter protections, features that allow it to toact as a motor protection relay.

- Motor start delay
- Door open sensor
- Accelerating and decelerating control
- Starting to running transition
- SCRs over temperature
- Low input voltage
- Under-load protection
- Local and remote control selector
- Current imbalance
- Phase rotation
- Locked rotor / incomplete sequence
- i2t Electronic motor over load.
- Instantaneous electronic over current trip / Shearpin
- Motor overcurrent
- Over voltage protection
- Input phase loss
- Controlled stopping ramp
- Starts per hour - Notching and jogging
- Communication loss
- Local emergency stop
- Line contactor
- Remote emergency stop
- Excessive start time (max. 120s)

REMOTE RTD SENSORS (OPTIONAL). Continuous current and voltage monitoring.

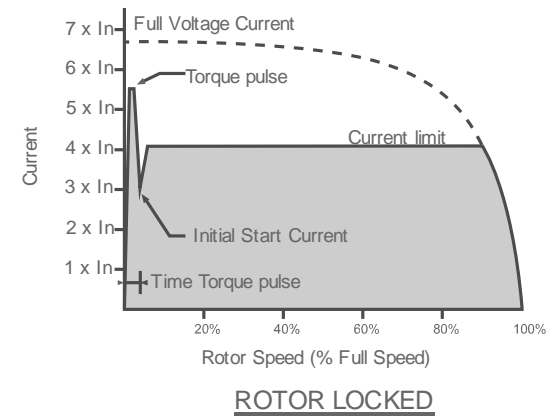
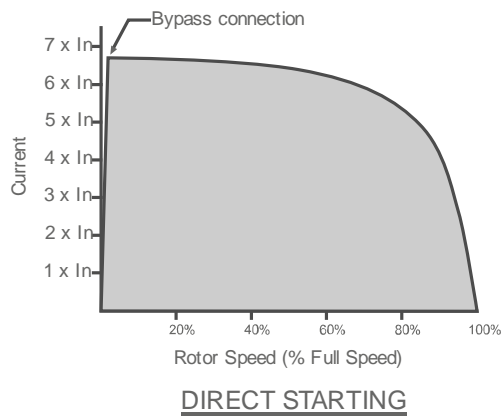
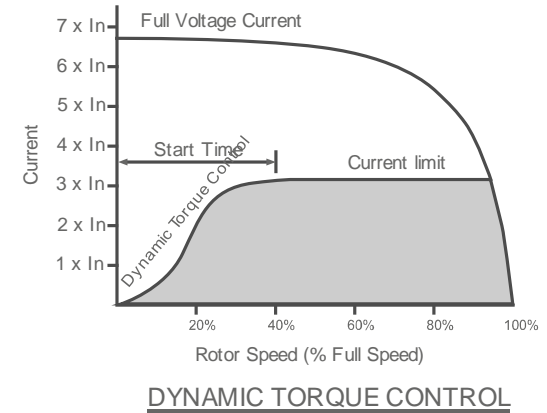
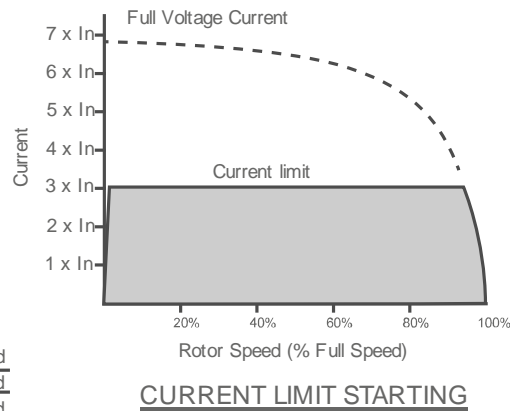
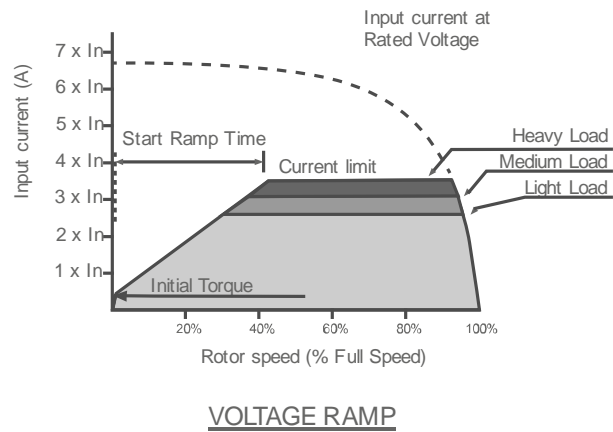
1. Stator Winding 1
2. Stator Winding 2
3. Stator Winding 3
4. Stator Winding 4
5. Stator Winding 5
6. Stator Winding 6
7. Motor Bearing 1
8. Motor Bearing 2
9. Application Bearing 1
10. Application Bearing 2
11. Case
12. Ambient



Multiple Features

Starting Modes

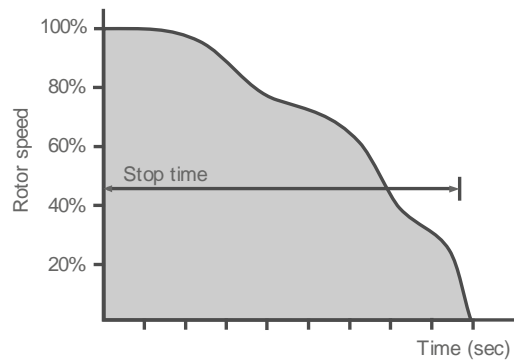
The VS65 soft starter gets the most from your facilities, by implementing the unique dynamic torque control algorithm (CDP) that offers an ultimate break away torque and starts the most demanding applications. Some of the starting and stopping extended settings are:.



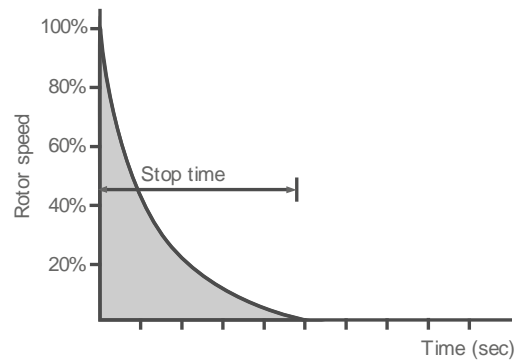
Multiple Features

Stop Modes

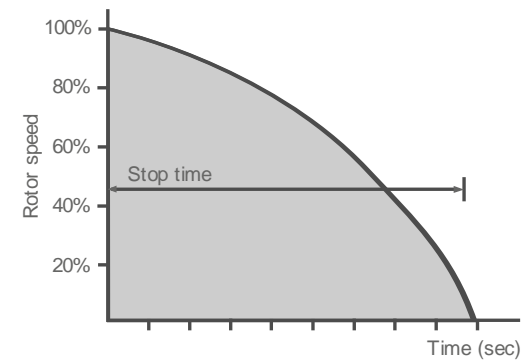
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WATER HAMMER CONTROL



SPIN STOP



STOP WITH VOLTAGE RAMP

Easy to Drive

Local operation through display or pushbuttons, and remote operation through serial communication or I/O signals, can both be easily selected using the door mounted selector.



Communications

Modbus-RTU over serial communication (RS232/RS485) built-in as standard, optionally communications gateways are available: Ethernet TCP/IP, Profi bus- DP and DeviceNet.

PROFIPOWER: Modbus RTU (RS485) to Profi bus-DP (9 Pin D-SUB/F). Communication speed máx. 12MB, Profi bus cable recommended.

DEVICENET: Modbus RTU (RS485) to Devicenet (CAN) gateway. 31 nodes maximum. Asynchronous communication control mode. Half Duplex communication system, Transmission type: Bus method, Multi drop Link system. Communication speed: 125kbps, 250kbps, 500kbps, 1000 kbps. Transmission distance max. 500m. (125kbps Devicenet cable).

ETHERNET: Modbus RTU (RS485) to Modbus TCP (Ethernet). Communication system: Half Duplex, Full Duplex. CSMA/CD communication method. Communication speed: 10Mbps, 100Mbps.



Customised Solutions

High value medium voltage projects often require customer specific solutions. Our team of highly experienced engineers are available to modify our standard products to suit your specific demands to ensure you get the product you need.



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INDUSTRIES

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OIL & GAS

When security is paramount, the medium voltage VS65 soft starters and XMV660 variable speed drives provide a high level of integrity of software and hardware, which enables their integration into critical industries such as chemical plants, refineries, exploration and extraction, processing and packaging plants, LNG treatment and storage.



WATER

VS65 and XMV660 provide reliability and outstanding features aiming to optimise and increase safety in water applications. Well proven features in low voltage applications offer a wide number of possibilities in those high power applications that are driving the water life cycle.



MINING & CEMENT

Copper, gold, aluminium, iron, uranium and coal, leading mining companies already trust the VS65 and the XMV660 by Power Electronics due to the product reliability, performance and quality. Our unique mechanical and hardware design works perfectly in adverse situations and demanding applications. Altitude, dust, pollution, moisture or hazardous environments are easy challenges for the VS65 and the XMV660 series.



METALS

The Medium Voltage VS65 Soft Starters and XMV660 drives are designed for high reliability, the modular arrangement increases system availability, reduces spare parts inventory, and results in less downtime. The precise and rapid responses of the motor controllers are necessary features for demanding applications such as multiple motors controlled by electronic line shafting.

POWER GENERATION

The severe requirements of industry, together with our experiences in the solar sector where competitiveness, high availability and harsh environmental conditions are the norm, have compelled us to develop the most robust and cost effective drives and soft starters for the power generation market. Power Electronics supply drives into hydroelectric and thermal generation plants (geothermal, gas, coal and biomass) controlling many critical machines within the process. Power Electronics is a world leader in providing drives into gigawatt range solar thermal power plants.





POWER ELECTRONICS

PURE **ENERGY**