

# VLT® Soft Starter MCD 500



## The perfect solution, also for more severe applications:

- Pumps
- Conveyors
- Fans
- Mixers
- Compressors
- Centrifuge
- Mill
- Saw
- And many more

## Power range

21 – 1600 A, 7,5 – 800 kW  
 (1,2 MW inside Delta Connection)  
 Versions for 200 – 690 VAC

**VLT® Soft Starter MCD 500 is a total motor starting solution. Current transformers measure motor current and provide feedback for controlled motor ramp profiles.**

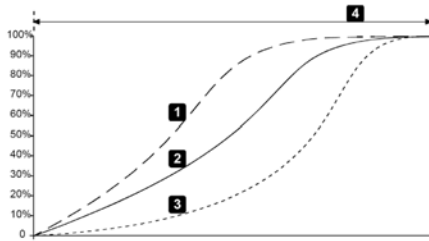
AAC, the Adaptive Acceleration Control automatically employs the best starting and stopping profile for the application.

Adaptive Acceleration Control means, that for each start and stop, the soft starter compares and adapts the process to the chosen profile fitting to the application.

The VLT® Soft Starter MCD 500 has a four line graphical display and a logic keypad making programming easy. Advanced setup is possible displaying operational status.

Three menu systems: Quick Menu, Application Setup and Main Menu provide optimum programming approach.

Features	Benefits
• AAC Adaptive Acceleration Control	• Automatically adapts to the best starting and stopping profile for the application
• Adjustable Bus Bars, allow for top, bottom or both ( $\geq 360A$ )	• Space saving, reduced cable cost and easy retrofitting
• DC injection braking distributed evenly over three phases	• Reduced installation cost and less stress on the motor
• Inside Delta (6-wire connection)	• Smaller soft starter can be selected for the application
• Log Menus, 99 Events and Trip log provide information on events, trips and performance	• Eases analysis on the application
• Auto Reset	• Less down time
• Jog (slow-speed operation)	• Application flexibility
• Second-order thermal model	• Allows motor to be used to its full potential without damage from overloading
• Internal bypass contactors ( $\leq 110kW$ )	• Saves space and wiring compared to external bypass • Very little heat dissipates when running. Eliminates costly external fans, wiring or bypass contactors
• Auto-start/stop clock	• Application flexibility
• Compact size – amongst the smallest in their class	• Saves space in cabinets and other application setups
• 4-line graphical display	• Optimum programming approach and setup for viewing operational status
• Multiple programming setup (Standard Menu, Extended Menu, Quick Set)	• Simplifies the programming, but still holding to maximum flexibility
• Multiple (8) languages	• Serving the whole world



### Fully featured Soft Starter for motors up to 800 kW

- Total motor starting solution
- Advanced start, stop and protection features
- Adaptive Acceleration Control
- Inside Delta connection
- 4 line graphical display
- Multiple programming setup menus

#### Optional:

- Modules for serial communication:
  - DeviceNet
  - Profibus
  - Modbus RTU
  - USB
- Remote operator kit
- PC software



#### Remote operation kit

- Start/stop, reset
- LED for start, run, trip
- Trip codes
- Current display
- Motor temperature display
- 4 – 20 mA output



## Specifications

### Supply

Mains voltage (L1, L2, L3)	
MCD5-xxxx-T5	200 VAC ~ 525 VAC (± 10%)
MCD5-xxxx-T7	380 VAC ~ 690 VAC (± 10%) (earthed star supply system only)
MCD5-xxxx-T7	380 VAC ~ 600 VAC (± 10%) (inside delta connection)
Control voltage (A4, A5, A6)	
CV1 (A5, A6)	24 VAC/VDC (± 20%)
CV2 (A5, A6)	110~120 VAC (+ 10% / - 15%)
CV2 (A4, A6)	220~240 VAC (+ 10% / - 15%)
Mains frequency	50/60 Hz (± 10%)
Rated insulation voltage to earth	600 VAC
Rated impulse withstand voltage	4 kV
Form designation	Bypassed or continuous, semiconductor motor starter form 1

### Short circuit capability

Coordination with semiconductor fuses	Type 2
Coordination with HRC fuses	Type 1
MCD5-0021B to MCD5-0105B	prospective current 10 kA
MCD5-0131B to MCD5-0245C	prospective current 18 kA
MCD5-0360C to MCD5-0927C	prospective current 85 kA
MCD5-1200C to MCD5-1600C	prospective current 100 kA

### Electromagnetic capability (compliant with EU Directive 89/336/EEC)

EMC Emissions(Terminals 13 & 14)	IEC 60947-4-2 Class B and Lloyds Marine No. 1 Specification
EMC Immunity	IEC 60947-4-2

### Outputs

Relay Outputs	10A @ 250 VAC resistive, 5A @ 250 VAC AC15 pf 0.3
Programmable Outputs	
Relay A (13, 14)	Normally open
Relay B (21, 22, 24)	Changeover
Relay C (33, 34)	Normally open
Analog Output (07,08)	0 – 20 mA or 4 – 20 mA (selectable)
Maximum load	600Ω (12 VDC @ 20 mA) (accuracy ± 5%)
24 VDC Output (16, 08) Maximum load	200 mA (accuracy ± 10%)

### Environmental

Protection MCD5-0021B ~ MCD5-0105B	IP 20 & NEMA, UL Indoor Type 1
Protection MCD5-0131B ~ MCD5-1600C	IP 00, UL Indoor Open Type
Operating temperature	-10° C to 60° C, above 40° C with derating
Storage temperature	-25° C to +60° C
Operating Altitude	0 – 1000 m, above 1000 m with derating
Humidity	5% to 95% Relative Humidity
Pollution degree	Pollution Degree 3

### Heat Dissipation

During start	4.5 watts per ampere
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## Dimensions

Current rating [A]	Weight [kg]	Height [mm]	Width [mm]	Depth [mm]
21, 37, 43 and 53	4.2	295	150	183
68	4.5			
84, 89 and 105	4.9	438	275	250
131, 141, 195 and 215	14.9			
245	23.9	460	390	279
360, 380 and 428	50.1	689	430	302
595, 619, 790 and 927	53.1			
1200, 1410 and 1600	120	856	585	364