

Fact Sheet

VLT® Soft Starter MCD 600 delivers superior performance for fixed-speed applications



The VLT® Soft Starter MCD 600 combines the latest in advanced controls and protections with an increased level of intelligence for superior performance in fixed-speed applications.

The MCD 600 is more flexible than ever to install, thanks to a wide variety of Ethernet and serial-based communication option cards, application-dedicated smart cards and support for eight languages.

The integrated bypass ensures both extremely high efficiency and harmonic-free operation at full speed, reducing energy consumed and required cooling capacity.

Ease of use is also greatly increased with new capabilities, such as the pump-clean function, PowerThrough operation, and calendar or run time-based scheduling. Furthermore, enhanced protection ensures more uptime.

VLT® Soft Starter MCD 600 at a glance:

Mains voltage range

- 3 x 200-525 VAC (T5)
- 3 x 380-690 VAC (T7)

Current range and enclosure

- IP20: 20-129 A (nominal)
- IP00: 144-579 A (nominal)

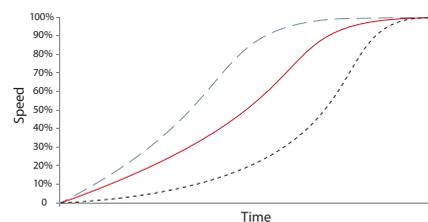
Utilization categories

- AC53b 3.0 – 10:350
- AC53b 3.5 – 15:345
- AC53b 4.0 – 10:350
- AC53b 4.0 – 20:340
- AC53b 5.0 – 5:350

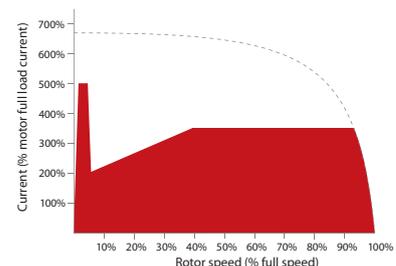
Feature	Benefit
Quick set-up menu	– Adjusts key parameters to suit the application, reducing start-up time
Log menu – up to 348 individual events recorded	– Eases analysis of the application
Pump clean functionality	– Helps to dislodge debris from an impeller without any extra components
Integrated USB port (Parameter copy, data logging, firmware updates)	– Reduced startup and upgrade time – Easy access to operational data
AAC Adaptive Acceleration Control	– Automatically adapts to the chosen starting and stopping profile
Reversing contactor control	– Allows for soft starting in any direction – Does not require any external contactors
Jog (slow-speed operation)	– Application flexibility
Auto Reset	– Less downtime
Internal bypass contactors	– Save space and wiring – Reduced heat dissipation when running – Eliminates costly external components
Inside Delta (6-wire connection)	– Smaller soft starter can be selected
PowerThrough operation	– Utilizes 2-phase control when one phase is damaged (shorted SCR)
Expanded motor and controller protections (Over/Under-power, Over/Under-voltage)	– Additional protection reduces downtime
Multiple languages	– Eases commissioning, reducing start-up time
Onscreen, dynamic QR-codes	– Provides information about the MCD 600, including serial number and failure information

Integrated

bypass delivers all-round cost savings



Three Adaptive Acceleration Control (AAC) start profiles; early, constant and late acceleration



Constant current/current ramp – here shown with kickstart

Additional features

- Advanced start, stop and protection features
- Auto start/stop clock
- Compact size
- DC injection braking
- 4-line graphical display
- Multiple programming setup menus

Available options

- Fieldbus communication modules:
 - EtherNet/IP
 - PROFINET
 - Modbus TCP
 - PROFIBUS
 - DeviceNet
 - Modbus RTU
- Remote LCP Option
- Application card
 - Smart Pump
- PC software:
 - WinStart
 - VLT® Motion Control Tool MCT 10



VLT® Control Panel LCP 601

- Remote mountable option kit
 - IP65 enclosure class
 - 3 m cable included
- Features:
 - Graphical, multi-line display
 - Multiple language selection – incl. Russian and Chinese
 - Real-time graphing
 - Full parameter list, Quick Menu and application setup
 - Adjustable multiple monitoring views

Specifications

Mains voltage (L1, L2, L3)	
MCD6-xxxxB-T5	200-525 VAC (± 10%)
MCD6-xxxxB-T7	380-690 VAC (± 10%) (in-line connection)
Control voltage (terminals A4, A5, A6)	
CV1 (A8, A9)	24 VAC/VDC (± 20%), 2.8 A
CV2 (A8, A9)	110-120 VAC (+ 10% / -15%), 600 mA
CV2 (A8, A9)	220-240 VAC (+ 10% / -15%), 600 mA
Mains frequency	50/60 Hz (± 5%)
Rated insulation voltage to earth	690 VAC
Rated impulse withstand voltage	6 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
Electromagnetic capability (compliant with EU Directive 2014/35/EU)	
EMC Immunity	IEC 60947-4-2
EMC Emissions	IEC 60947-4-2 Class B
Inputs	
Input rating	Active 24 VDC, 8 mA (approximately)
Motor thermistor (TER-05, TER-06)	Trip > 3.6 kΩ, reset > 1.6 kΩ
Outputs	
Relay outputs	10 A @ 250 VAC resistive 5 A @ 250 VAC AC15 pf 0.3
Main Contactor (13, 14)	Normally open
Relay output A (21, 22, 23)	Changeover
Relay output B (33, 34)	Normally open
Analog Output (AO-07, AO-08)	0-20 mA or 4-20 mA (selectable)
Maximum load	600 Ω (12 VDC @ 20 mA) (accuracy ± 5%)
Environmental	
Protection MCD6-0020B ~ MCD6-0129B	IP20
Protection MCD6-0144B ~ MCD6-0579C	IP00
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
Vibration	IEC 60068-2-6
Heat Dissipation	
During start	4.5 watts per ampere
During run	
MCD6-0020B~MCD6-0042B	≤ 35 W approximately
MCD6-0063B~MCD6-0129B	≤ 50 W approximately
MCD6-0144B~MCD6-0244B	≤ 120 W approximately
MCD6-0287B~MCD6-0579B	≤ 140 W approximately

Dimensions

Current rating [A]	Weight [kg]	Height [mm]	Width [mm]	Depth [mm]	Enclosure size
21, 34	4.8	336	152	231	S1
42, 63, 69	4.9				
86, 108, 129	5.5	495	216	243	S2
144, 171, 194, 244	12.7				
287, 323, 410	15.5				
527, 579	19	523			