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
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

Specifications

<table>
<thead>
<tr>
<th>Feature</th>
<th>Details</th>
</tr>
</thead>
</table>
| 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 |
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  
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 ~ MCD6-0579B: 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 amphere  
During run: ≤35 W approximately  
MCD6-0020B ~ MCD6-0042B  
MCD6-0063B ~ MCD6-0129B  
MCD6-0144B ~ MCD6-0344B  
MCD6-0287B ~ MCD6-0579B  
≤50 W approximately  
≤120 W approximately  
≤140 W approximately |

Dimensions

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>21, 34</td>
<td>4.8</td>
<td>336</td>
<td>152</td>
<td>231</td>
<td>S1</td>
</tr>
<tr>
<td>42, 63, 69</td>
<td>4.9</td>
<td>336</td>
<td>152</td>
<td>231</td>
<td>S1</td>
</tr>
<tr>
<td>86, 108, 129</td>
<td>5.5</td>
<td>336</td>
<td>152</td>
<td>231</td>
<td>S1</td>
</tr>
<tr>
<td>144, 171, 194, 244</td>
<td>12.7</td>
<td>405</td>
<td>216</td>
<td>243</td>
<td>S2</td>
</tr>
<tr>
<td>287, 323, 410</td>
<td>15.5</td>
<td>523</td>
<td>216</td>
<td>243</td>
<td>S2</td>
</tr>
<tr>
<td>527, 579</td>
<td>19</td>
<td>523</td>
<td>216</td>
<td>243</td>
<td>S2</td>
</tr>
</tbody>
</table>

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without substantial changes being necessary in specifications already agreed.

All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.