

VLT® All-mode Filter MCC 201



VLT® All-mode Filter MCC 201 output filters are dual mode low-pass sine-wave filters operating differential mode and common mode. These filters suppress the switching frequency component from the drive and smooth out the phase-to-phase and phase-to-ground output voltage of the drive to become sinusoidal.

Long or unshielded motor cables

The VLT® All-mode Filter MCC 201 technology with reduction of differential mode and common mode interference at the inverter output enables the use of extremely long motor cable lengths. This filter also supports the use of unshielded motor cables.

Electrical interference

The VLT® All-mode Filter MCC 201 efficiently filters differential and common mode interferences. Through the connection to the intermediate circuit of the VLT® drive, the common mode currents returns to the source of the drive. This configuration is highly effective at preventing this

high-frequency interference current from spreading across the electrical installation.

Bearing current

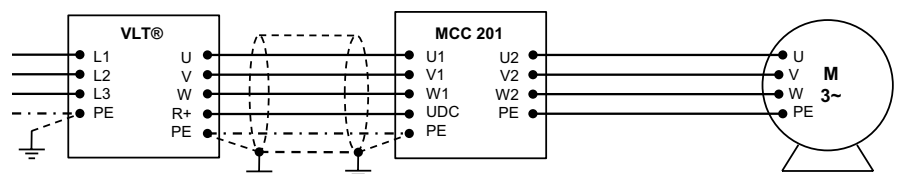
Inverter-based bearing currents in the motor may be caused by the common mode voltage from the drive IGBT output stage. The VLT® All-mode Filter MCC 201 provides a real solution to those effects, for all practical purposes completely eliminating the common mode distortions, which considerably extends motor lifetime.

Quality and operation

The VLT® AutomationDrive FC 302, VLT® AQUA Drive FC 202, and the VLT® HVAC Drive FC 102 have been designed to operate the VLT® All-mode Filter MCC 201 by an automated feature, which will enable matching operating conditions. The drive requires DC-link connection for common mode feedback from filter, R+ terminal (terminal 82). The VLT® All-mode Filter MCC 201 is designed to match the look and quality of the FC series drives.

True
sinusoidal
power supply

Features	Benefits
Terminals can accommodate larger cable cross sections	- Reduces voltage drop for long cable operation
Dual-mode operation	- Enables longer cables than limited by the drive - Enables use of unshielded motor cables - Reduces acoustical switching noise from motor - Improves conducted emissions - Eliminates motor bearing currents - Eliminates motor insulation stress - Extends motor service life

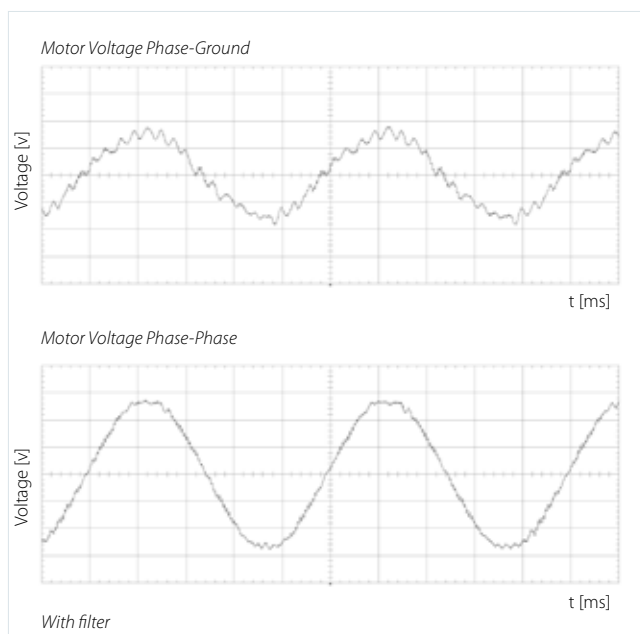
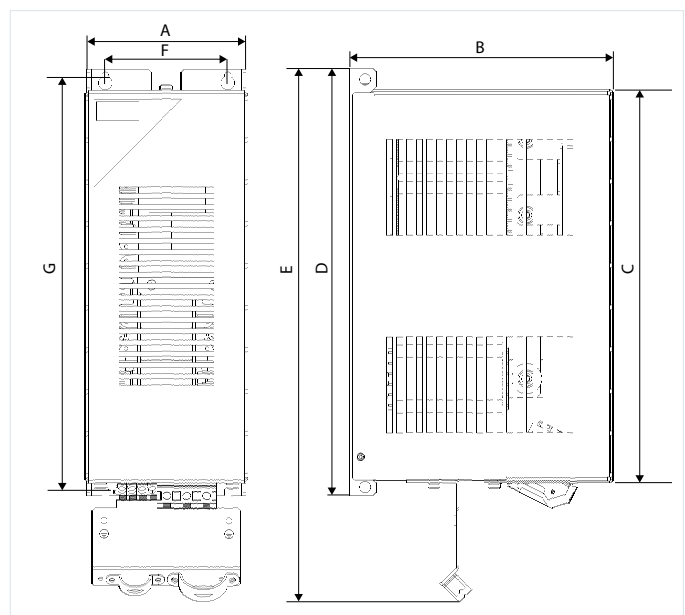
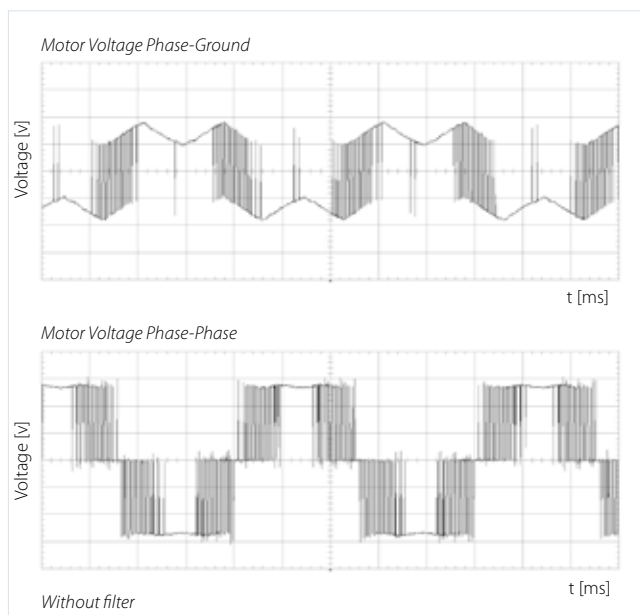


Schematic diagram showing the cabling of VLT® drive, MCC 201 filter and motor

Dimensions and electrical ratings*

Ordering number [P/N]	Mechanical dimensions							Weight [Kg]	Current rating @voltage/frequency				Max. power loss [W]	Max. wire cross section		PE [Bolt]
	A	B	C	D	E	F	G		380-440V		441-500V			Drive	Motor	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		<5Hz [A]	5-150Hz [A]	<5Hz [A]	5-150Hz [A]		[mm ²]	[mm ²]	
175U6006	110	205	238	268	343	78	257	8	5.6	6	4.2	5.5	80	10	16	M6
175U6013	131	210	311	338	425	97	327	16	12.1	13	9.2	12	120	10	35	M6
175U6024	165	292	351	399	545	125	380	28	22.3	24	17.7	23	200	16	50	M6
175U6046	201	314	461	518	690	148	501	43	42.8	46	33.5	43.5	350	35	95	M6
175U6065	231	366	488	550	746	175	529	69	60.5	65	47.7	62	650	50	120	M6

*The values are preliminary.



Preliminary Specifications

Voltage rating	3 x 380 - 500 V
Nominal current	6.0 - 65 A @400 V 5.5 - 62 A @500 V
Motor frequency	< 150 Hz without derating
Switching frequency	4 - 16 kHz
Overload capacity	160% for 60 sec at 10-minute intervals
Ambient temperature	-10 - 45 °C without derating
Cooling method	Natural convection
Protection rating	IP20
Mounting	Book-style wall-mounting side by side with the drive Cable terminations at the base of the filter, with EMC decoupling plate
Approvals	CE, UL 508 pending