

## Fact Sheet

## VLT® Midi Drive FC 280

**Flexible. Communicative. Easy to use.**

**Access your true high-efficiency potential with the VLT® Midi Drive FC 280, the evolution of the popular VLT® 2800 drive. Profit from new savings, with a wide range of features designed to make installing, using, and maintaining the drive as simple and as easy as possible.**

This AC drive delivers precise and efficient motor control for machine builders in the food and beverage, material handling, and processing industries. It is strong on control performance, functional safety, and flexible fieldbus communication.

It's also an easy retrofit for the VLT® 2800 in established plants or machinery concepts.

The right mix of features ensures the AC drive suits your task, whether for conveyor systems,

mixers, and packaging systems or driving pumps, fans, and compressors.

VLT® Midi Drive saves installation time, with removable connectors, and a USB port for convenient PC connection. For easy and intelligent commissioning, transfer, or programming of factory settings, use the handy VLT® Memory Module.

Set-up wizards simplify commissioning for common applications.

Integrated features free you from finding space and budget to install extra components:

- DC chokes reduce harmonics to less than 48% THiD
- RFI filter
- Dual-channel Safe Torque Off (STO)
- Brake chopper

**Product range**

3 x 380-480 V .....	0.5-30 HP
3 x 200-240 V .....	0.5-5.0 HP
1 x 200-240 V .....	0.5-3.0 HP

Feature	Benefit
<b>Integrated harmonics and EMC design</b>	
Integrated DC choke	<ul style="list-style-type: none"> <li>– Saves installation time and panel space requirements</li> <li>– Improves power supply quality and helps extend DC capacitor lifetime</li> </ul>
Integrated EMC filter	<ul style="list-style-type: none"> <li>– Avoids malfunction and improves reliability of surrounding components</li> </ul>
RFI switch	<ul style="list-style-type: none"> <li>– Operates safely on IT mains</li> <li>– Trouble-free operation of insulation monitoring relay</li> </ul>
<b>Easy to install and set up</b>	
Removable terminals	<ul style="list-style-type: none"> <li>– Fast installation and unit exchange</li> </ul>
USB port	<ul style="list-style-type: none"> <li>– Easy PC connection for troubleshooting or commissioning</li> <li>– No need for adapter or PC-USB driver</li> </ul>
Application set-up wizards	<ul style="list-style-type: none"> <li>– Easy commissioning</li> </ul>
Memory module (option)	<ul style="list-style-type: none"> <li>– Convenient transfer of parameter set-up</li> <li>– Easy firmware updates</li> <li>– Easy and fast commissioning</li> </ul>
Memory module programmer (option)	<ul style="list-style-type: none"> <li>– Convenient transfer files to and from the VLT® Memory Module MCM 102 via PC</li> </ul>
Enhanced numerical LCP	<ul style="list-style-type: none"> <li>– Cost effective user interface</li> </ul>
Adapter for graphical LCP supporting many languages (option)	<ul style="list-style-type: none"> <li>– Easy set-up in one of seven main languages</li> <li>– Fast troubleshooting</li> </ul>
<b>Strategic design for applications, safety, and motor control</b>	
Integrated Safe Torque Off (STO), dual channel	<ul style="list-style-type: none"> <li>– Eliminates external components</li> <li>– Enables reliable functional safety</li> </ul>
Control algorithm runs both induction and PM motors	<ul style="list-style-type: none"> <li>– Freedom to choose the best high-efficiency motor for the task</li> </ul>
Integrated brake chopper for 3-phase drives in power sizes up to 30 HP	<ul style="list-style-type: none"> <li>– No cost for external braking chopper</li> </ul>
Side-by-side or horizontal mounting, without derating	<ul style="list-style-type: none"> <li>– Saves panel space and cost</li> </ul>
Operates up to 45 °C without derating	<ul style="list-style-type: none"> <li>– Saves cost for external cooling and reduces downtime for overtemperature failures</li> </ul>

**Fits**  
your application

## RFI filter

The integrated RFI filter is EMC standard EN 55011-1A and EN/IEC 61800-3 C2 compliant, ensuring that the AC drive does not disrupt operation of other electrical components connected to the mains.

## Your choice of fieldbus

- PROFIBUS
- PROFINET with dual port
- EtherNet/IP™ with dual port
- CANopen
- Modbus RTU and FC Protocol are
- integrated as standard

## Options

### Memory module

The VLT® Memory Module facilitates helpful implementation of factory settings for machine builders, fast installation of firmware updates, and easy transfer of settings during retrofit.

### 24 V DC external supply

The back-up power supply keeps the control system alive in the event of mains loss.

### Adapter for graphical LCP

Enable the full functional interface by connecting the graphical LCP.

### Enhanced numerical LCP

Use this effective user interface to access parameters, check the drive status and reset alarms.

- Copy function
- Drive mounted, hand-held, or panel mounted

## PC software tool

### VLT® Motion Control Tool MCT 10

This set-up tool is ideal for ease of commissioning and servicing the drive.

## IP21/Type 1 Enclosure Rating

- Easy to install in a panel or on the wall
- Side-by-side mounting saving space

### Mains supply (L1, L2, L3)

Supply voltage	200-240 V (-15%/+10%) 380-480 V (-15%/+10%)
Supply frequency	50/60 Hz
Displacement power factor (cos φ)	Near unity (> 0.98)
Switching frequency on input supply L1, L2, L3	Switching maximum 2 times/minute

### Output data (U, V, W)

Output voltage	0-100% of supply voltage
Switching on output	Unlimited
Ramp times	0.01-3600 s
Frequency range	0-500 Hz

### Programmable digital inputs and outputs

Digital inputs / digital outputs*	6 (7) / 1
Logic	PNP or NPN
Voltage level	0-24 V DC

*One of 6 digital inputs can be configured as digital output or pulse output. One of analog inputs can be configured as an extra digital input, thereby bring the quantity of digital inputs to 7.*

### Pulse and encoder inputs

Pulse inputs / encoder inputs**	2/2
Voltage level	0-24 V DC

*\*\*Note: Two digital inputs can be configured as pulse inputs.  
One pair of inputs can be configured as encoder inputs.*

### Programmable analog inputs

Analog inputs	2
Modes	1 voltage or current / 1 voltage or DI
Voltage level	0 V to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)

### Programmable analog outputs

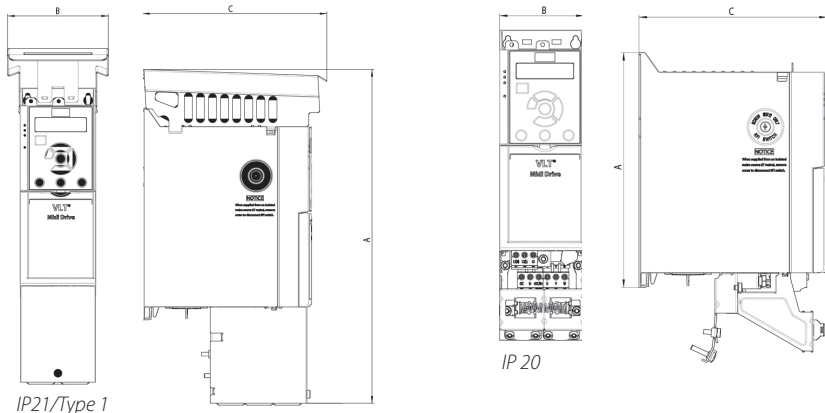
Analog outputs	1
Current range at analog output	0/4 to 20 mA

### Programmable relay outputs

Relay outputs	1
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### Approvals

Approvals	CE, UL listed, cUL, TÜV, RCM (C-Tick)
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Enclosure		K1		K2		K3		K4		K5	
Power size HP [kW]	Single-phase 200-240 V	0.5 [0.37] - 2 [1.5]		3 [2.2]							
	3-phase 200-240 V	0.5 [0.37] - 2 [1.5]		3 [2.2]		5 [3.7]					
	3-phase 380-480 V	0.5 [0.37] - 3 [2.2]		4 [3] - 7.5 [5.5]		10 [7.5]		15 [11] - 20 [15]		25 [18.5] - 30 [22]	
		IP21 / Type 1	IP 20	IP21 / Type 1	IP 20	IP21 / Type 1	IP 20	IP21 / Type 1	IP 20	IP21 / Type 1	IP 20
Dimensions in [mm]	Height A	11.6 [294]	8.3 [210]	14 [356]	10.7 [272.5]	14.1 [357]	10.7 [272.5]	15.4 [391]	12.5 [317.5]	19.1 [486]	16.1 [410]
	Height B	3.0 [75]	3.0 [75]	3.5 [90]	3.5 [90]	4.5 [115]	4.5 [115]	5.2 [133]	5.2 [133]	5.9 [150]	5.9 [150]
	Height C	6.6 [168]	6.6 [168]	6.6 [168]	6.6 [168]	6.6 [168]	6.6 [168]	9.6 [245]	9.6 [245]	9.6 [245]	9.6 [245]

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