

Fact Sheet

VLT® AutomationDrive EZ FC 321

Designed for easy distribution



Designed for variable speed control of all asynchronous and permanent magnet motors, on any industrial machine or production line, the VLT® AutomationDrive EZ FC 321 helps you save energy, improve flexibility, and optimize processes.

Flexible and expandable

With a flexible modular design, the AutomationDrive EZ FC 321 is packed with standard features which can be expanded with plug-and-play options with additional features and fieldbuses. Safe Torque-Off is a standard safety feature that can be applied through hardwired safety.

Printed circuit board protection

Drives up to 100 HP come standard with class 3C2 coating (acc. IEC 60721-3-3). Drives 125 HP and above come standard with 3C3 coating.

Robust and reliable

VLT® AutomationDrive EZ FC 321 is a proven performer in all industrial environments and grid voltages, including 690V. Enclosures are available up to NEMA 4X (depending on model), and integrated DC chokes and RFI filters in all models protect installations by minimizing harmonic distortion and electromagnetic interferences. All drives are tested at full-load before leaving the factory.

Power range:

3 x 200 – 240 V.....	0.33 HP – 100 HP
3 x 380 – 480/500 V.....	0.5 HP – 200 HP
3 x 525 – 600 V.....	1 HP – 100 HP
3 x 525 – 690 V.....	125 HP – 200 HP

Easy set up and commissioning

The VLT® AutomationDrive EZ FC 321 is easy to set up and operate via the user-friendly graphical control panel, requires minimal maintenance, and delivers a market leading control solution which provides a fast return on investment with a highly competitive cost of ownership.

Smart Start provides wizard groups for several of the most common applications, including conveyors, pumps and fans, and setup with mechanical brake. With the settings to run these applications already in place, you can get your machine up and running faster, increasing your productivity.

Features	Benefits
Reliable	Maximum uptime
Ambient temperature 122° F without derating for most frames	Less need for cooling or oversizing
Available in Chassis, NEMA 1, NEMA 12 NEMA 4X enclosures	Enclosures for all environments
Resistant to wear and tear	Low lifetime cost
Maintenance assistant	Maintenance plans for the FC and the application can be stored in the AC Drive
User-friendly	Saves commissioning and operating cost
On/Off cooling fan	Prolong lifetime of internal cooling fan
Plug-and-Play technology	Easy upgrade and changeover
Help button and associated screens	Readout of help texts in the drive suggests a problem solving text which help end-users
Intuitive award winning VLT® control panel	User friendly and saves time
Fast, Easy, Secure connections	Easy connection
Multiple languages	User-friendly
PLC function blocks	Reduce engineering time to develop custom functions
Modular design	helps reduce spare parts inventory and provides a faster way to install and configure drives
Programming and Commissioning	Simplified configuration and programming using standard USB cables
Intelligent	
Intelligent warning systems	Warning before controlled stop
Smart Logic Control	Reduces need for PLC capacity. Total number of sequences = 4 parallel. Number of blocks per sequence 20
Advanced plug-in features	Easy commissioning
Safe stop / Safe Torque Off	Built-in safety can help lower your total system costs, boost machine availability and reduce downtime.
STO: Safe Torque Off (IEC 61800-5-2)	PL d , category 3 (ISO 13849-1), Stop cat. 0 (EN 60204-1), SIL 2 acc. IEC 61508
Intelligent heat management	Removes excessive heat, promotes longer life
AMA (Automatic Motor Adaption)	Motor identification and optimization without decoupling your load
4 x Menu sets	Set parameter individually in each of the 4 set-ups, that means 1 single parameter can have 4 different data values.
Smart Start Wizards	Designed for machine applications – such as pumps, fans, and in-feed and out-feed conveyors – that need speed control for all motors

Fieldbus options

- VLT® PROFIBUS DP MCA 101
- VLT® DeviceNet MCA 104
- VLT® PROFINET MCA 120
- VLT® Ethernet/IP MCA 121
- VLT® Modbus TCP MCA 122
- Modbus RTU is included as standard

I/O option

- VLT® 24 V External Supply MCB 107

Power options

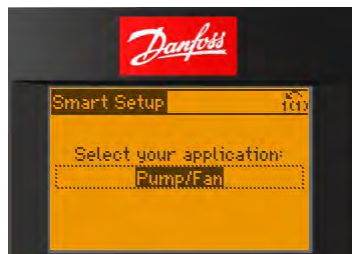
- VLT® Brake resistors MCE 101
- VLT® Sine-Wave Filters MCC 101
- VLT® dV/dt Filters MCC 102
- VLT® All-mode sine wave filter MCC 201
- VLT® Common Mode Filter MCC 105
- VLT® Advanced Harmonic Filters AHF 005/010

Other accessories

- NEMA 1/IP 21 Kit (convert chassis to NEMA 1)
- Decoupling plate for fieldbus cables
- USB connection cable to PC
- Panel Through option (only NEMA 4X)
- LCP panel mounting kit
- Mains disconnect and fuse option (NEMA 4X)
- USB Extension

Brake chopper (IGBT) option

Dissipates extra energy to a Brake Resistor from Regenerating motor loads.



Specifications

Mains supply (L1, L2, L3)	
Supply voltage	200 – 240 V ±10% 380 – 500 V ±10%, 525 – 600 V ±10% 525 – 690 V ±10%
Supply frequency	50/60 Hz
True Power Factor (λ)	0.92 nominal at rated load
Displacement Power Factor ($\cos \phi$) near unity	(> 0.98)
Switching on input supply L1, L2, L3	Maximum 2 times/min.

Output data (U, V, W)	
Output voltage	0–100% of supply voltage
Output frequency	0 – 590 Hz (1/3 – 200 HP) 0 – 300 Hz (Flux mode)
Switching on output	Unlimited
Ramp times	1–3600 sec.

Note: 160% current can be provided for 1 minute.
Higher overload rating is achieved by oversizing the drive.

Digital inputs	
Programmable digital inputs	4 (6)
Logic	PNP or NPN
Voltage level	0–24 VDC

Note: One/two digital inputs can be programmed as digital output

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

Pulse/encoder inputs	
Programmable pulse/encoder inputs	2
Voltage level	0 – 24 V DC (PNP positive logic)

Digital output	
Programmable digital/pulse outputs	2
Voltage level at digital/frequency output	0 – 24 V

Analog output	
Programmable analog outputs	1
Current range	0/4 – 20 mA

Relay outputs	
Programmable relay outputs	2 Form C 240VAC 2A

Cable lengths	
Max. motor cable lengths	500 ft (screened/armoured) 1000 ft (unscreened/unarmoured)

Environmental	
Ambient temperature without derating: 13°F to 122°F Operating ambient temperature when derating: -31°F to 140°F. -31°F only possible with NEMA 4X enclosures	