ENGINEERING TOMORROW

Fact Sheet | VLT® HVAC Drive FC 131

VLT® HVAC Drive FC 131 - competitive and compact to give you the upper hand in HVAC

Essential fan and pump installations call for intelligent solutions

Enhanced efficiency

Optimized for essential fan, pump, and compressor operation, the VLT® HVAC Drive FC 131 operates at 98% or higher efficiency and has built-in functions that reduce initial costs and increase productivity.

Flying start

The drive can detect speed and direction of a freely spinning fan.

Smoke extraction and Multi-zone Fire-mode

The VLT® HVAC Drive features a multi-zone fire-mode function that allows for adjustable speed controls depending on the zone(s) where the fire is active. Utilizing the logic within the drive allows for a less complex and more reliable smoke extraction system that can respond to multiple zones according to need. Multi-zone Fire-mode is based on 8 setpoints in 4 setup menus to support forward and reverse directions, and open-loop or closed-loop control. Activate Multi-zone Fire-mode via digital input or via fieldbus.

- Special operation condition for best protection of human life: "Run to dead" suppresses drive self-protection alarms.
- Reduce fire development via standard ventilation systems or by controlling special smoke extraction systems.
- PID control maintains over-pressure in stairwells to keep them smoke-free, and to ensure people can enter the stairwell from the different floors.
- Use normal operation condition or switch to special operation setting with up to 16 different zones in two setups.
- Supports EN 12101 standard for smoke and heat control system.

IP54

50%

energy cost savings in energy-optimized HVAC systems

Feature	Benefit
All built-in – low investment	
Two built-in PI controllers	No external PI controllers required, one spare included
Smart Logic Controller	Often makes PLC unnecessary
Save energy – less operation cost	
Automatic Energy Optimizer function	Saves additional 5-15% energy
PM motor control in open loop	Increased efficiency especially at part load
Sleep mode	Saves energy and extends lifetime
Unequalled robustness – maximum uptime	
Robust single enclosure	Maintenance-free
Unique variable-speed cooling concept with no forced air flow over electronics	Problem-free operation in harsh environments
Max ambient temp. up to 50 °C	No external cooling
Flying Start	Reduced mechanical wear on equipment
Fire override mode	Enhanced safety
User friendly – save commissioning and operating cost	
Operate both PM and induction motors	Versatile, only one drive type required
Cooling fan operation adjusts precisely to load	Silent or low noise level only
Auto restart	Saves time and money
Bypass frequencies	Less noise and vibrations/resonances
Built-in DC coils and EMC filters – no harmonic concerns	
Built-in EMC filter	Meets protection class C1/C2
Integrated DC choke	Small power cables. Meets EN 61000-3-12

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Built-in DC coils and EMC filters

The standard integrated DC coils comply with EN 61000-3-12 reducing losses in mains and ensuring reliable operation in the whole grid.

The DC coils increase the lifespan of the DC link capacitors and they also ensure that the drive can operate motors to their full performance. Integrated DC coils save the cost for adding external filters.

The drive has built-in filters in compliance with EMC standards.

Easy commissioning

- Configure with a start-up wizard
- Easy-to-program parameters
- Graphical display
- Easy to install and wire up
- Multiple languages

High-end graphical display

The VLT® HVAC Drive FC 131 features a four-line graphical display with white backlight securing superior readability and overview.The high-end HMI interface allows for seamless interaction. Soft and responsive touch buttons on the LCP make operation and commissioning easy.

IP54 enclosure protection

The robust and ultra-compact enclosure protects the drive against corrosion even in harsh environments and reduces overall installation costs. The installation volume and footprint are minimized with side-by-side possibility.

Specifications

Mains supply (L1, L2, L3)	
Supply voltage	380–480 V ±10%
Supply frequency	50/60 Hz
Displacement power factor (cos φ)	Near unity (> 0.98)
Switching frequency on input supply L1, L2, L3	1 time/minute max.
Output data (U, V, W)	
Switching on output	Unlimited
Open/closed loop	0-400 Hz
Digital inputs	
Programmable digital inputs	4
Logic	PNP or NPN / 0-24V DC
Analog inputs	
Analog inputs	2
Modes	1 voltage or current
Voltage level	0 V to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Analog output (can be used as digital output)	
Programmable analog outputs	2
Current range at analog output	0/4 to 20 mA
Relay outputs	
Programmable relay outputs	2 (240 VAC, 2 A and 400 VAC, 2 A)
Fieldbus communication	
Standard built-in: BACnet mstp FC Protocol	N2 Metasys FLN Apogee Modbus RTU

Dimensions

IP Class IP54 Frame	Power (kW) 3 x 380-480 V	Height (mm)	Width (mm)	Depth (mm)
I2	0.75-4 kW	332	115	225
I3	5.5-7.5 kW	368	135	237
I4	11-18.5 kW	476	180	290
I6	22-37 kW	650	242	260
I7	45-55 kW	680	308	310
I8	75-90 kW	770	370	335

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