DANFOSS VLT MICRO DRIVE FC 51



DESCRIPTION

The VLT Micro Drive FC 51 drive has been designed for applications where simplicity and efficiency are key requirements. The compact size of the enclosure with forced cooled heat sink allows the drive to be installed into confined spaces.

Features

- Basic interface with quick menu and easy configuration.
- Can be mounted side-by-side mounting without derating.
- Coated PCB (printed circuit boards) to restrict dust penetration.
- Built-in RFI filters to remove electromagnetic interference and lower harmonic levels.
- Fan cooled heat sink prevents the drive from overheating and enables it to be installed into confined spaces
- A range of inbuilt functions specifically developed to save energy and create an effective environmental controls system.
- IP20 class protection enclosure (with optional IP21 kit)
- Up to 40°C ambient temperature.

Typical Applications

Commercial supply or exhaust air fan applications such as factories, warehouses, commercial kitchens, retail outlets.

Special Note

Requires Local Control Panel (LCP) to be ordered separately:
FC51-132B0100 – LCP without potentiometer
FC51-132B0101 – LCP with potentiometer

Electrical Supply

200–240V, single-phase, 50/60Hz
380–480V, three-phase, 50/60Hz

Testing

Harmonics Standard EN 61000-3-12
EMC Standard EN/IEC 61800-3
(C1 & C2 – cable length restrictions apply)

Standard I/O

- 5 x Digital Inputs
- 2 x Analogue Inputs 1x 0/4-20mA, 1x 0-10V or 0/4-20mA
- 1 x Analogue Outputs 0/4-20mA
- 1 x Relay Output

Fieldbus communication

- Modbus RTU
- FC Protocol

TECHNICAL DATA

Part Number	Input / Output	Motor kW	Amps @ 40°C	Frame Size	Protection Class	Dimensions, mm	Weight, kg.
FC51-132F0001	1 phase / 3 phase	0.18	1.2	M1	IP20	70W x 150H x 148D	1.1
FC51-132F0002		0.37	2.2				
FC51-132F0003		0.75	4.2				
FC51-132F0005		1.5	6.8	M2		75W x 180H x 168D	1.6
FC51-132F0007		2.2	9.6	M3		90W x 239H x 194D	3
FC51-132F0017	3 phase / 3 phase	0.37	1.2	M1		70W x 150H x 148D	1.1
FC51-132F0018		0.75	2.2				
FC51-132F0020		1.5	3.7	M2		75W x 180H x 168D	1.6
FC51-132F0022		2.2	5.3				
FC51-132F0024		3	7.2	M3		90W x 239H x 194D	3
FC51-132F0026		4	9				
FC51-132F0028		5.5	12				
FC51-132F0030		7.5	15.5				
FC51-132F0058		11	23	M4		125W x 292H x 241D	6
FC51-132F0059		15	31				
FC51-132F0060		18.5	37	M5		165W x 335H x 248D	9.5
FC51-132F0061		22	43				

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DANFOSS VLT HVAC DRIVE FC 102



DESCRIPTION

The VLT HVAC Drive is designed to bring optimised process control to all heating, ventilation and air conditioning applications. This drive is supplied with built-in smarts that reduce installation costs and features a trouble-free set up to ensure fast and efficient commission. It uses a wide range of functions specifically developed for HVAC fans, pumps, and compressors to save energy and meet environmental regulations.

Typical Applications

Speed control of commercial and industrial fan applications in shopping centres, office buildings and car parks, through to industrial processes and equipment ventilation applications.

Features

- User friendly interface with Smart Start wizard for quick and easy configuration.
- Integrated fan, pump and compressor functions to optimise energy savings.
- Onboard Smart Logic Controller removes need for an external PLC.
- Fire Mode with 8 speeds for continuous vital fan operation regardless of control signals, warnings or alarms.
- Built-in RFI filters to remove electromagnetic interference and lower harmonic levels.
- DC choke to mitigate harmonics and balance voltage drops and spikes.
- Thermistor input to prevent motors from overheating.
- Range of Option Cards available.
- IP55/UL Type 12 or IP66/UL Type 4X class protection enclosures.
- Up to 50°C ambient temperature without derating. (24hr average maximum 45°C)

Electrical Supply

380–480V, three-phase, 50/60Hz

Testing

Harmonics Standard EN 61000-3-12

EMC Standard EN/IEC 61800-3
(C1 & C2 & C3 – cable length restrictions apply)

Wiring Diagram

Please refer all enquires to Fantech sales engineers.

Standard I/O

- 6 x Digital Inputs (2x can be used as digital outputs)
- 2 x Analogue Inputs 0-10V or 0/4-20mA
- 1 x Analogue Output 0/4-20mA
- 2 x Relay Outputs

Fieldbus communication

- BACnet MSTP
- Modbus RTU
- FC Protocol
- N2 Metasys
- FLN Apogee
- LonWorks (option card required)
- BACnet/IP (option card required)
- DeviceNet (option card required)
- PROFIBUS DP (option card required)

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TECHNICAL DATA

Model	Input / Output	Motor kW	Amps @ 50°C*	Protection Class	Frame Size	Dimensions, mm	Weight, kg.
FC102-131U2227		1.1	3				
FC102-131U2228		1.5	4.1				
FC102-131U2235		2.2	5.6		A4	200W x 391H x 177D	9.4
FC102-131U2236		3	7.2				
FC102-131U2237		4	10				
FC102-131B5662		5.5	13		A5	242W x 420H x 200D	14.2
FC102-131B5663		7.5	16				
FC102-131B4061		11	24				
FC102-131B3319		15	32	IP55	B1	242W x 480H x 260D	23
FC102-131B4249		18.5	37.5				
FC102-131B5665		22	44		B2	242W x 650H x 260D	27
FC102-131B5664		30	61				
FC102-131B6662		37	73				
FC102-131B6663		45	90		C1	308W x 680H x 310D	45
FC102-131B6664		55	106				
FC102-131B8508		75	147		C2	370W x 770H x 335D	65
FC102-131B8507	3 phase / 3 phase	90	177				
FC102-131U9319		1.1	3				
FC102-131U9320		1.5	4.1				
FC102-131U9321		2.2	5.6		A4	200W x 391H x 177D	9.4
FC102-131U9322		3	7.2				
FC102-131U9323		4	10				
FC102-131B7636		5.5	13		A5	242W x 420H x 200D	14.2
FC102-131B7613		7.5	16				
FC102-131B8102		11	24				
FC102-131B8173		15	32	IP66	B1	242W x 480H x 260D	23
FC102-131B6981		18.5	37.5				
FC102-131B8231		22	44		B2	242W x 650H x 260D	27
FC102-131B8015		30	61				
FC102-131F4795		37	73				
FC102-131F1272		45	90		C1	308W x 680H x 310D	45
FC102-131F5337		55	106				
FC102-131F4041		75	147		C2	370W x 770H x 335D	65
FC102-131F7721		90	177				

* Maximum 50°C ambient temperature provided that the 24hr average is a maximum of 45°C.

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DANFOSS VLT HVAC DRIVE FC 131



DESCRIPTION

The VLT HVAC FC 131 is a dedicated drive designed to work with heating, ventilation, and air conditioning systems. The drive is easy to install and features a trouble-free set up which ensures fast and efficient commissioning. It incorporates a highly effective heat management system that makes it ideal for demanding environments and where drive space is restricted.

Typical Applications

Speed control of commercial and industrial fan applications in shopping centres, office buildings and car parks, through to industrial processes and equipment ventilation applications.

Features

- User friendly interface with start-up wizard for quick and easy configuration.
- Integrated fan / pump control for a more efficient startup.
- Normal operation or switch to special operation mode with up to 16 different zones in two setups
- Built-in PI controller for smooth variable speed control.
- Fire Mode for continuous vital fan operation regardless of control signals, warnings or alarms.
- Built-in RFI filters to remove electromagnetic interference and lower harmonic levels.
- DC choke to mitigate harmonics and balance voltage drops and spikes.
- Thermistor input to prevent motors from overheating.
- IP54 class protection enclosure.
- Up to 50°C ambient temperature with derating.

Electrical Supply

380–480V, three-phase, 50Hz

Testing

Harmonics Standard EN 61000-3-12

EMC Standard EN/IEC 61800-3

(C1 & C2 – cable length restrictions apply)

Wiring Diagram

Please refer all enquires to Fantech sales engineers.

Standard I/O

- 4 x Digital Inputs
- 2 x Analogue Inputs 0-10V or 0/4-20mA
- 2 x Analogue Outputs 0/4-20mA (Can be used as digital outputs)
- 2 x Relay Output

Fieldbus communication

- BACnet MSTP
- Modbus RTU
- FC Protocol
- N2 Metasys
- FLN Apogees

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TECHNICAL DATA

Model	Input / Output	Motor kW	Amps @ 40°C	Protection Class	Frame Size	Dimensions, mm	Weight, kg.
FC131-132L9242	3 phase / 3 phase	0.75	2.2	IP54	I2	115W x 332H x 225D	5.3
FC131-132L9243		1.5	3.7				
FC131-132L9245		2.2	5.3				
FC131-132L9246		3	7.2				
FC131-132L9248		4	9.0				
FC131-132L9249		5.5	12.0		I3	135W x 368H x 237D	7.2
FC131-132L9250		7.5	15.5				
FC131-132L9251		11	23.0		I4	180W x 476H x 290D	13.8
FC131-132L9252		15	31.0				
FC131-132L9253		18.5	37.0				
FC131-132L9255		22	44.0		I6	242W x 650H x 260D	27
FC131-132L9257		30	61.0				
FC131-132L9259		37	73.0				
FC131-132L9262		45	90.0		I7	308W x 680H x 310D	45
FC131-132L9264		55	106.0				
FC131-132L9266		75	147.0		I8	370W x 770H x 335D	65
FC131-132L9269		90	177.0				

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DANFOSS VLT SINE-WAVE FILTER MCC 101



Wall mounted Sine-Wave filter



Floor mounted Sine-Wave filter

DESCRIPTION

The VLT Sine-Wave Filter MCC 101 is differential-mode low-pass filter that suppresses the switching frequency component from a variable speed drive. It smooths the phase-to-phase output voltage to become sinusoidal and helps reduce the motor insulation stress and bearing currents.

Typical Applications

Used in combination with variable speed drives where motor protection is required. It is particularly used for older motors or external rotor motors, long motor cables are required and reduce switching frequency
acoustic noise.

Features

- Compatible with all control principles including flux and VVC+
- Parallel filter installation is possible for applications in the high power range
- Supplies the motor with a sinusoidal voltage waveform
- Helps eliminate switching acoustic noise from the motor
- Eliminates over-voltages and voltage spikes caused by cable reflections
- Reduces high frequent losses in motor
- The wall mounted Sine-Wave Filter has a IP20 class protection enclosure
- The floor mounted Sine-Wave Filter has a IP21 class protection enclosure

Electrical Supply

200-500V, three-phase, 50/60Hz

TECHNICAL DATA

Part Number	Input / Output	Motor kW	Amps @ 40°C	Class Protection	Mount Type	Dimensions, mm	Weight, kg
SIN-130B2439	3 phase / 3 phase	0.37 - 0.75	2.5	IP20	Wall	75W x 181H x 205D	3.3
SIN-130B2441		1.1 - 1.5	4.5				4.2
SIN-130B2443		2.2 - 3.0	8.0			90W x 246H x 205D	5.8
SIN-130B2444		4	10.0				7.1
SIN-130B2446		5.5 - 7.5	17			130W x 246H x 205D	9.1
SIN-130B2447		11	24			150W x 260H x 260D	16.9
SIN-130B2448		15 - 18.5	38			150W x 380H x 260D	19.9
SIN-130B2307		22	48			170W x 460H x 260D	39
SIN-130B2308		30	62			170W x 540H x 260D	41
SIN-130B2309		37	75				54
SIN-130B3181		45 - 55	115	IP23	Floor	904W x 918H x 792D	205
SIN-130B3183		75 -90	180				237
SIN-130B3185		110 -132	260				307
SIN-130B3187		160 -200	410				370
SIN-130B3189		250	480			1260W x 1161H x 991D	425

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