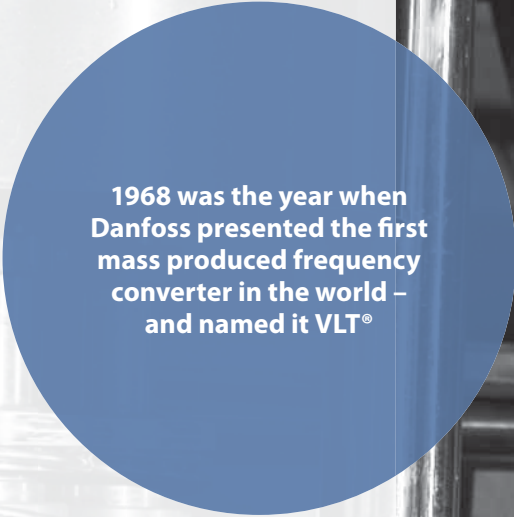




# Selection guide

## VLT® AutomationDrive FC 360





1968 was the year when Danfoss presented the first mass produced frequency converter in the world – and named it VLT®

## PERFORMANCE, RELIABILITY AND SPEED

**Increase quality and efficiency with energy efficient, user friendly control of motors from 0.37 to 75 kW.**

Built on the success of the tried and tested VLT® platform that Danfoss developed and launched in the 1960's, the VLT® AutomationDrive FC 360 shares the same technical heritage as the popular and versatile VLT® AutomationDrive FC 300 series. Developed to meet a general purpose operation profile the drive lacks the expandability of its larger sibling, but still delivers powerful performance out of the box.

Due to the fact that all Danfoss frequency converters follow the same basic design and operating principle, existing owners and users of VLT® drives will instantly feel at home when operating the VLT AutomationDrive FC 360.

The VLT® AutomationDrive FC 360 is a dedicated industry drive , designed for OEMs, that provides precise and efficient motor control in a wide range of industrial applications.

### **Built-in features help owners save**

- Space in installations
- Time in setup
- Effort in daily maintenance.

The result is a powerful and versatile solution that increases process efficiency and quality in a cost-efficient package





Built-in features provide high performance and reduce the need for external components. This reduces complexity and makes the ordering process easier.

**REDUCED HARMONICS**  
A built-in DC choke reduces harmonics to less than 43% (ThiD) and significantly extends the lifetime of the DC capacitor.

#### **Designed for challenging environments**

Using advanced coating and quality internal electronics protection, the FC 360 has the rugged characteristics demanded by the textile, plastics, rubber, food, beverage and building materials industries.

#### **Maximize productivity**

IP20 standard protection and an easy to use control panel saves valuable time in commissioning and maintenance, and enables owners to maximize uptime and save energy..

#### **Compact design for easy installation**

The compact, lightweight design enables owners to optimize panels space by mounting several drives side-by-side with zero clearance.

#### **Save time on setup**

Easy parameter setup makes the path to energy savings both short and simple, and can be carried out with an enhanced numeric LCP or graphical control panel that supports English and Chinese. Targeted 'Application Selections' make it easy for users to set up and commission typical applications.

# HIGH RELIABILITY

## Coated Printed Circuit Boards

High level 3C3 Printed Circuit Board (PCB) coating as standard provides high reliability in harsh environments to prevent failures and downtime. The lifetime of the drive is also increased as a result of the IEC 60721-3-3 conformal coating.

## 55°C Working Temperature

VLT® AutomationDrive FC 360 is designed to operate at 45-50°C ambient temperature at full load (depending on model) and 55°C with derating. This means there is no need to install extra cooling equipment or oversize the drive, resulting in cost savings.

## Efficient heat management

A unique cooling concept ensures that there is no forced air flow over the electronics. This reduces the risk of downtime, while strengthening stability in daily operation.

By preventing dust and particles from accumulating on the small internal components and legs, the risk of short circuits is significantly reduced, especially in humid environments.



### COATED PCB

*The VLT® AutomationDrive FC 360 is delivered with a 3C3 class coated PCB as standard to strengthen reliability.*



### EASY CLEANING

*An easy to remove fan makes it easy to keep dust from affecting the drive's ventilation.*



### DISPLAY

*Customer can select enhanced numerical display or graphical control panel that supports English and Chinese (requires adaptor).*



### ENCLOSURE

*The VLT® AutomationDrive FC 360 is available with an IP 20 enclosure.*



## Optimized for industrial applications

- Extruders
- Escalators
- Winders
- Material Handling
- Palletizer
- Conveyor
- Draw Bench
- Textile Machinery
- Hoist
- Air Compressor
- Printing & Dyeing
- Glass Production Line
- Centrifuge separators
- Pumps
- Fans



**HIGH PERFORMANCE CONTROLLER**  
VLT® AutomationDrive FC 360 has an advanced controller with high speed response making high-end, complicated applications easy.

450 kg force at 0.6 Hz. The high torque performance of a 0.75 kW VLT® AutomationDrive FC 360 fully meets the demands for tensile testing at Samuya Technocrates in India.

## SPEED

### PM motor control

The FC 360 can provide highly efficient permanent magnet (PM) motor control in open loop under VVC+ mode in motors up to 22kW. Using Automatic Motor Adaptation (AMA) the drive adapts to the specific characteristics of the permanent magnet motor.

### Smart Logic Control

Smart Logic is a simple and clever way to keep the drive, motor and application working together. The smart logic controller monitors a specific event, and when it occurs, it triggers a predefined action which is monitored for 20 steps, before returning to step 1.

The Smart Logic Controller can monitor any parameter that can be defined as "true" or "false", providing users with significant freedom to tailor the control strategy to their specific needs. This includes digital commands and logic expressions, where sensor outputs can influence operation using parameters such as temperature, pressure, torque, flow, time, load, frequency, voltage, and others, combined with the operators ">", "<", "=", "and" and "or" as logical statements.

### Expand with control and feedback modules

Fieldbus communication in VLT® AutomationDrive FC 360 is integrated in the control card. In addition, the drive can be expanded with options for additional control and encoder feedback.

With the VLT® Encoder Input MCB 102 and VLT® Resolver Input MCB 103 the VLT® AutomationDrive FC 360 can receive encoder feedback from either a motor or a process.

### Time saving setup VLT® Motion Control Tool MCT 10

The FC 360 can be configured and monitored with Danfoss own VLT® Motion Control Tool MCT 10 software. This provides plant managers with a comprehensive overview over the system at any point in time and a high level of flexibility in configuration and monitoring.

MCT 10 is a windows based engineering tool with a clearly structured interface that provides an instant overview of all the drives in a system of any size. The software runs under Windows and enables data exchange over a traditional RS 485 interface or fieldbus (PROFIBUS).

Parameter configuration is possible both online and offline, and the software can be configured to link to the system's electrical diagrams or operating manuals. This helps to reduce the risk of incorrect configuration while offering fast access to troubleshooting.



### EASY SETUP VIA PC

Connect the VLT® AutomationDrive FC 360 directly to a PC for fast and easy transfer of settings.



### USE WITH VLT® OneGearDrive®

The VLT® AutomationDrive FC 360 is designed to work perfectly with permanent magnet motors, such as the VLT® OneGearDrive®, which is widely used in Danfoss VLT® FlexConcept®.

# FEATURES DESIGNED TO MEET INDUSTRIAL NEEDS

The VLT® AutomationDrive FC 360 is designed to provide maximum uptime and reliability in a wide range of environments.

## Built-in Brake Chopper

A built-in brake chopper up to 22kW saves money and panel space.

## Pulse Input as Speed Reference

VLT® AutomationDrive FC 360 offers the capability to convert pulse input as a speed reference, avoiding the need to purchase an analog signal module for PLC.

## Center Winder

FC 360 supports center winder functionality, eliminating the need for a special module in the programmable logic control (PLC).

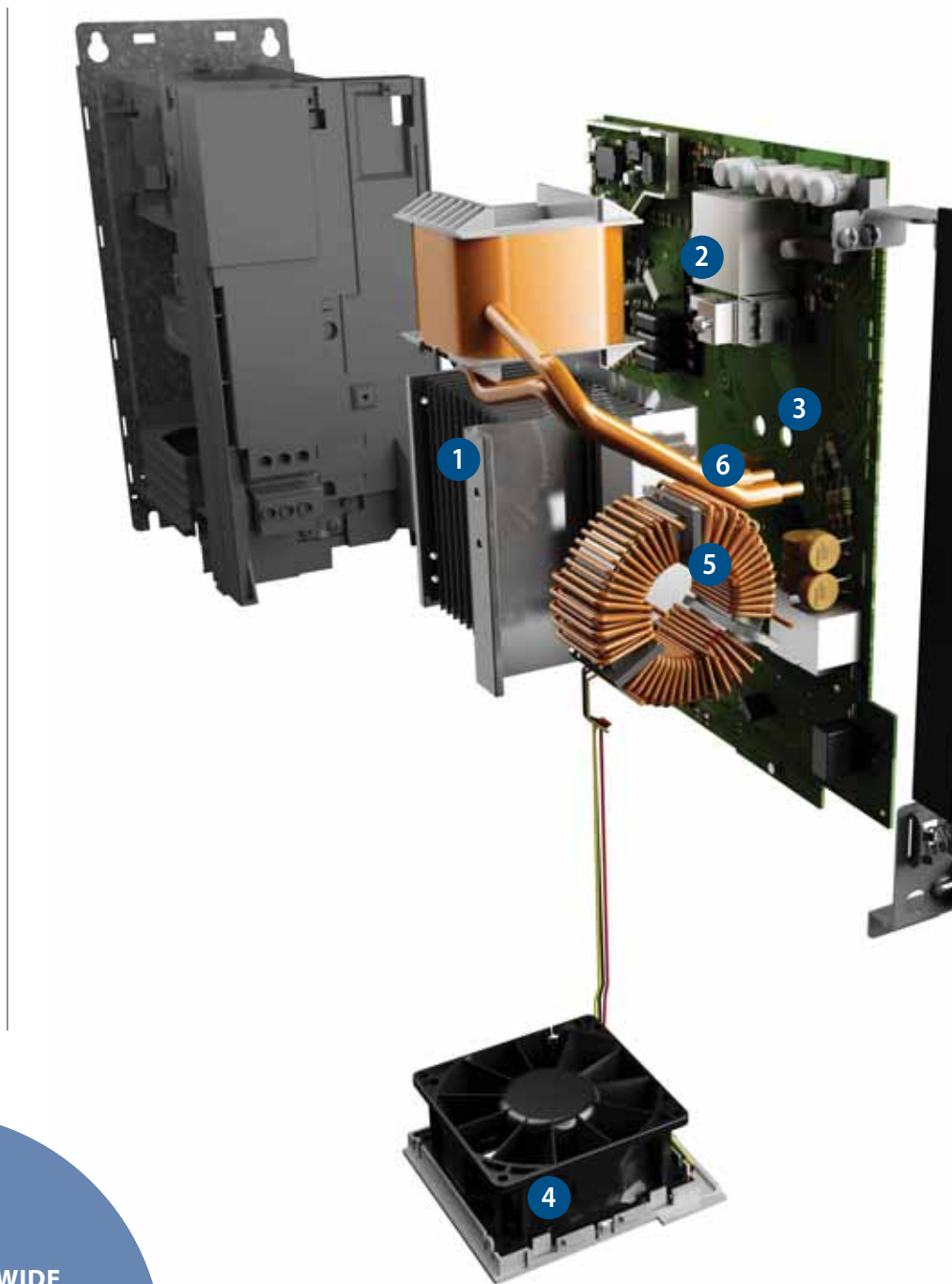
## Built-in PID Controller

The built in PID controller calculates an 'error' value as the difference between a measured process variable and a desired setpoint.

## Built-in RFI Filter

Built-in filters not only save space, but also eliminate additional costs for fitting, wiring, and material. The most important advantage is the perfect EMC conformance and cabling of integrated filters.

See the interactive presentation and video at [www.danfoss.com/fc360](http://www.danfoss.com/fc360)



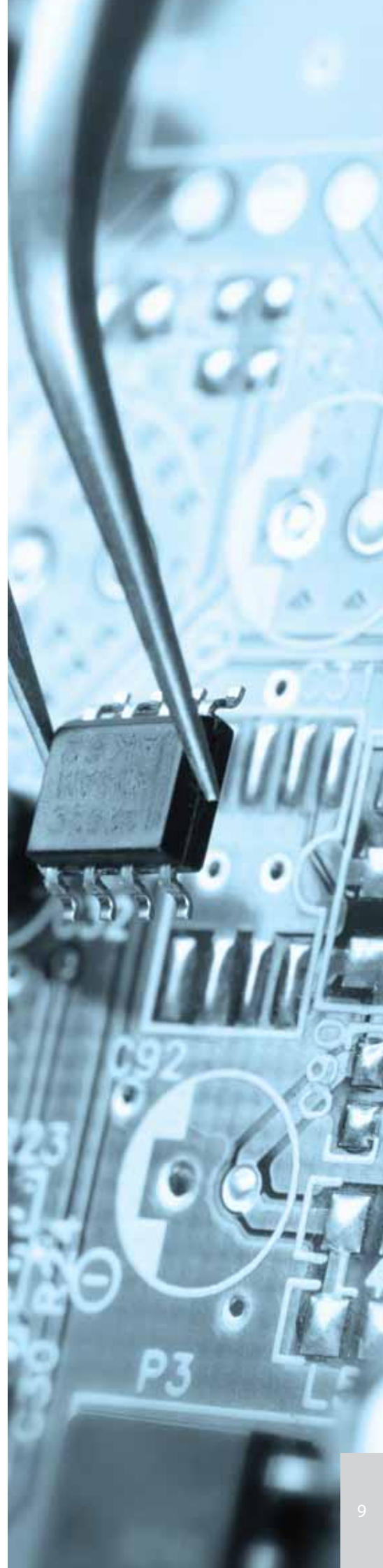
DESIGNED FOR A WIDE RANGE OF POWER SUPPLY CONDITIONS  
VLT® AutomationDrive FC 360 can operate at -15% of supply voltage





- 1** Designed for use in ambient temperatures up to 45-50°C without derating. Max. ambient temperature 55°C
- 2** No forced air over PCB for whole power range (0.37 to 75kW)
- 3** Class C3C coated components for increased reliability in harsh environments (IEC 60721-3-3)
- 4** Removable fan
- 5** EMC compliant. Meets class C3 with limit A2 (EN 55011) as standard
- 6** Built-in brake chopper up to 22 kW
- 7** Fieldbus embedded in control card (PROFIBUS)
- 8** I/O number and functions
  - 7DI / 2AI / 2AO / 2 DO
  - Pulse input as speed reference
  - Pulse feedback and 24V encoder feedback
  - 24V (100 mA)
  - 12V
- 9** Display options
  - Graphic LCP
  - Enhanced numeric LCP
  - Blind cover
- \*** Full automatic motor adaptation (AMA) optimizes compatibility between frequency converter and motor in VVC+ mode
- \*** Built-in Smart Logic Controller
- \*** RFI Switch

*\* Not visible on picture*



# SPECIFICATIONS

(Basic unit without extensions)

Main supply (L1, L2, L3)	
Supply voltage	380–480 V -15%/+10%
Supply frequency	50/60 Hz ±5%
Displacement power factor (cos φ)	> 0.98
Switching on input supply L1, L2, L3	0.37-7.5 kW maximum 2 times/min. 11-75 kW maximum 1 time/min.
Harmonic disturbance	Meets EN 61000-3-12

Output data (U, V, W)	
Output voltage	0 – 100% of supply voltage
Output frequency	0-500 Hz 0-200 Hz under VVC+ Mode
Switching on output	Unlimited
Ramp times	0.05-3600 sec

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

Digital inputs	
Programmable digital inputs	7
Changeable to digital output	2 (Terminal 27,29)
Logic	PNP or NPN
Voltage level	0 – 24 V DC
Maximum voltage on input	28 V DC
Input resistance, Ri	Approx. 4 kΩ
Scan interval	1 ms

\* 2 can be used as digital outputs

Analog inputs	
Analogue inputs	2
Modes	Voltage or current
Voltage level	0 to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Accuracy of analog inputs	Max. error 0.5% of full scale

Pulse/encoder inputs	
Programmable pulse/encoder inputs	2/1
Voltage level	0 – 24 V DC (PNP positive logic)
Pulse input accuracy (0.1 – 1 kHz)	Max. error: 0.1% of full scale
Encoder input accuracy	4Hz-32kHz

\* Utilize some of the digital inputs

Digital outputs	
Programmable digital/pulse outputs	2
Voltage level at digital/frequency output	0 – 24 V DC
Max. output current (sink or source)	40 mA
Maximum output frequency at frequency output	4Hz to 32 kHz
Accuracy on frequency output	Max. error: 0.1% of full scale

\* Utilize 2 digital inputs

Analogue output	
Programmable analogue outputs	2
Current range at analogue output	0/4 – 20 mA
Max. load to common at analogue output (clamp 30)	500 Ω
Accuracy on analogue output	Max. error: 0.8 % of full scale

Control card	
RS485 interface	Up to 115 kBaud
Max. load (10 V)	15 mA
Max. load (24 V)	100 mA

Relay output	
Programmable relay outputs	2
Max. terminal load (AC) on 1-3 (break), 1-2 (make), 4-6 (break) power card	250V AC, 3 A
Max. terminal load (AC) on 4-5 (make) power card	250V AC, 3 A
Min. terminal load on 1-3 (break), 1-2 (make), 4-6 (break), 4-5 (make) power card	250V AC, 0.2 A

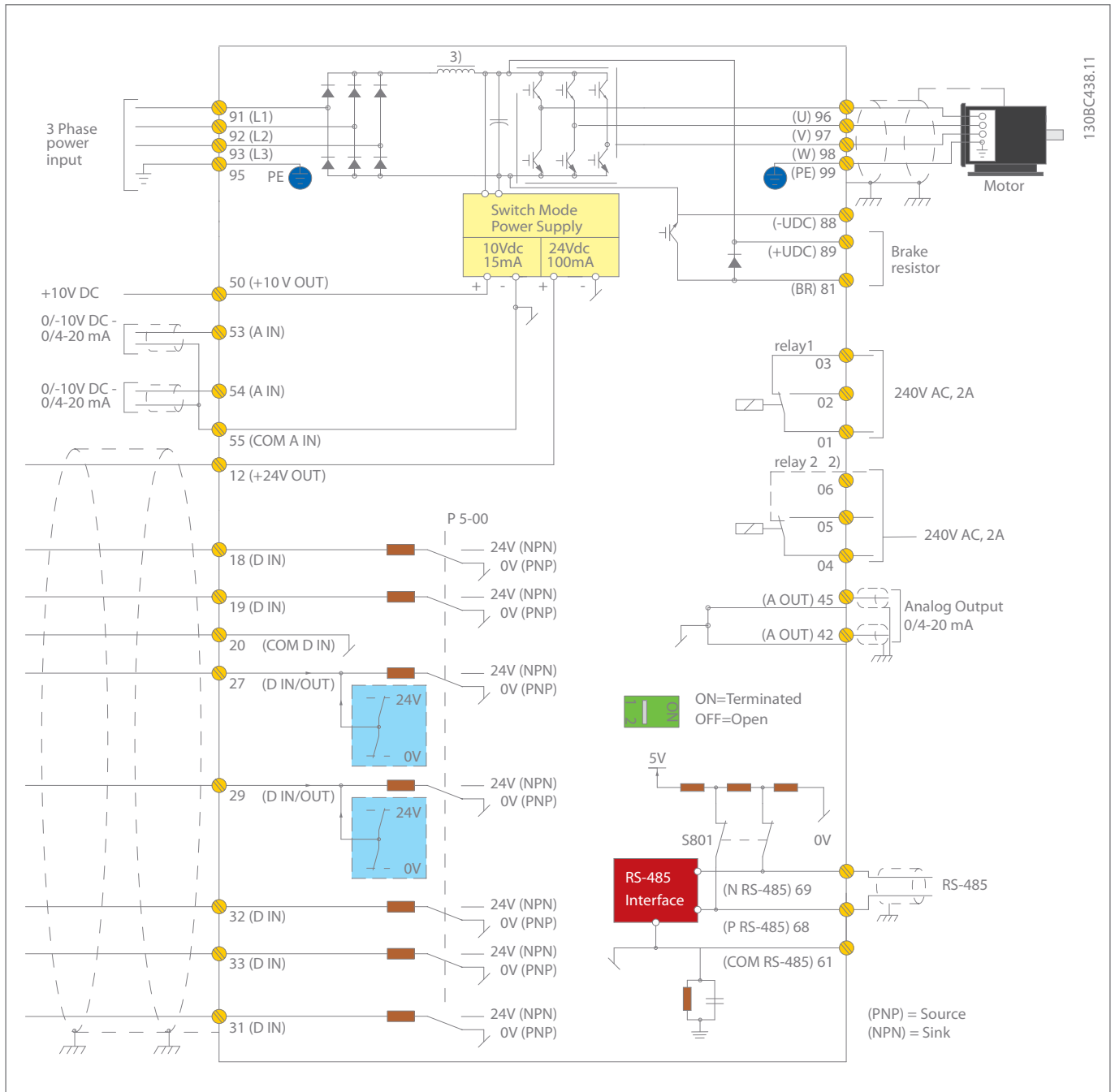
Surroundings/external	
Enclosure	IP20
Vibration test	1.0 g
Max. relative humidity	5-95% (IEC 60721-3-3; Class 3K3 (non-condensing) during operation)
Ambient temperature	max. 55°C with derating
Galvanic isolation of all	I/O supplies according to PELV
Aggressive environment	Class 3C3

Fieldbus communication	
Standard built-in	FC Protocol Modbus RTU
Fieldbus built-in control card variants	PROFIBUS



# CONNECTION EXAMPLES

The numbers represent the terminals on the drive



- <sup>1</sup> Built-in braking chopper available from 0.37 - 22 kW
- <sup>2</sup> Relay 2 is 2 pole for J1-J3 and 3 pole for J4-J7. Relay 2 of J4-J7 with terminal 4,5,6, same NO/NC logic as Relay 1.
- <sup>3</sup> Dual DC choke in 30-75 kW
- <sup>4</sup> Switch S801 (bus terminal) can be used to enable termination on the RS-485 port (terminals 68 and 69).
- <sup>5</sup> Terminal 81 not available from 30 - 75kW

The diagram shows the port terminals of the VLT® AutomationDrive FC 360.

The numbers indicated refer to the terminal numbers of the drives. Users can set the mode of the analogue inputs 53 and 54 by setting software parameters.

The FC 360 features a RS485 interface as standard. The RS485 terminations are integrated in the drive (S801).

PROFIBUS DP can be specified by configuring different control cassette when ordering.

To switch from NPN to PNP logic for the digital signals, use parameter 5-00.

# POWER, CURRENTS, ENCLOSURES AND ORDERING TYPE CODE

T4 380 – 480 V (High and normal overload)				
FC 360	kW	Amp.		IP 20 /Chassis
		380-439V	440-480V	
HK37	0.37	1.2	1.1	J1
HK55	0.55	1.7	1.6	
HK75	0.75	2.2	2.1	
H1K1	1.1	3.0	2.8	
H1K5	1.5	3.7	3.4	
H2K2	2.2	5.3	4.8	J2
H3K0	3.0	7.2	6.3	
H4K0	4.0	9.0	8.2	
H5K5	5.5	12	11	J3
H7K5	7.5	15.5	14	J4
H11K/Q11K	11	23	21	
H15K/Q15K	15	31	27	J5
H18K/Q18K	18	37	34	
H22K/Q22K	22	42.5	40	
H30K/Q30K	30	61	52	J6
H37K/Q37K	37	73	65	
H45K/Q45K	45	90	80	J7
H55K/Q55K	55	106	96	
H75K/Q75K	75	147	124	

## Dimensions [mm]

Frame size 380-480 V	J1	J2	J3	J4	J5	J6	J7
Power size [kW]	0.37-2.2	3.0-5.5	7.5	11-15	18.5-22	30-45	55-75
Dimensions [mm]							
Height A	210	272.5	272.5	317.5	410	515	550
Width B	75	90	115	133	150	233	308
Depth C (with option B)	168 (181)	168 (181)	168 (181)	245 (258)	245 (258)	241	323
Mounting holes							
a	198	260	260	297.5	390	495	521
b	60	70	90	105	120	200	270
Mounting screw	M4	M5	M5	M6	M6	M8	M8

[1] [2] [3] [4] [5] [6] [7] [8] [9] [10] [11] [12] [13] [14]  
**FC-360** - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - [ ] - X - SXX X - X - [ ] - [ ]

[1] Application
360 VLT® AutomationDrive FC 360

[2] Power Size
HK37
HK55
HK75
H1K1
H1K5
H2K2
H3K0
H4K0
H5K5
H7K5
H11K/Q11K
H15K/Q15K
H18K/Q18K
H22K/Q22K
H30K/Q30K
H37K/Q37K
H45K/Q45K
H55K/Q55K
H75K/Q75K

See ratings data on page 11 for power ratings

[3] AC Line Voltage
T4 3 x 380/480 V AC (High overload)
3 x 380/480 V AC (Normal overload)

[4] Enclosure
For cabinet mounting:
E20 IP 20/Chassis

[5] RFI Filter (EN 55011)
H2 RFI-Filter class A2

[6] Braking
X No brake IGBT
B Built-in brake IGBT

\* 0.37-22kW built-in; 30-75kW not

[7] Display (Local Control Panel)
X No LCP, blind cover

\* Following accessories available: NLCP, GLCP and blind cover

[8] Conformal Coating (IEC 721-3-3)
C Conformal coating on all PCBs

[9] Mains Input
D Load sharing terminals

[10] Cable
X Standard Cable Entry

[13] Fieldbus embedded in control cassette
AX No fieldbus option
A0 PROFIBUS

[14] B Option (Application)  
 BX No application option  
 \* VLT® Encoder Input MCB102 and VLT® Resolver Input MCB 103 available as accessories

Please note that not all combinations are possible. Find help for configuring your drive with the online configurator at [driveconfig.danfoss.com](http://driveconfig.danfoss.com)

# 380 – 480 VAC

Enclosure		IP20	J1					J2			J3	
		HO	HK37	HK55	HK75	H1K1	H1K5	H2K2	H3K0	H4K0	H5K5	H7K5
<b>Typical Shaft Output</b>		[kW]	0.37	0.55	0.75	1.1	1.5	2.2	3	4	5.5	7.5
<b>Typical Shaft Output at 460 V</b>		[HP]	0.5	0.75	1	1.5	2	3	4	5.5	7.5	10
<b>Output Current</b> (3 x 380 – 440 V)	Continuous	[A]	1.2	1.7	2.2	3	3.7	5.3	7.2	9	12	15.5
<b>Output Current</b> (3 x 441 – 480 V)	Continuous	[A]	1.1	1.6	2.1	3	3.4	4.8	6.3	8.2	11	14
<b>Intermittent</b> (60 s overload)		[A]	1.9	2.7	3.5	4.8	5.9	8.5	11.5	14.4	19.2	24.8
<b>Output Power</b> (400 V AC)	Continuous	[kVA]	0.8	1.2	1.5	2.1	2.6	3.7	5.0	6.2	8.3	10.7
<b>Output Power</b> (460 V AC)	Continuous	[kVA]	0.9	1.3	1.8	2.5	2.8	4	5.2	6.8	9.2	11.6
<b>Max. cable size</b> (Mains, motor, brake and load sharing)		[mm <sup>2</sup> ] ([AWG])	4 mm <sup>2</sup>									
<b>Max. Input Current</b> (3 x 380 – 440 V)	Continuous	[A]	1.2	1.6	2.1	2.6	3.5	4.7	6.3	8.3	11.2	15.1
<b>Max. Input Current</b> (3 x 441 – 480 V)	Continuous	[A]	1	1.2	1.8	2	2.9	3.9	4.3	6.8	9.4	12.6
<b>Intermittent</b> (60 s overload)		[A]	1.9	2.6	3.4	4.2	5.6	7.5	10.1	13.3	17.9	24.2
<b>Max. pre-fuses</b>		[A]	10					25			32	
<b>Environment</b>												
<b>Estimated power loss at rated max. load</b>		[W]	20.8	25.1	30	40	52.9	73.9	94.8	115.5	157.5	192.8
<b>Weight</b>												
IP 20		[kg]	2.3	2.3	2.3	2.3	2.3	2.5	3.6	3.6	3.6	4.1
<b>Efficiency</b>			0.96		0.97			0.98				

Enclosure		IP20	J4		J5		J6			J7		
		HO (NO)	H11K (Q11K)	H15K (Q15K)	H18K (Q18K)	H22K (Q22K)	H30K (Q30K)	H37K (Q37K)	H45K (Q45K)	H55K (Q55K)	H75K (Q75K)	
<b>Typical Shaft Output</b>		[kW]	11	15	18	22	30	37	45	55	75	
<b>Typical Shaft Output at 460 V</b>		[HP]	15	20	25	30	40	50	60	75	100	
<b>Output Current</b> (3 x 380 – 440 V)	Continuous	[A]	23	31	37	42.5	61	73	90	106	147	
<b>Output Current</b> (3 x 441 – 480 V)	Continuous	[A]	21	27	34	40	52	65	80	96	124	
<b>Intermittent</b> (60 s overload)		[A]	34.5 (25.3)	46.5 (34.1)	55.5 (40.7)	63.8 (46.8)	91.5 (67.1)	109.5 (80.3)	135 (99)	159 (116.6)	220.5 (161.7)	
<b>Output Power</b> (400 V AC)	Continuous	[kVA]	15.9	21.5	25.6	29.5	42.3	50.6	62.4	73.4	101.8	
<b>Output Power</b> (460 V AC)	Continuous	[kVA]	17.5	22.5	28.3	33.3	43.2	54	66.5	79.8	103.1	
<b>Max. cable size</b> (Mains, motor, brake)		[mm <sup>2</sup> ] ([AWG])	16 mm <sup>2</sup>				50 mm <sup>2</sup>			85 mm <sup>2</sup>		
<b>Max. Input Current</b> (3 x 380 – 440 V)	Continuous	[A]	22.1	29.9	35.2	41.5	57	70.3	84.2	102.9	140.3	
<b>Max. Input Current</b> (3 x 441 – 480 V)	Continuous	[A]	18.4	24.7	29.3	34.6	49.2	60.6	72.2	88.6	120.9	
<b>Intermittent</b> (60 s overload)		[A]	33.2 (24.3)	44.9 (32.9)	52.8 (38.7)	62.3 (45.7)	85.5 (62.7)	105.45 (77.3)	126.3 (92.6)	154.35 (113.2)	210.45 (154.3)	
<b>Max. pre-fuses</b>		[A]	50		80		160			250		
<b>Environment</b>												
<b>Estimated power loss at rated max. load</b>		[W]	289.5	393.3	402.8	467.5	630	848	1175	1300	1507	
<b>Weight</b>												
IP 20		[kg]	9.4	9.5	12.3	12.5	22.4	22.5	22.6	37.3	38.7	
<b>Efficiency</b>			0.98									

# OPTIONS AND ACCESSORIES

## PROFIBUS DP-V1

Operating the frequency converter via a fieldbus lets you reduce the cost of your system, communicate faster and more efficiently, and benefit from an easier user interface.

- PROFIBUS DP-V1 gives you wide compatibility, a high level of availability, support for all major PLC vendors, and compatibility with future versions
- Fast, efficient communication, transparent installation, advanced diagnosis and parameterisation and auto-configuration of process data via GSD-file
- A-cyclic parameterisation using PROFIBUS DP-V1, PROFIdrive or Danfoss FC profile state machines, PROFIBUS DP-V1, Master Class 1 and 2

## VLT® Encoder Input MCB 102

A universal option for connection of encoder feedback from either a motor or a process. Feedback for asynchronous motors.

Encoder module supports:

- Incremental encoders
- SinCos encoders as Hyperface®
- Power supply for encoders
- RS422 interface
- Connection to all standard 5 V incremental encoders

Ordering number:  
132B0282

## VLT® Resolver Input MCB 103

Supports resolver feedback for asynchronous motors.

- Primary Voltage:  
2 – 8 Vrms
- Primary Frequency:  
2.0 kHz – 15 kHz
- Primary current max:  
50 mA rms
- Secondary input voltage:  
4 Vrms

Ordering number:  
132B0283

## VLT® Brake Resistors MCE 101

Energy generated during braking is absorbed by the resistors, protecting electrical components from heating up. Danfoss brake resistors are optimized for the FC-series.

General versions for horizontal and vertical applications are also available.

- Enclosure protection as IP20 and up to IP65
- Built-in thermo switch
- Versions for vertical and horizontal mounting
- UL-recognized – only types for vertical mounting

## VLT® Control Panel LCP 21

The numerical control panel features an excellent user interface to the drive.

- Status messages
- Quick menu for easy commissioning
- Parameter setting and adjusting
- Hand-operated start/stop function or Automatic mode select
- Reset function

Ordering number:  
132B0254

## Graphical LCP Adapter for FC 360

The converter between FC 360 and the graphical control panel of VLT® AutomationDrive FC 300 series.

- Supports Chinese and English display (requires firmware 1.11 or newer)

Ordering number:  
132B0281

## VLT® Control Panel LCP 102 functions for FC 360

- English and Chinese display
- Status messages
- Quick menu for easy commissioning
- Parameter setting and explanation of parameter function
- Adjusting of parameters
- Full parameter backup and copy function
- Alarm logging
- Hand-operated start/stop, or Automatic mode selection
- Reset function



Graphical LCP  
Adapter for FC 360



VLT® Control Panel LCP 21



VLT® Brake Resistors MCE 101



VLT® Control Panel LCP 102

## Other accessories

Blind Cover, FC 360  
*Ordering number: 132B0262*

Remote Mounting Kit for LCP  
*Ordering number: 132B0102*

Decoupling plate mounting kit  
- J1  
*Ordering number: 132B0258*

Decoupling plate mounting kit  
- J2, J3  
*Ordering number: 132B0259*

Decoupling plate mounting kit  
- J4, J5  
*Ordering number: 132B0260*

Decoupling plate mounting kit  
- J6  
*Ordering number: 132B0284*

Decoupling plate mounting kit  
- J7  
*Ordering number: 132B0285*

Terminal Cover for MCB - J1  
*Ordering number: 132B0263*

Terminal Cover for MCB - J2  
*Ordering number: 132B0265*

Terminal Cover for MCB - J3  
*Ordering number: 132B0266*

Terminal Cover for MCB - J4  
*Ordering number: 132B0267*

Terminal Cover for MCB - J5  
*Ordering number: 132B0268*



# What VLT® is all about

Danfoss VLT Drives is the world leader among dedicated drives providers – and still gaining market share.

## Environmentally responsible

VLT® products are manufactured with respect for the safety and well-being of people and the environment.

All frequency converter factories are certified according to ISO 14001 and ISO 9001 standards.

All activities are planned and performed taking into account the individual employee, the work environment and the external environment. Production takes place with a minimum of noise, smoke or other pollution and environmentally safe disposal of the products is pre-prepared.

### UN Global Compact

Danfoss has signed the UN Global Compact on social and environmental responsibility and our companies act responsibly towards local societies.

### Impact on energy savings

One year's energy savings from our annual production of VLT® drives will save the energy equivalent to the energy production from a major power plant. Better process control at the same time improves product quality and reduces waste and wear on equipment.

## Dedicated to drives

Dedication has been a key word since 1968, when Danfoss introduced the world's first mass produced variable speed drive for AC motors – and named it VLT®.

Twenty five hundred employees develop, manufacture, sell and service drives and soft starters in more than one hundred countries, focused only on drives and soft starters.

## Intelligent and innovative

Developers at Danfoss VLT Drives have fully adopted modular principles in development as well as design, production and configuration.

Tomorrow's features are developed in parallel using dedicated technology platforms. This allows the development of all elements to take place in parallel, at the same time reducing time to market and ensuring that customers always enjoy the benefits of the latest features.

## Rely on the experts

We take responsibility for every element of our products. The fact that we develop and produce our own features, hardware, software, power modules, printed circuit boards, and accessories is your guarantee of reliable products.

## Local backup – globally

VLT® motor controllers are operating in applications all over the world and Danfoss VLT Drives' experts located in more than 100 countries are ready to support our customers with application advice and service wherever they may be.

Danfoss VLT Drives experts don't stop until the customer's drive challenges are solved.

