

**FC102-C4-IP21, 37 to 90kW**  
**Version 1.0**

ENGINEERING  
TOMORROW



**VLT® FC 102 HVAC Drive BIM Manufacturer Specification**

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<b>Product</b>	
Manufacturer	Danfoss
Model	VLT® HVAC Drive
Description	Variable Frequency Drive for HVAC Applications
Product Type	FC-102 HVAC
<b>Performance</b>	
Power supply and power rating	See information below
Supply Frequency	50 Hz / 60 Hz $\pm$ 10%
Overload torque	110% for 1 minute every 10 minute
True power factor	$\geq 0.9$
Displacement power factor (cos $\phi$ )	$> 0.98$ near unity
THiD	$\sim 46\%$ at short circuit ratio $\geq 120$
Operating temperature range	-25 <sup>0</sup> to 50 <sup>0</sup> C / -13 <sup>0</sup> to 122 <sup>0</sup> F
Power Cycle	1-2 times / min.
<b>Output data (U,V,W)</b>	
Output voltage	0-100% of supply voltage
Output switching frequency	2-16 kHz
Ramp time	1-3600 sec.
Output frequency	0-590 Hz
Power Cycle	1-2 times / min.
<b>Input data</b>	
Standard configuration	
Digital input (Programmable)	4 (0-24VDC, PNP/NPN)
Pulse input (Programmable)	2 (0-24VDC, PNP 0,1-110kHz - can be programmed as digital output)
Analogue input	2 (0-10V or 0/4-20mA - scaleable)
<b>Output data</b>	
Standard configuration	
Digital output (Programmable)	2 (0-24VDC, PNP/NPN - can be programmed as input)
Relay output (Programmable)	2 (240VAC, 2A / 400VAC, 2A)
Analogue output	1 (0/4-20mA - scaleable)
<b>Fieldbus Communication</b>	
Visit <a href="http://www.Danfoss.com">www.Danfoss.com</a> for latest update	
Standard built in (RS-485)	Options (Slot -A)
FC Protocol	BACnet MSTP - MCA 109
N2 Metasys	BACnet IP - MCA125
FLN Apogee	Ethernet/IP - MCA 121
Modbus RTU	DeviceNet - MCA 104
BACnet MSTP (embedded)	LonWorks - MCA 108
	Modbus TCP - MCA 122
	PROFIBUS DP - MCA 101 or PROFINET - MCA 120
<b>Installation</b>	
IP / Nema rating	IP21 / Type 1
Mounting	Wall
Dimensions	Included in the Revit files
Max. motor cable length (screened)	150m / 490 Feet (H1 RFI filter & EMC ClassA1/A2 & Category C2/C3)
Max. motor cable length (unscreened)	300m / 980 Feet
Weight (kg)	65.5kg / 144.4lb
<b>Approvals</b>	
RFI Filter	IEC 61800-3, Category C1 / C2 / C3
EMC emission compliance	IEC 55011 Class A1/A2/B, IEC 61000-6-3/4, IEC 61800-3 Category C1/C2/C3
Harmonic compliance	IEC/EN 61000-3-12 for short circuit ratios $\geq 120$

Product Variants	
Type Code	FC-102-P37K-T2-E21
Mains Supply (L1,L2,L3)	200-240V AC -/+ 10%
Rated kW	37kW / 50HP
Rated Continual Current (A)	143 Amp
Type Code	FC-102-P45K-T2-E21
Mains Supply (L1,L2,L3)	200-240V AC -/+ 10%
Rated kW	45kW / 60HP
Rated Continual Current (A)	170 Amp
Type Code	FC-102-P75K-T4-E21
Mains Supply (L1,L2,L3)	380-480V AC -/+ 10%
Rated kW	75kW / 100HP
Rated Continual Current (A)	147 Amp (380-440V) / 130 Amp (441-480V)
Type Code	FC-102-P75K-T6-E21
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	75kW / 100HP
Rated Continual Current (A)	100 Amp
Type Code	FC-102-P90K-T4-E21
Mains Supply (L1,L2,L3)	380-480V AC -/+ 10%
Rated kW	90kW / 125 HP
Rated Continual Current (A)	177 Amp (380-440V) / 160 Amp (441-480V)