

**FC102-A3-IP20-ABC, 1.1 to  
7.5kW  
Version 1.0**

ENGINEERING  
TOMORROW



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

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**Product**

Manufacturer	Danfoss
Model	VLT® HVAC Drive
Description	Variable Frequency Drive for HVAC Applications
Product Type	FC-102 HVAC

**Performance**

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	$-25^{\circ}$ to $50^{\circ}$ C / $-13^{\circ}$ to $122^{\circ}$ F
Power Cycle	1-2 times / min.

**Output data (U,V,W)**

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.

**Input data**

**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)

**Output data**

**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)

**Fieldbus Communication**

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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

**Installation**

IP / Nema rating	IP20 / Chassis
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)	6.85kg / 15.1lb

**Approvals**

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-P1K1-T6-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	1.1kW / 1.5HP
Rated Continual Current (A)	2.4 Amp
Type Code	FC-102-P1K1-T7-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-690V AC -/+ 10%
Rated kW	1.1kW / 1.5HP
Rated Continual Current (A)	2.1 Amp (525-550V) - 1.6 Amp (551-690V)
Type Code	FC-102-P1K5-T6-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	1.5kW / 2HP
Rated Continual Current (A)	2.7 Amp
Type Code	FC-102-P1K5-T7-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-690V AC -/+ 10%
Rated kW	1.5kW / 2HP
Rated Continual Current (A)	2.7 Amp (525-550V) - 2.2 Amp (551-690V)
Type Code	FC-102-P2K2-T6-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	2.2kW / 3HP
Rated Continual Current (A)	3.9 Amp
Type Code	FC-102-P2K2-T7-E20-*-A*-B*-C*
Mains Supply (L1,L2,L3)	525-690V AC -/+ 10%
Rated kW	2.2kW / 3HP
Rated Continual Current (A)	3.9 Amp (525-550V) - 3.2 Amp (551-690V)

