

FC102-C3-IP20, 22 to 55kW
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	≥ 0.9
Displacement power factor (cos ϕ)	> 0.98 near unity
THiD	$\sim 46\%$ at short circuit ratio ≥ 120
Operating temperature range	-25° to 50° C / -13° to 122° 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

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

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

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)	45kg / 99.2lb

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 ≥ 120

Product Variants	
Type Code	FC-102-P22K-T2-E20
Mains Supply (L1,L2,L3)	200-240V AC -/+ 10%
Rated kW	22kW / 30HP
Rated Continual Current (A)	88 Amp
Type Code	FC-102-P30K-T2-E20
Mains Supply (L1,L2,L3)	200-240V AC -/+ 10%
Rated kW	30kW / 40HP
Rated Continual Current (A)	115 Amp
Type Code	FC-102-P45K-T4-E20
Mains Supply (L1,L2,L3)	380-480V AC -/+ 10%
Rated kW	45kW / 60HP
Rated Continual Current (A)	90 Amp (380-440V) / 80 Amp (441-480V)
Type Code	FC-102-P45K-T6-E20
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	45kW / 60HP
Rated Continual Current (A)	62 Amp
Type Code	FC-102-P55K-T4-E20
Mains Supply (L1,L2,L3)	380-480V AC -/+ 10%
Rated kW	55kW / 75HP
Rated Continual Current (A)	106 Amp (380-440V) / 105 Amp (441-480V)
Type Code	FC-102-P55K-T6-E20
Mains Supply (L1,L2,L3)	525-600V AC -/+ 10%
Rated kW	55kW / 75HP
Rated Continual Current (A)	83 Amp

