

Fact Sheet

NEMA/UL Type 3R Rated VLT® HVAC Drive



The VLT® HVAC Drive withstands outdoor environments. A NEMA/UL Type 3R rated enclosure, and standard 1,000-foot motor cable runs, provide maximum mounting flexibility.

Suitable for installations that require protection against rain or splashing water, the FC 102 NEMA/UL Type 3R rated variable frequency drives can be installed directly at the equipment location without an additional protective enclosure. The variable frequency drive is built with all cast aluminum parts so that the enclosure will not rust.

Power range:

- 1.5–30 HP: 200 - 240V 1 phase
- 1.5–60 HP: 200–240V
- 1.5 –125 HP: 380–480V
- 1.5–125 HP: 600V

Perfect
tool for:

- Cooling Towers
- Roof Top Units
- Air Handler Units
- Bore-Hole Wells
- Open mechanical rooms
- Other outdoor applications

Feature	Benefit
Fused Disconnect	• No additional circuit protection required
All cast aluminium parts	• No need for separate enclosure*
Conformal coated circuit board option	• Additional protection in corrosive environments
Fan designed to withstand rain, sleet and ice	• Reliable operation
Can be installed near the motor or blower	• Facilitates modular plant design
1000' motor cable runs (unshielded)	• Short motor cables reduce EMI/RFI
Reliable	Maximum uptime
Robust, single enclosure	• Reduced size, cost, and maintenance
Unique cooling concept with no ambient air flow through electronics housing	• Reliable operation in harsh environments
Maximum ambient temperature 50° C without derating	• No external cooling or oversizing necessary
User friendly	Simplified operation and lower costs
Award-winning LCP keypad design	• Reduced commissioning time
Easy installation	• Lower startup costs
Watertight USB plug can be mounted in the bottom of the drive	• Drive enclosure can remain closed while making setup or programming changes

Cabinet sizes					
Power range (200-240 V 1 phase)	1.5 HP	2-7.5 HP	10 HP	20 HP	30 HP
(200-240 V)	1.5–5 HP	7.5–15 HP	20 HP	25–40 HP	50–60 HP
(480-600 V)	1.5–10 HP	15–25 HP	30–40 HP	50–75 HP	100–125 HP
Enclosure name	A5	B1	B2	C1	C2
Height	16.5	18.9	25.6	26.8	30.3
Width	9.5	9.5	9.5	12.1	14.6
Depth	7.9	10.3	10.3	12.2	13.2



Stainless steel weather shield

Mount above VLT® HVAC Drive to protect from direct sun and falling debris.

Part#	Description
130B4598	Weather Shield A4-B2 Frames
130B4597	Weather Shield C1-C2 Frames



Stainless steel back plate

For panel or wall mounting, a stainless steel back plate is standard on all units to direct air from the fan through the rear heatsink.

Part#	Description
130B3242	SS Backplate A5 Frame
130B3434	SS Backplate B1 Frame
130B3465	SS Backplate B2 Frame
130B3468	SS Backplate C1 Frame
130B3491	SS Backplate C2 Frame



Watertight USB plug

A USB plug can be mounted in the bottom of the enclosure, allowing the drive to stay closed while making setup or programming changes using MCT 10 setup software.

Part#	Description
130B1155	USB Plug A5-B1
130B1156	USB Plug B2,C1,C2

Mains supply (L1, L2, L3)	
Supply voltage	200–240 V ±10%, 380–480 V ±10%, 525–690 V ±10%
Supply frequency	50/60 Hz
Displacement Power Factor (cos φ) near unity	(> 0.98)
Switching on input supply L1, L2, L3	1–2 times/min.
Output data (U, V, W)	
Output voltage	0-100% of supply
Switching on output	Unlimited
Ramp times	1–3600 sec.
Closed loop	0–132 Hz
Digital I/O <i>(Additional I/O is available as optional I/O modules.)</i>	
Programmable digital inputs (standard)	6 (two can be used as digital outputs)
Logic	PNP or NPN
Voltage level	0–24V DC (PNP positive logic)
Pulse input bandwidth	(0.1–110 kHz)
Analog inputs <i>(Additional I/O is available as optional I/O modules.)</i>	
Analog inputs (standard)	2
Modes	Voltage or current
Voltage level	0 to +10 V (scaleable)
Current level	0/4 to 20 mA (scaleable)
Pulse inputs	
Programmable pulse inputs (standard)	2 (two of the digital inputs can be used as pulse inputs)
Voltage level	0–24V DC (PNP positive logic)
Pulse input accuracy	(0.1–110 kHz)
Analog outputs	
Programmable analog outputs (standard)	1
Current range at analog output	0/4-20 mA
Relay outputs	
Programmable relay outputs (standard)	2 (240 VAC, 2 A and 400 VAC, 2 A) resistive. (Allowable current is less with inductive loads)
External DC supply	
External 24V DC supply card (option)	Provides backup power for control and option cards
Fieldbus communication	
Modbus® RTU, JCI Metasys® N2 Siemens Apogee FLN P1, BACnet MS/TP, and FC embedded as standard. Advanced BACnet MS/TP, LonWorks, DeviceNet, Profibus DPV1, Ethernet IP, Modbus TCP, and Profinet RT available as option module.	
Ambient temperature	
Minimum 14° F (-10° C), Maximum 122° F (50° C)	

PC software tools

- MCT 10: ideal for starting up and servicing the drive
- MCT 31: harmonics calculations tool

** For outdoor installations: The drive should be installed under a suitable cover or with a weather shield to protect from falling debris and direct exposure to sun.*

VLT | VAGON

Tel. +1 (888) DANFOSS | www.danfossdrives.com | E-mail: salesinformation@danfoss.com

Danfoss Drives: Houston, TX • Loves Park, IL • Milwaukee, WI • Raleigh, NC • Stoney Creek, ON

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without consequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.