

NOARK

www.na.noark-electric.com

Variable Frequency Drives

Ex9VF7



EXCELLENT PRODUCTS EXCEPTIONAL VALUE



Ex9VF7 Variable Frequency Drives



Noark's Variable Frequency Drives are designed to control the speed and torque of an electric motor by varying the frequency and voltage of its power supply. It helps improve energy efficiency and provides precise control in applications like pumps, fans, and conveyors. Ex9VF7's operational voltage ranges from Single phase 110V to Three phase 600V.



Features

- Available from 0.4kW-185kW (0.25HP-250HP)
- High-tech motor control concept, based on advanced DSP-technology
- Compact and advanced VFD design for Panel/MCC integration
- Flexible inverter control, high resolution analogue inputs, free mapping for all I/O channels
- Automated carrier wave oscillation for audible noise reduction
- Automated torque profiling for high-torque at low-speed applications.
- NEMA 1 Enclosure (IP20 protection level)
- EMC filter (C3 class) integrated up to 150hp at ≤480V and 25hp at 600V
- BACnet, Ethernet IP, Ethernet CANopen and Modbus communication options available
- Wide range of accessories: keypad, mounting kit and more.

Standards and certifications

- UL 61800-5-1
- Certified for US and Canada.



Ex9VF7 VFD (IP20) Options: Remote LCD keypad, NEMA 1		110V, 1Ø input		230V, 1Ø input		230V, 3Ø input		480V, 3Ø input		600V, 3Ø input		Safe Torque Off (STO)	Integrated Braking Chopper
		230V, 3Ø output		230V, 3Ø output		230V, 3Ø output		480V, 3Ø output		600V, 3Ø output			
		2.5A to 10A	0.5hp to 3hp	1.5A to 40A	0.25hp to 15hp	2.5A to 40A	0.5hp to 15hp	0.5A to 360A	0.25hp to 250hp	1.7A to 150A	1hp to 150hp		
Plastic Housing Frames W x D x H (mm)	V1: 80x142 x138			●		●		●				No	Yes
	V2: 106x157x180	●		●		●		●		●		Yes	Yes
	V3: 142x159x235	●				●		●		●		Yes	Yes
	V4: 161x177x265					●		●				Yes	Yes
	V5: 210x203x340			●				●		●		Yes	Yes
	V6: 265x242x435							●				Yes	Yes
Metal Housing Frames W x D x H (mm)	V7: 315x250x476									●		Yes	Yes
	V8: 360x265x630							●		●		Yes	Yes
	V9: 410x300x765							●		●		Yes	Yes (up to 150hp)
	VA: 516x326x765							●				Yes	No
	VB: 560x342x910							●				Yes	No



Ex9VF7 Variable Frequency Drives

Technical Specifications

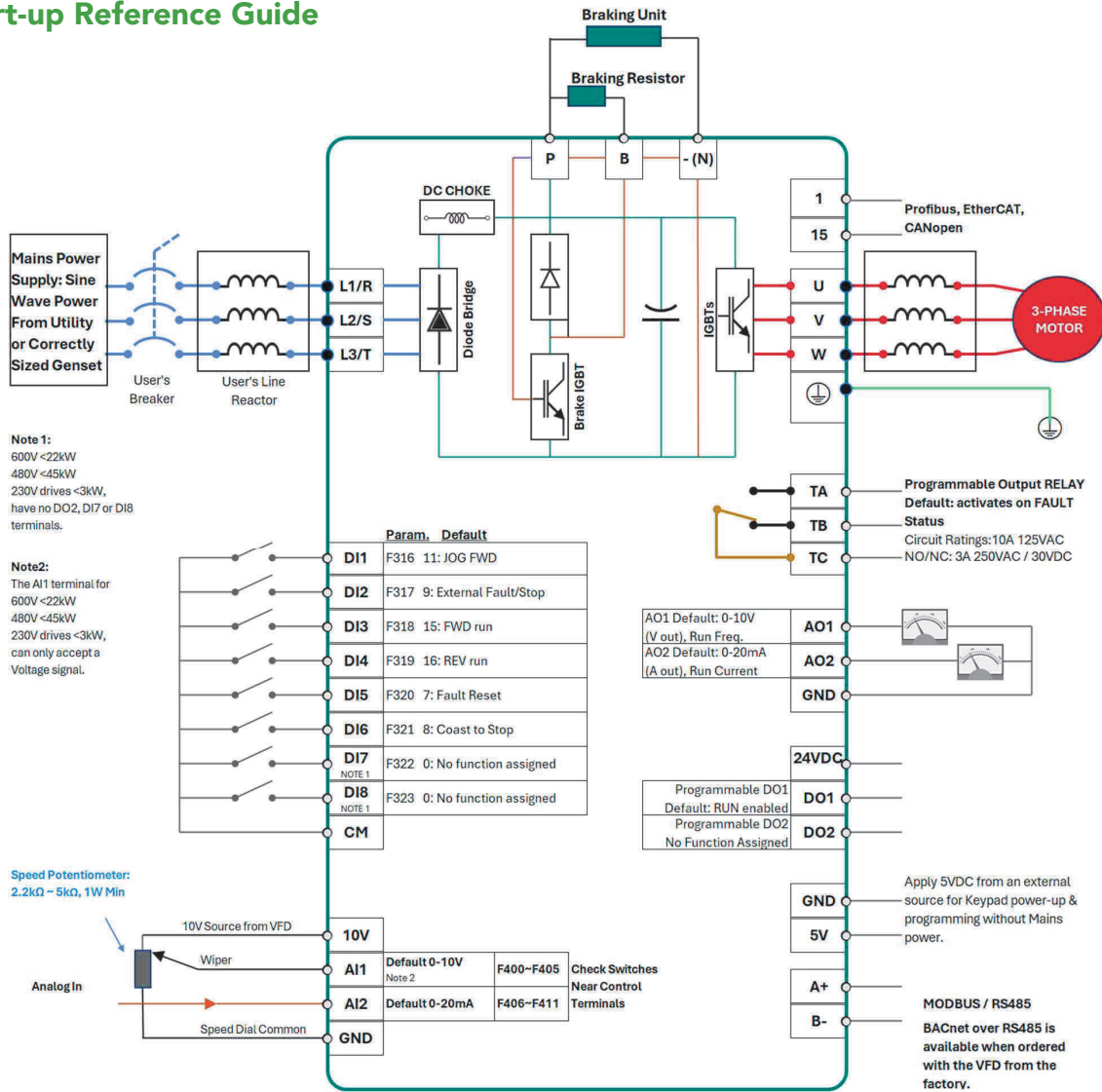
Parameter		Ex9VF7
Input	Rated Voltage Range	1-Phase 110~120V ±15%
		1-Phase 220~240V ±15%
		3-Phase 380-480V (+10%, -15%)
		3-Phase 220V~240V ±15%
		3-Phase 525V~600V (+10%, -15%)
	Rated Frequency	50/60Hz
Output	Rated Voltage Range	3-Phase 0-INPUT (V)
	Frequency Range	0.50~590.0Hz (In SVC Control Mode, The Max Frequency Should Be Lower Than 500Hz.)
Carrier Frequency		800~16000Hz; Fixed Carrier-Wave & Random Carrier-Wave Can Be Selected by F159
Input Frequency Resolution		Digital Setting: 0.01Hz, Analog Setting: Max Frequency X 0.1%
Control Modes		PMM (Surface & Internal) SYNCHRONOUS RELUCTANCE (Software Option) CLOSED LOOP / FOUR QUADRANT SVC/FOC Classic V/Hz
Start Torque		0.5Hz/150% (SVC) 0Hz/180% (VC), 5% of Rated Speed/100% of Rated Torque (PMSM SVC)
Speed-Range Ratios		1:100 (SVC), 1:1000 (CLVC), 1:20 (in PMSM SVC)
Speed Resolution		±0.5% ~(SVC), ±0.02% (CLVC)
Torque Control Precision		±5%
Overload Capacity		150% Rated Current, 60 Seconds. Adjustable
Torque Elevating/Profile		Auto Torque Curve Adjustment, Manual Torque Curve Adjustment Includes 1-20 Curve Options.
V/Hz Curve		Three Modes: Linear (CT/HD), Quadratic (VT/ND, Squared Curves Menu) & User-Defined V/Hz
Startup Mode		Direct Startup or Flying-Load Catch
DC Injection Braking		DC Injection Brake Frequency: 0.20-50.00 Hz; Braking Time: 0.00~30.00s
Jog Control		Jog Frequency Range: Min Frequency~Max Frequency, Jogging Acceleration / Deceleration Time: 0.1~3000s

Parameter		Ex9VF7
Auto Voltage Regulation (AVR)		If Supply Voltage Changes, Modulation Rate Can Be Adjusted Automatically to Maintain Output Voltage.
Auto Circulating Speed Run		Auto Circulating Run: Up To 15-Stage Speeds
Multi-Stage Speed Run		Control Terminal Dis: Up To 15-Stage Speeds
Built-in PID		Closed Loop Process Control, PID Parameters
Frequency Setting		Potentiometer; External Analog Signals (0 5V, 0 10V, 0-20ma); Keypad ▲ ▼ Keys, External Control Logic and/or Automatic Circulation Settings
Source of Start/Stop Control		Control Terminals Keypad Fieldbus Communication
Source of Speed Ref.		Keypad Potentiometer Analog Voltage Analog Current Fieldbus
Accessorial Hz Source		7 Kinds of Accessorial Frequency
Protections		Input & output phase loss, input under-voltage, DC overvoltage, over-current, VFD over-load, motor over-load, Protections current stall, over-heat, external disturbance, under-load, pressure control, AI/AO disconnected, Encoder line loss, keypad disconnection, CAN protection, STO and STO1
Display		Live Output Display Data Available: Hz, RPM, Current, Voltage, Linear Velocity, Faults & more as customized.
		LED indication: Inverter Status & Parameter Levels.
		Programming/parameters: set-up, operation & monitoring
Environment	Installation Location	Indoors, No Direct Sunlight, Dust Free Area/Panel, Safe Atmosphere Only
	Humidity	Below 90% (No Water Condensation)
	Vibration Rating	Below 0.5g
	Elevation	<1000m Above Sea Level
	Ingress Protection	IP20 (Finger-Safe), IP21 Kit Available
	Ambient Temp	-10 +50°C
Other Peripherals		Built-in EMI filter, Built-in braking unit, Modbus, Remote keypad kit, NEMA 1 Kit, Option Cards & More



Ex9VF7 Variable Frequency Drives

Quick Start-up Reference Guide



Accessories



LED keypad



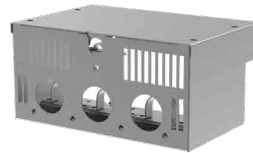
LCD keypad



Copy stick



Encoder plus I/O card



Conduit box



Encoder card



I/O card



Ethernet IP card