

H-Max HVAC drives



Reliability for the HVAC industry



The H-Max™ Series adjustable frequency drive is specifically designed to meet the needs of the HVAC industry by offering leading HVAC software and hardware features. With an industry-leading energy-efficiency algorithm, high short-circuit current rating and robust design, it offers you increased efficiency, safety and reliability.

Product range

- 0.75–125 hp, 230 Vac
- 1.5–250 hp, 480 Vac
- NEMA® 1/IP21 or NEMA 12/IP54 packaging

Benefits

- Industry-leading energy-efficient solution
- Easy menu navigation
- Multi-monitoring capability
- Corrosion-resistant circuit boards
- Extended shelf life
- Meets EMC Class C2 requirements
- Ideal feature set for HVAC

Features

- Active energy control algorithm
- Graphic display and keypad
- OnBoard communications (RS-485: Modbus®, BacNet, N2 Ethernet: Modbus TCP, BacNet/IP)
- OnBoard I/O (6DI, 3RO, 2AI, 1AO)
- Conformal coated circuit boards
- Real-time clock with battery backup
- 5% DC link choke
- Thin metal film bus capacitors
- OSHPD seismic certified



Product	FS4		FS5		FS6		FS7		FS8		FS9	
Voltage (Vac)	230	480	230	480	230	480	230	480	230	480	230	480
Horsepower	0.75–4	1.5–7.5	5–10	10–20	15–20	25–40	25–30	50–75	50–75	100–150	100–120	200–250
Kilowatts	0.55–3.0	1.1–5.5	4–7.5	7.5–15	11–15	18.5–30	18.5–30	37–55	37–55	75–110	75–90	132–160
Amperes	3.7–12.5	3.4–12	18–31	16–31	48–62	38–61	75–105	72–105	140–205	140–205	261–310	261–310

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Input ratings

Description	Specification
Input voltage (V_{in})	200–240 Vac, 380–480 Vac, $\pm 10\%$
Input frequency (f_{in})	50/60 Hz (variation up to 47–66 Hz)
Connection to power	Once per minute or less (typical operation)
Short-circuit withstand rating	100 kAIC

Output ratings

Description	Specification
Output voltage	0 to V_{in}/U_{in} line voltage in
Continuous output current	Ambient temperature maximum 104°F (40°C)
I_L overload	1.1 x I_L (1/10 minutes)
Overload current	110% (1/10 minutes)
Initial output current	150% for two seconds
Output frequency	0 to 320 Hz
Frequency resolution	0.01 Hz

Ambient conditions

Description	Specification
Operating temperature	14°F (–10°C), no frost to 104°F (40°C) (drive can operate at 122°F (50°C), see catalog for derating)
Storage temperature	–40°F (–40°C) to 158°F (70°C)
Relative humidity	0 to 95%, noncondensing, noncorrosive, no dripping water
Altitude	100% load capacity up to 3280 ft (1000m); 1% derating for each 328 ft (100m) above 3280 ft (1000m); maximum 9842 ft (3000m); 380–480V

Protections

Description	Specification
Overcurrent protection	Yes
Overvoltage protection	Yes
DC bus regulation anti-trip	Yes (accelerates or decelerates the load)
Undervoltage protection	Yes
Earth fault protection	Yes (in case of earth fault in motor or motor cable, only the frequency converter is protected)
Input phase supervision	Yes (trips if any of the input phases are missing)
Motor phase supervision	Yes (trips if any of the output phases are missing)
Overtemperature protection	Yes
Motor overload protection	Yes
Motor stall protection	Yes
Motor underload protection	Yes
Short-circuit protection	Yes
Surge protection	Yes (varistor input)
Conformal coated (varnished) board	Yes (prevents corrosion)

Eaton Corporation
Electrical Sector
1111 Superior Avenue
Cleveland, OH 44114 USA
Eaton.com

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