Specification Sheet for Class 8839 ECONO-flex™ AC Drives with Type 1 or Type 12K Enclosure

Overall Dimensions, inches (mm)

HP	H	W	D
1–7.5 hp @ 460 VAC 1–5 hp @ 208/230 VAC	35 (889)	15 (381)	14 (356)
10–25 hp @ 460 VAC 7.5–10 hp @ 208/230 VAC	41 (1041)	21 (533)	14 (356)
30–50 hp @ 460 VAC 15–25 hp @ 208/230 VAC	49 (1245)	21 (533)	16 (406)
60–100 hp @ 460 VAC 30–50 hp @ 208/230 VAC	63 (1600)	26 (660)	16 (406)

Specifications

Input voltage	460 V ±10%, 230 V ±10%, 208 V ±10%
Displacement power factor	98% through speed range
Input frequency	60 Hz ± 5%
Output voltage	Three-phase output Maximum voltage equal to input voltage
Galvanic isolation	Galvanic isolation between power and control (inputs, outputs, and power supplies)
Frequency range of power converter	0.1 to 500 Hz (factory setting of 60 Hz maximum)
Current	110% of controller rated current for 60 s
Switching frequency	Selectable from 0.5 to 16 kHz [1] Factory setting: 8 kHz
Speed reference	AI1: 0 to +10 V, Z = 30 kΩ Speed potentiometer to AI1 AI2: FACTORY SETTING: 4 to 20 mA Z = 100 Ω (reassignable, X–Y range with keypad display) FACTORY MODIFICATION J09 provides a controller interface 0–10 Vdc reference signal to the AI2 input using a 0–10 V / 4–20 mA converter with Z = 100 kΩ
Frequency resolution in analog reference	0.1 for 100 Hz (10 bits)
Speed regulation	V/f: determined by motor slip, typically 3% SLFV (sensorless flux vector): 1%
Efficiency	97% at full load typical
Reference sample time	5 ms
Acceleration and deceleration ramps	0.1 to 999.9 seconds (definition in 0.1 s increments)
Motor protection	Class 10 electronic overload protection Class 20 electromechanical overload protection with bypass [2]
Keypad display	Self diagnostics with fault messages in three languages; also refer to instruction bulletin VVDED397047US
Temperature	Storage: -13 to +149 °F (-25 to +65 °C) Operation: +14 to +104 °F (-10 to 40 °C)
Humidity	95% with no condensation or dripping water, conforming to IEC 60068-2-3
Altitude	3,300 ft (1000 m) maximum without derating; derating of the current by 1% for each additional 330 ft (100 m)
Enclosure	Type 1 or Type 12K (Type 12 with knockouts)
Pollution degree	Type 1: Pollution degree 2 per NEMA ICS-1 Annex A and IEC 60664-1. Type 12K: Pollution degree 3 per NEMA ICS-1 and IEC 60664-1
Operational test vibration	Conforming to IEC 60721-3-3-3M3 amplitude 1.5 mm peak to peak from 3 to 13 Hz 1 g from 13 to 200 Hz
Transit test to shock	Conforming to National Safe Transit Association and International Safe Transit Association test for packages.
Operational shock	15 g, 11 ms
Codes and standards	UL Listed per UL508C under category NMMS. Conforms to applicable NEMA ICS, NFPA, and IEC Standards. Manufactured under ISO 9001 Standards. Factory modification K09 provides Canadian cUL certification.

[1] Above 8 kHz, select the next largest size drive controller. If the duty cycle does not exceed 60% (36 s maximum for a 60 s cycle), this is not necessary.

[2] Class 10 electromechanical for 1 hp @ 460 V.