



SmartMotor®
Adjustable Speed
Integrated Motor/Drive
230 and 460 Volts

1 thru 10 Hp

NEMA 56C thru 215TC



Applications: Variable torque, constant torque or constant horsepower applications. New installations, replacements and original equipment manufacturers (OEM).

Features: TEFC matched motor and control. NEMA 1 enclosure on CSM and JMSM designs. NEMA 4X enclosure on CWDSM designs. Output speeds to 2X base speed and overload capacity of 150%. NEMA standard motor frames with premium efficiency motor designs.

Design Specifications

- Dual microprocessor controlled PWM output
- Free run or ramp stop
- Controlled reversing
- Selectable preset speeds
- Dynamic braking option
- DC injection braking
- Analog meter output
- One digital output
- One analog input
- Process control (PID)
- Profile Run

**Operator Keypad-Optional
Remote Mount Keypad**

- Digital speed control
- Forward/Reverse command
- Stop command
- Jog command
- Parameter setting and display
- Display 2 lines by 16 character
- Membrane keys with tactile feel

**Environmental and
Operating Conditions**

- Input voltage
3 phase 200-240 VAC±10%,
3 phase 380-480 VAC ±10%,
- Input frequency -
50 or 60 Hz ±10%
- Service factor - 1.0
- Duty - continuous
- Humidity - 90% max non-condensing
- Altitude - 3300 feet max without derate

Protective Features

- Selectable automatic restart at momentary power loss
- DC bus and fault indicator
- Adjustable time based overload
- Cause of last 31 trips retained in memory
- Digital display for fault conditions
- Isolated control circuitry

Output Ratings	Overload Capacity	150% for 60 seconds
	Speed Range	180 to 3600 RPM maximum; 180-3450 RPM variable or constant torque for 3450 RPM base speed
		180 to 1800 RPM variable torque, 180-1800 RPM constant torque max, 1800 to 3600 RPM constant hp for 1750 RPM base
Horsepower	Base speed ratings at 230 VAC or 460 VAC	
Input Ratings	Frequency	50 or 60 Hz ± 5%
	Voltage	200-240 VAC ±10%; 380-480 VAC ± 10%
	Phase	Three phase or single phase with derate. No single phase derate required for 1 and 2 horsepower
	Impedance	1% minimum required
Control Spec	Control Method	Sinusoidal PWM
	PWM Frequency	Adjustable 2.2 to 18 kHz (1-3 Hp); 2.2 to 9 kHz (5-10 Hp)
	V/Hz Ratio	Factory tuned to motor, minimum frequency limit, maximum frequency limit (120Hz)
	Torque Boost	0-15% of input voltage; automatic with manual override
	Brake Torque	20% standard on CSM and CWDSM catalog numbers (optional on JMSM)
	Skip Frequency	Three zones 0-max frequency
	Speed Setting	0-5 VDC, 0-10 VDC, 0-20mA, 4-20mA
	Accel/Decel	Separate accel/decel rates, 0-3600 sec. to maximum frequency
External Output	1 assignable digital output and LED indicator for trip	
Protective Functions	Motor Trip	Over voltage, over current, under voltage, external trip, heatsink thermal, motor overload
	Stall Prevention	Over voltage suppression, overcurrent suppression
LCD Display (optional)	Running	Output frequency, set frequency, output current, voltage, RPM, custom units
	Setting	Parameter values for setup and review
	Trip	Separate message for each trip, cause of last 31 trips retained in memory
Ambient Conditions	Temperature	-10 + 40°C ambient
	Cooling	Fan cooled

Farm Duty Motors

Definite Purpose Motors

Unit Handling

Brake Motors

200 & 575 Volt Motors

IEC Frame Motors

50 Hertz Motors

Inverter/Vector Motors & Controls

DC Motors and Controls

Soft Starters & Dynamic Brakes