



World Class Control

Modes of Operation

- Open Loop Flux Vector, Speed or Torque Control with Auto Tuning
- V/Hz (Constant or Variable)
- Base Frequency Adjustable to Motor Specs
- Enhanced V/Hz with Auto-tuning

Acceleration/Deceleration Profiles

- Two Independent Accel Ramps
- Two Independent Decel Ramps
- Linear, S-Type
- Auxiliary Ramp(or Coast)-to-Stop

Fixed Accel Boost for Improved Starting

500 Hz Output Frequency

High Carrier (PWM Sine-Coded) Frequency

- 4, 6, 8, 10 or 12 kHz

Universal Logic Assertion (Selectable)

- Positive or Negative Logic Input
- Digital Reference Available

Braking Functions

- DC Injection Braking
- Optional Dynamic Braking

Speed Commands

- Keypad, Potentiometer
- Jog, 8 Preset Speeds
- Floating Point Control
- Voltage: Scalable 0 –10 VDC
- Current: Scalable 4 – 20 mA

Process Control

- PID Modes: Direct and Reverse Acting
- PID Sleep Mode
- Analog Output (Speed, Load, Torque, kW)
- Network Speed (Baud Rate)
- Terminal and Keypad Status
- Elapsed Run or Power On Time (Hours)

Status Outputs

- Programmable Form "A" Relay Output
- Programmable Open Collector Output
- Scalable 0-10 VDC / 2-10 VDC Analog Output
- 4-20mA w/500 Ohm Total Impedance

Environment

Ambient Temperature

- 10 to 55°C @ 6 kHz
- Derate 2.5% per °C Above 40°C

Comprehensive Diagnostic Tools

Real Time Monitoring

- 8 Register Fault History
- Software Version
- Drive Network ID
- DC Bus Voltage (V)
- Motor Voltage (V)
- Output Current (%)
- Motor Current (A)
- Motor Torque (%)
- Power (kW)
- Energy Consumption (kWh)
- Heatsink Temperature (°C)
- 0 – 10 VDC Input (User Defined)
- 4 – 20 mA Input (User Defined)
- PID Feedback (User Defined)

Vigilant System Protection

Voltage Monitoring

- Low and High DC Bus V Protection
- Low Line V Compensation

Current Monitoring

- Motor Overload Protection
- Current Limiting Safeguard
- Ground Fault
- Short Circuit Protection

Three ReStarts

- Two Flying and One Auto
- User Enabled

Loss of Follower Management

- Protective Fault
- Go to Preset Speed or Preset Setpoint
- Initiate System Notification

Over Temperature Protection

International Voltages

- +10/-15% Tolerance
- 120/240V, 1Ø
- 200/240V, 1 or 3Ø
- 200/240V, 3Ø
- 400/480V, 3Ø
- 480/600V, 3Ø

Global Standards

- UL GOST
- cUL C-Tick
- CE Low Voltage (EN61800-5-1)
- CE EMC (EN61800-3) with optional EMC filter

Keypad & Display

Simple Six Button Programming

- Start
- Stop
- Forward/Reverse
- Scroll Up
- Scroll Down
- Enter/Mode

Informative LED Display

Vivid Illumination

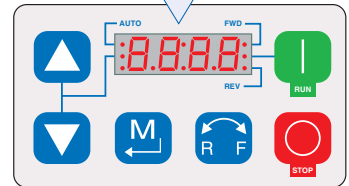
Easily Read from a Distance

Five Status LEDs

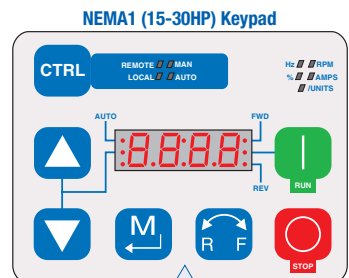
- Run
- Automatic Speed mode
- Manual Speed Mode
- Forward Rotation
- Reverse Rotation

Status Display

- Motor Status
- Fault Management
- Operational Information



NEMA1 (Up to 10HP) Keypad



NEMA1 (15-30HP) Keypad

Additional CTRL Button

Switch between control modes

- Local-Manual
- Remote-Manual
- Local Auto
- Remote Auto

Additional LED Indicators

Define the units being displayed

- Hz
- RPM
- %
- Amps
- /Units

Control Terminals

- Digital Inputs
 - Dedicated Start/Stop
 - (3) Programmable
- Analog Inputs
 - 0 - 10 VDC
 - 4 - 20 mA
- Power Supplies
 - 10 VDC Potentiometer Ref
 - 12 VDC, 20 mA DI Ref or 0VDC Com
 - 12 VDC, 50 mA Supply
- Common
 - Digital Outputs
 - Form "A" Relay
 - Open Collector
- Analog Outputs
 - 0 - 10 VDC
 - 2 - 10 VDC

Additional Control Terminals (15 HP & up)

- 1 Programmable Digital Input
- 1 Common
- RS-485 Modbus Communications
 - TXA
 - TXB

