



Unidrive M: General Purpose AC Drives

Unidrive M100-M400
Easy-to-use, flexible and reliable

0.33 - 200 hp (0.25 - 132 kW)
115 V | 208-240 V | 380-480 V | 575 V | 690 V



CONTROL TECHNIQUES™

Nidec
All for dreams

Easy-to-use General Purpose AC drives

Innovative and intelligent AC drive technology from Control Techniques enables customers to deploy highly productive, easy-to-use control solutions. Beyond achieving superior motor performance, our design philosophy is guided by the voice of our customers to produce truly “user friendly” control solutions. As a result, the drives are quick to install, simple to set up, and easy to maintain. Software tools are intuitive, consistent and flexible.

You will also find that many advanced features are built-in as standard into our drive solutions.

Unidrive M100 AC drive

0.33 hp - 10 hp (0.25 kW - 7.5 kW)
115 V / 208-240 V / 380-480 V

The **Unidrive M100/M101** series was developed in response to increasing customer requests for an easy-to-use, compact cost-effective general purpose AC drive. This drive provides outstanding V/Hz and open loop vector performance up to 10 hp, has a bright, easy to read LED keypad and has an optional parameter copy device. The Unidrive M100 drives use the AI-BACKUP-ADAPTOR and standard SD card for parameter storage, backup and copying. The Unidrive M101 includes a keypad mounted potentiometer.

Unidrive M200 AC drive

0.33 hp - 200 hp (0.25 kW - 132 kW)
115 V / 208-240 V / 380-480 V / 575 V / 690 V

The **Unidrive M200/M201** is available in nine frame sizes, covering all low voltage ranges, and provides up to 200 hp. This versatile drive has several cost and space saving features, such as “snap in” expandable I/O or communication options and onboard PLC (M200 only) using IEC-61131-3 compliant programming software. Unidrive M200 has been designed for applications that require flexible integration with systems via industrial Ethernet protocols and fieldbuses together with advanced open-loop motor Rotor Flux Control (RFC-A).

Unidrive M300 AC drive

0.33 hp - 200 hp (0.25 kW - 132 kW)
115 V / 208-240 V / 380-480 V / 575 V / 690 V

Unidrive M300 provides flexible integration with safety and communications. Unidrive M300 is ideal for applications that require cost-effective integration into safety systems. With two Safe Torque Off (STO) inputs, onboard PLC and an SI interface for a fieldbus, industrial Ethernet or extended I/O options, this feature set ensures Unidrive M300's flexible integration with any system.

Unidrive M400 AC drive

0.33 hp - 200 hp (0.25 kW - 132 kW)
115 V / 208-240 V / 380-480 V / 575 V / 690 V

Unidrive M400 minimizes downtime with an intuitive backlit LCD keypad offering a real-text, multi-language display for rapid setup and clear diagnostic help. The integrated PLC can execute a substantial range of sequencing and logic programs. The Unidrive M400's impressive I/O count complete with two STO inputs, an optional SI interface for extended I/O, fieldbus, industrial Ethernet and intuitive display makes it an ideal solution for stand-alone machine control.

Conforming to standards for quality, safety and interoperability

Control Techniques drives are built to meet rigorous international safety standards, and communicate flawlessly using the most popular fieldbuses and industrial Ethernet.



As such, the drives carry the following approval ratings:



Easy setup, reliable performance and built to last.

No specialist knowledge required

Designed to make setup as simple as possible. In fact, many applications require changing just a few settings. Adjustments are easy with the keypad and clear referencing guide.

Fast setup

For fast batch production, parameters can be transferred onto new drives using standard SD cards. You'll need either the optional AI-BACKUP-MODULE or AI-SMART-ADAPTOR and 24 Vdc power.



Visit www.Drive-Setup.com for step by step guides, videos, software & product support documentation.



AI-BACKUP-ADAPTOR



AI-SMART-ADAPTOR



1. Motor current
(Pr 06)

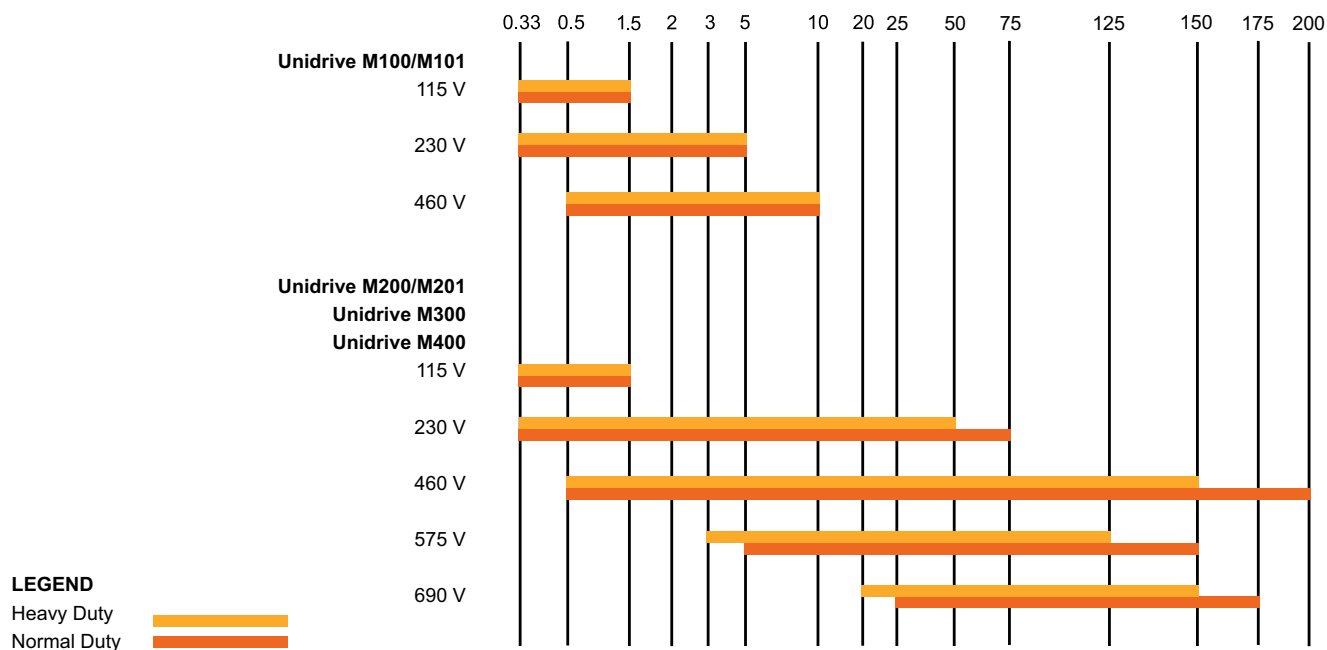
2. Motor rpm
(Pr 07)

3. Motor voltage
(Pr 08)

4. Motor power factor
(Pr 09)

You can find all parameters (Pr) for quick motor setup on the front of the drive, and be up and running within seconds.

AC Drive Horsepower (hp) Ratings



AC Drives Ratings



| Unidrive M model | | Unidrive M100/101 Value Drives | Unidrive M200/201 Optional Communications |
|-----------------------|----------------------------------|--------------------------------|---|
| Control Technology | | Open loop vector, V/Hz | Rotor Flux Control, Open loop vector, V/Hz |
| Power | Normal Duty | 0.33 – 10 hp | 0.33 – 200 hp |
| | Heavy Duty | 0.33 – 10 hp | 0.33 – 150 hp |
| AC Supply | | 100-120 V | 100-120 V |
| | | 200-240 V | 200-240 V |
| | | 380-480 V | 380-480 V |
| | | N/A | 500-575 V |
| Input/Output | Analog Inputs | 1 | 1 |
| | Analog/Digital Inputs | 0 | 1 |
| | Analog Outputs | 0 | 1 |
| | Digital Inputs | 3 | 4 |
| | Digital Input/Outputs | 1 | 1 |
| | Digital/Thermistor Input | 0 | 0 |
| | Digital/Frequency/Encoder Inputs | 0 | 0 |
| | Relays | 1 | 1 |
| Input/Output Options | | N/A | N/A |
| Communication Options | | N/A | CANopen, DeviceNet, EtherNet/IP, Modbus RTU, Modbus TCP/IP, PROFINET RT, PROFIBUS DP, RTMoE |
| Keypads | Drive | Fixed LED | Fixed LED |
| | Remote | N/A | Optional LCD |
| PLC Programming | | N/A | IEC61131(M200 only) |
| Safe Torque Off | | N/A | N/A |

Normal Duty

Suitable for most applications, current overload is set at 110% for 60 seconds. Where motor rated current is less than the drive rated continuous current, higher overloads are achieved.

Heavy Duty

Suitable for demanding applications, current overload is set at up to 180% for 3 seconds on frames 1 to 4 (200% for 28 sec. on frames 5 to 8 and 175% for 42 sec on frame 9). Where motor rated current is less than the drive rated continuous current, higher overloads are achieved.



Unidrive M model

| Unidrive M model | | Unidrive M300 Safety | Unidrive M400 Multi-language Display |
|-----------------------|----------------------------------|---|---|
| Control Technology | | Rotor Flux Control, Open loop vector, V/Hz | Rotor Flux Control, Open loop vector, V/Hz |
| Power | Normal Duty | 0.33 – 200 hp | 0.33 – 200 hp |
| | Heavy Duty | 0.33 – 150 hp | 0.33 – 150 hp |
| AC Supply | | 100-120 V | 100-120 V |
| | | 200-240 V | 200-240 V |
| | | 380-480 V | 380-480 V |
| | | 500-575 V | 500-575 V |
| | | 500-690 V | 500-690 V |
| Input/Output | Analog Inputs | 1 | 1 |
| | Analog/Digital Inputs | 1 | 1 |
| | Analog Outputs | 1 | 2 |
| | Digital Inputs | 4 | 2 |
| | Digital Input/Outputs | 1 | 2 |
| | Digital/Thermistor Input | 0 | 1 |
| | Digital/Frequency/Encoder Inputs | 0 | 2/1/1 |
| | Relays | 1 | 1 |
| Input/Output Options | | SI-I/O | SI-I/O |
| Communication Options | | CANopen, DeviceNet, EtherNet/IP, Modbus RTU, Modbus TCP/IP, PROFINET RT, PROFIBUS DP, RTMoE | CANopen, DeviceNet, EtherNet/IP, Modbus RTU, Modbus TCP/IP, PROFINET RT, PROFIBUS DP, RTMoE |
| Keypads | Drive | Fixed LED | Fixed LED |
| | Remote | Optional LCD | Optional LCD |
| PLC Programming | | IEC61131 | IEC61131 |
| Safe Torque Off | | SIL3, Ple, Cat 4 | SIL3, Ple, Cat 4 |

Normal Duty

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Heavy Duty

Suitable for demanding applications, current overload is set at up to 180% for 3 seconds on frames 1 to 4 (200% for 28 sec. on frames 5 to 8 and 175% for 42 sec on frame 9). Where motor rated current is less than the drive rated continuous current, higher overloads are achieved.

Unidrive M100/M101

Simplicity with Economy

The economical Unidrive M100 & M101 drives are ideal for simple applications where cost is critical and basic operation is required. The Unidrive M100 & M101 operate in V/Hz and open loop vector modes. They have an easy to use LED display keypad for quick setup. The Unidrive M101 also has a speed potentiometer for easy manual speed setting.



The Unidrive M100 & M101 drives also come with the reliability and performance users have come to expect from more powerful and flexible drives from Control Techniques.



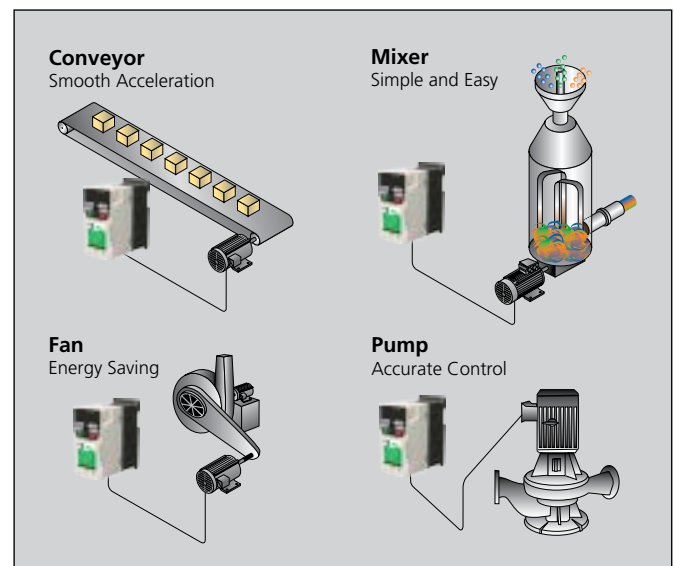
Unidrive M101

The Unidrive M101 variant includes an integrated speed reference potentiometer which enhances choice and ease-of-use.

- 0.33 to 1.5 hp (0.25 to 1 kW), 1Ø 100-120 Vac input, 3Ø 230 V output
- 0.33 to 3 hp (0.25 to 3 kW), 1Ø 200-240 Vac
- 0.33 to 5 hp (0.25 to 4 kW), 3Ø 200-240 Vac
- 0.5 to 10 hp (0.37 to 7.5 kW), 3Ø 380-480 Vac
- **Easy to setup** – all the parameters you need are printed on the front of the drive (90% of typical applications)
- **Easy installation** – DIN-rail alignment (up to 2 hp)
- **Simple connections** – easy access terminals with clear marking and terminal diagram on inside of the front cover
- **Simple startup** – easy push button setup
 - no need for complex programming
- **Performance** – V/Hz or high performance open loop vector
- **Output frequency** - 0 to 550 Hz Switching frequency 3 kHz (default), 0.66, 1, 2, 3, 4, 6, 8, 12 and 16 kHz
- **Positive logic control**
- **Catch a spinning motor**
- **SD Card Parameter Copy options** for fast commissioning of multiple drives



Typical applications



FEATURE

Performance Advantage

Unidrive M101 powers up in Keypad Mode

Easy-to-use. Ready to run out of the box.

6 Operator Buttons: Enter, Escape, Up, Down, Stop/Reset and Start. Bright LED Display

Easy to program and use.

Top Ten Level 1 Parameters Listed on the Drive's Front Cover

On-the-spot easy reference for drive setup and maintenance.

Security Lock

Enables the user the ability to lock unwanted parameter edits with a security code.

Configurable Analog and Digital I/O

Customizes drive to the specific application.
3 configurable digital input terminals (defaults are: Enable, Run Forward, Run Reverse), 1 configurable digital input/output terminal (at zero frequency), 1 relay output (Drive OK) and 1 analog input (0-10 V or 0-20/4-20 mA).

Comprehensive Diagnostics

8 display alarm codes, 68 trip codes and 10 trip history log.

Flexible Control Features

8 preset speeds, 7 stopping modes including DC injection braking. Catch a spinning motor algorithm.

Quadratic Motor V/Hz Control

Optimizes multimotor fan and pump operation.

Dynamic Motor V/Hz Control

Optimizes energy savings.

Open Loop Vector Control with True Space Vector Modulation

Precise control algorithm provides full torque down to 1 Hz for exceptional performance.

UNIDRIVE M100/M101 RATINGS

100 / 120 VAC $\pm 10\%$

| Base Order Code M10x- ③ | Size | Motor Power ① | | Input Phase | Continuous Output Current (A) | Overload Current (A) ② |
|----------------------------|------|---------------|------|-------------|-------------------------------|------------------------|
| | | hp | kW | | | |
| 01100017A | 1 | 0.33 | 0.25 | 1 | 1.7 | 2.6 |
| 01100024A | 1 | 0.5 | 0.37 | 1 | 2.4 | 3.6 |
| 02100042A | 2 | 1 | 0.75 | 1 | 4.2 | 6.3 |
| 02100056A | 2 | 1.5 | 1.1 | 1 | 5.6 | 8.4 |

200 / 240 VAC $\pm 10\%$

| Base Order Code M10x- ③ | Size | Motor Power ① | | Input Phase | Continuous Output Current (A) | Overload Current (A) ② |
|----------------------------|------|---------------|------|-------------|-------------------------------|------------------------|
| | | hp | kW | | | |
| 01200017A | 1 | 0.33 | 0.25 | 1 | 1.7 | 2.6 |
| 01200024A | 1 | 0.5 | 0.37 | 1 | 2.4 | 3.6 |
| 01200033A | 1 | 0.75 | 0.55 | 1 | 3.3 | 5 |
| 01200042A | 1 | 1 | 0.75 | 1 | 4.2 | 6.3 |
| 02200024A | 2 | 0.5 | 0.37 | 1/3 | 2.4 | 3.6 |
| 02200033A | 2 | 0.75 | 0.55 | 1/3 | 3.3 | 5 |
| 02200042A | 2 | 1 | 0.75 | 1/3 | 4.2 | 6.3 |
| 02200056A | 2 | 1.5 | 1.1 | 1/3 | 5.6 | 8.4 |
| 02200075A | 2 | 2 | 1.5 | 1/3 | 7.5 | 11.3 |
| 03200100A | 3 | 3 | 2.2 | 1/3 | 10 | 15 |
| 04200133A | 4 | 3 | 3.0 | 1/3 | 13.3 | 20 |
| 04200176A | 4 | 5 | 4.0 | 3 | 17.6 | 26.4 |

380 / 480 VAC $\pm 10\%$

| Base Order Code M10x- ③ | Size | Motor Power ① | | Input Phase | Continuous Output Current (A) | Overload Current (A) ② |
|----------------------------|------|---------------|------|-------------|-------------------------------|------------------------|
| | | hp | kW | | | |
| 02400013A | 2 | 0.5 | 0.37 | 3 | 1.3 | 2 |
| 02400018A | 2 | 0.75 | 0.55 | 3 | 1.8 | 2.7 |
| 02400023A | 2 | 1 | 0.75 | 3 | 2.3 | 3.5 |
| 02400032A | 2 | 1.5 | 1.1 | 3 | 3.2 | 4.8 |
| 02400041A | 2 | 2 | 1.5 | 3 | 4.1 | 6.2 |
| 03400056A | 3 | 3 | 2.2 | 3 | 5.6 | 8.4 |
| 03400073A | 3 | 3 | 3 | 3 | 7.3 | 11 |
| 03400094A | 3 | 5 | 4.0 | 3 | 9.4 | 14.1 |
| 04400135A | 4 | 7.5 | 5.5 | 3 | 13.5 | 20.3 |
| 04400170A | 4 | 10 | 7.5 | 3 | 17 | 25.5 |

① Motor horsepower based on typical 4-pole motor ratings. hp ratings are based on typical 230 V motors for 110/120 V and 200/240 V drives and 460 V for 380/480 V drives. kW ratings are based on typical 220 V motors for 110/120 V and 200/240 V drives and 400 V for 380/480 V drives.

Select model based on actual motor nameplate current rating.

② Overload: 150 % (for 60 s).

③ Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products.

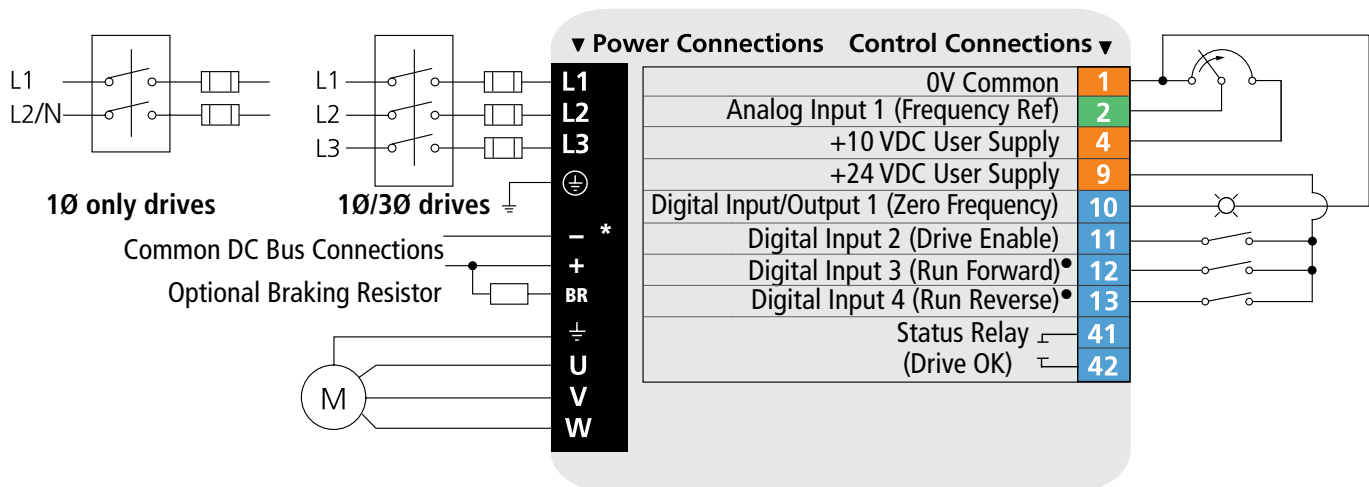
UNIDRIVE M100/M101 FEATURES



Drive rated to IP21 / UL open class (NEMA 1) as standard

Conduit kits are available to meet UL Type 1 rating as standard

UNIDRIVE M100/M101 TERMINAL DIAGRAM



- Programmable Analog
- Programmable Digital
- Non-Programmable

Notes:

- * Terminal not available on frame size 1.
- Unidrive M101 requires an enable input only. The drive is controlled via keypad pushbuttons and speed potentiometer as default.

TERMINAL DESCRIPTION

| Pin # | Default Function | Type/Description | Notes |
|-------|-------------------------|------------------------------------|----------------------------------|
| 1 | 0V common | Common for external analog signals | |
| 2 | Frequency reference | Single ended analog input 11 bit | 0 to +10 Vdc, 0-20 mA or 4-20 mA |
| 4 | +10 Vdc user supply | Reference supply | 5 mA |
| 9 | +24 Vdc user supply | Digital I/O supply | 100 mA |
| 10 | At zero frequency | Digital I/O 1 | 0 to +24 Vdc |
| 11 | Enable | Digital input 2 | 0 to +24 Vdc |
| 12 | Run forward | Digital input 3 | 0 to +24 Vdc |
| 13 | Run reverse | Digital input 4 | 0 to +24 Vdc |
| 41 | Status relay (drive OK) | Normally open contact | 2 A, 240 Vac, |
| 42 | | | 0.5 A 30 Vdc inductive load |

UNIDRIVE M100/M101 SPECIFICATIONS

Environment

| | |
|-------------------------------|--|
| Ambient Operating Temperature | -20°C to 40°C (-4°F to 104°F) @ 3 kHz carrier freq. Operation to 60°C (140°F) with de-rating |
| Cooling method | Convection and forced convection, model dependent |
| Humidity | 95% maximum non-condensing at 40°C (104°F) |
| Storage Temperature | -40°C to 60°C (-40°F to 140°F) — 24 months Max. |
| Altitude | Derate the continuous output current by 1% for every 100 m (328 ft) above 1000 m (3,280 ft) to a maximum of 3000 m (9,840 ft). |
| Vibration | Tested in accordance with IEC 60068-2-64 and IEC 60068-2-6 |
| Mechanical Shock | Tested in accordance with IEC 60068-2-27 and IEC 60068-2-29 |
| Enclosure | IP20, NEMA 1 conduit kits available |
| Electromagnetic | In compliance with IEC/EN61000-4-2/3/4/5/6/11, IEC/EN61000-6-1/2/3, IEC/EN61800-3 Immunity |
| RoHS | Meets the EU directive 2002-95-EC |

AC Supply Requirements

| | |
|---------------------------------|--|
| Voltage | 100V models: 100 to 120 Vac $\pm 10\%$ (size 1 to 2) 200V models: 200 to 240 Vac $\pm 10\%$ (size 1 to 4) 400V models: 380 to 480 Vac $\pm 10\%$ (size 2 to 4) |
| Phase | 1Ø and 3Ø (Model dependent) |
| Maximum Supply Imbalance | 2% negative phase sequence, 3% voltage imbalance between phases. |
| Input Frequency | 45 to 66 Hz |
| Input Displacement Power Factor | 0.97 |

Control

| | |
|-------------------------|---|
| Carrier Frequency | 0.667, 1, 2, 3, 4, 6, 8, 12 & 16 kHz |
| Output Frequency | Up to 550 Hz |
| Frequency Accuracy | $\pm 0.02\%$ of full scale |
| Frequency Resolution | 0.01 Hz |
| Analog Input Resolution | Voltage mode: 11 bits (unipolar) Current mode: 11 bits |
| Braking | DC injection braking standard. Dynamic braking transistor included, requires external resistor. |

Protection

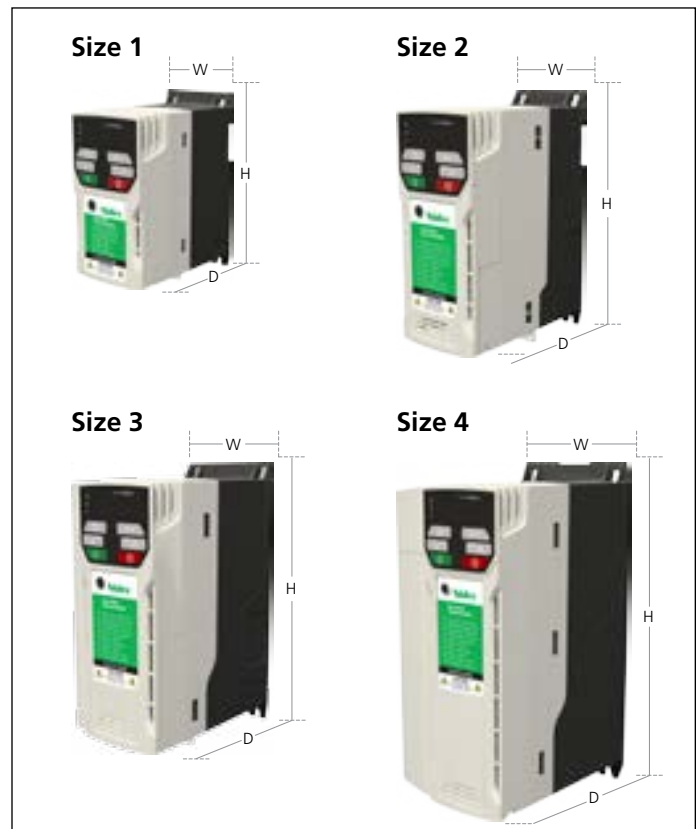
| | |
|--------------------------------|---|
| DC Bus Undervoltage Trip | 100 V model: 175 Vdc (approx. 61 Vac line voltage) 200 V model: 175 Vdc (approx. 123 Vac line voltage) 400 V model: 330 Vdc (approx. 233 Vac line voltage) |
| DC Bus Overvoltage Trip | 100 V model: 510 Vdc (approx. 180 Vac line voltage) 200 V model: 510 Vdc (approx. 361 Vac line voltage) 400 V model: 870 Vdc (approx. 615 Vac line voltage) |
| Drive Overload Trip | Current overload value is exceeded. Programmable to allow up to 150% of drive current for 60 seconds. |
| Instantaneous Overcurrent Trip | 220% of rated drive current. |

| | |
|----------------------|---|
| Phase Loss Trip | DC bus ripple threshold exceeded. |
| Overtemperature Trip | Drive heatsink temperature exceeds 95°C (203°F). |
| Short Circuit Trip | Protects against output phase-to-phase fault. |
| Ground Fault Trip | Protects against output phase-to-ground fault. |
| Motor Thermal Trip | Electronically protects the motor from overheating due to loading conditions. |

Approval & Listings

| | |
|---------|------------------|
| UL, cUL | UL File #E171230 |
| CE | CE approval |
| ✓ | N1652 |
| ISO | 9001:2015, 14001 |
| RoHS | RoHS Compliant |

Unidrive M100/M101 DIMENSIONS



| Frame size | H | | W | | D | | Weight | |
|------------|------|-----|-----|-----|-----|-----|--------|------|
| | in | mm | in | mm | in | mm | lbs | kg |
| 1 | 6.3 | 160 | 3.0 | 75 | 5.1 | 130 | 1.7 | .75 |
| 2 | 8.1 | 205 | 3.1 | 78 | 5.9 | 150 | 2.2 | 1.0 |
| 3 | 8.9 | 226 | 3.5 | 90 | 6.3 | 160 | 3.3 | 1.5 |
| 4 | 10.9 | 277 | 4.5 | 115 | 6.9 | 175 | 6.9 | 3.13 |

To accommodate the added depth with a potentiometer add 0.43 in (11 mm) to the depth of the M101 drives. See Fig #1 page 23. For NEMA Kit dimensions see page 30.

UNIDRIVE M100/M101

Options

Unidrive M100 options include additional EMC filters, conduit boxes for wall-mounting and parameter copy devices.

OPTIONS AT-A-GLANCE

| Option | Description | Order code |
|---|--|----------------------------|
| Drive Configuration | Parameter copying & 24 V backup; SD card required | AI-BACKUP-ADAPTOR |
| | 8 GB SD Card | CTSD8GB |
| | Parameter copying & 24 V backup; 4 GB SD card included | AI-SMART-ADAPTOR |
| Power Accessories | EMC Filters | See Unidrive M Accessories |
| | Line & Load Reactors | |
| | Dynamic Braking Resistors | |
| Environmental Protection & Cable Management | NEMA 1 / UL Type 1 Conduit Box Kits | See Unidrive M Accessories |
| | Retrofit Kits for Commander SK replacement | |
| | Fan Replacement Kits | |

Drive Configuration and Parameter Programming

Parameter sets can be easily transferred between drives using an SD card with either the AI-BACKUP-ADAPTOR or AI-SMART-ADAPTOR.

The AI-BACKUP-ADAPTOR and AI-SMART-ADAPTOR provide fast and cost-effective drive-to-drive parameter transfer and storage using standard SD memory cards plus 24 Vdc control power backup connectivity. The smart adaptor includes a 4 GB SD card that is not included with the backup adaptor. An 8 GB SD card can be ordered with order code: CTSD8GB

AI-SMART-ADAPTOR



For more information, refer to the Unidrive M Options brochure.

Diagnostic Software

The **Drive Diagnostics APP** allows users to quickly diagnose faults. In the unlikely event that you get a drive error, download our free Diagnostics Tool app. Just input the error code on your device and you'll be given a solution. You can download our Diagnostics Tool App at: www.controltechniques.com/mobile-applications



Environmental Protection and Cable Management

UL Type 1 Conduit kits

| Frame size | Order code | H | | W | | D | |
|------------|------------|------|-----|-----|-----|-----|-----|
| | | in | mm | in | mm | in | mm |
| 1 | C-BOX-OF1 | 9.9 | 252 | 3.0 | 75 | 5.1 | 130 |
| 2 | C-BOX-OF2 | 11.6 | 294 | 3.0 | 75 | 5.9 | 150 |
| 3 | C-BOX-OF3 | 12.4 | 314 | 3.5 | 90 | 6.3 | 160 |
| 4 | C-BOX-OF4 | 14.3 | 362 | 4.5 | 115 | 6.9 | 175 |

When the following kits are fitted to the drive, it meets UL Type 1.
Shown at right: Unidrive M100 frame size 3 with C-BOX-OF3 conduit box kit installed



Fan replacement kits

| Frame size | Order code |
|------------|------------|
| 1 | 3470-0092 |
| 2 | 3470-0095 |
| 3 | 3470-0099 |
| 4 | 3470-0103 |

Retrofit mounting brackets

| Frame size | Order code |
|------------|------------|
| 3 | 3470-0097 |
| 4 | 3470-0101 |

These mounting brackets ensure the drive can be mounted on existing Commander SK installations.

Unidrive M200, M300 and M400

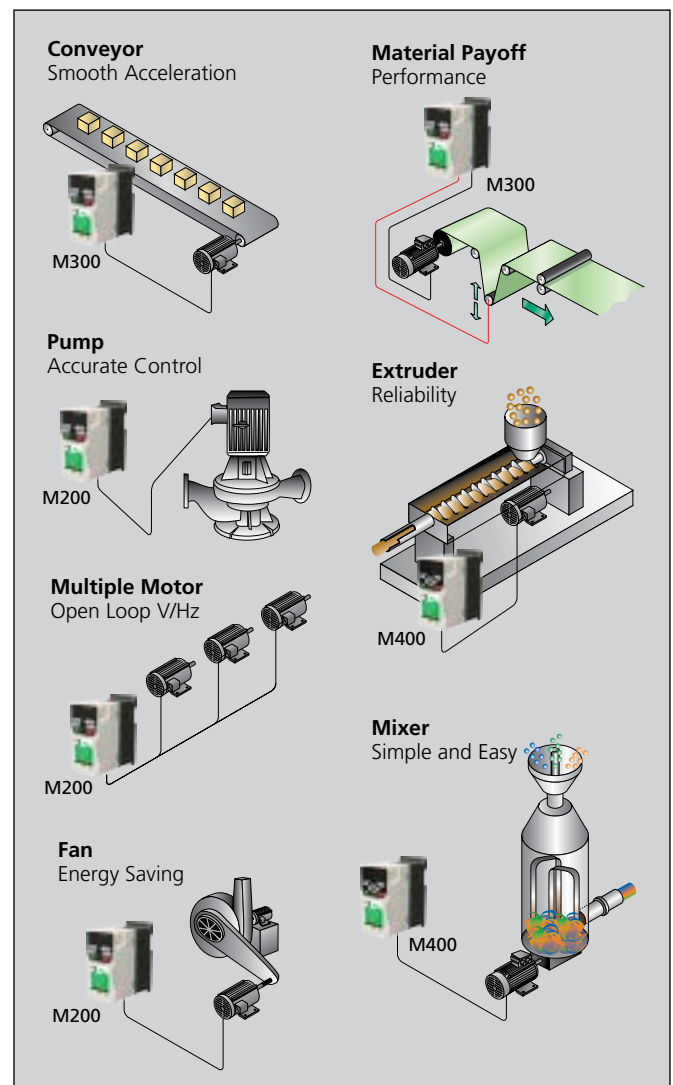
Simplicity with Functionality

The Unidrive M200 has been designed to be a simple, compact, cost-effective AC motor speed controller that delivers performance with simplicity and ease of use. With all the parameters you need for 90% of applications printed on the front of the drive, Unidrive M200 ensures installation and commissioning are straightforward.

For more complex applications, the Unidrive M200 delivers benchmark functionality at no added cost to the base drive itself. Plug-in options, dynamic performance, PLC functionality and other advanced features ensure that in more complex applications Unidrive M200 can deliver more than the average general purpose drive - giving you lower cost solutions and better productivity in your motor control applications. The Unidrive M300 adds Safe Torque Off (STO) functionality and the Unidrive M400 has additional I/O and a multi-language keypad option.



Typical applications



Unidrive M201

The Unidrive M201 variant includes an integrated speed reference potentiometer which enhances choice and ease-of-use.

- 0.3 to 1.5 hp (0.75 to 1.1 kW), 1Ø 100-120 Vac
- 0.3 to 3 hp (0.25 to 2.2 kW), 1Ø 200-240 Vac
- 0.5 to 100 hp (0.75 to 75 kW), 3Ø 200-240 Vac
- 0.5 to 200 hp (0.37 to 132 kW), 3Ø 380-480 Vac
- 3 to 150 hp (3 to 110kW), 3Ø 500-575 Vac
- 25 to 175 hp (18.5 to 132 kW), 3Ø 500-690 Vac
- Easy to setup – all the parameters you need (90% of typical applications) are printed on the cover
- Simple connections – terminal diagram on the inside cover
- Simple startup – no specialist knowledge required, Unidrive M400 has an optional enhanced keypad
- Communications Options for: CANopen, DeviceNet, EtherCAT, EtherNet/IP, Modbus RTU, Modbus TCP, PROFIBUS DP, PROFINET RT networks
- PLC Functionality – IEC61131-3 programming for advanced solutions eliminating the need for external controllers
- Expandable I/O – Unidrive M400 has highest base drive I/O count
- High Performance Sensorless Solutions – open loop vector, torque control and rotor flux control



FEATURE

Performance Advantage

Open loop vector control with true space vector modulation

Precise control algorithm provides full torque down to 1 Hz for exceptional performance.

Rotor Flux Control

For most demanding applications, RFC mode provides 180% overload capacity and high stability motor control.

Terminal connections drawings and basic parameters listed on the drive's cover

On-the-spot easy reference for drive setup and maintenance.

Static auto-tune

Allows fast motor / drive optimization without uncoupling the load.

Two sets of motor map parameters saved in the drive's memory

Allows sequenced switching between two motors with different operating characteristics.

Configurable analog and digital I/O

Customizes drive to the specific application.

S-ramp accel / decel profiling

Provides smooth speed transitions, minimizing machine "jerk".

Built-in independent PID control

Eliminates the need for an external PID controller while providing "outer loop" control of a process variable.

Real Time Clock remote keypad option

For scheduling and timing operations.

Catch a Spinning Motor control

Provides tripless startup of centrifugal fan loads.

Brake Controller

Adjustable mechanical brake sequencing with torque proving function – no need for an external controller.

Snap-in (additional) Functionality

Parameter Copy

The AI-BACKUP-ADAPTOR and AI-SMART-ADAPTOR provide fast and cost-effective drive-to-drive parameter transfer and storage using standard SD memory cards plus 24 Vdc control power backup connectivity. The smart adaptor includes a 4 GB SD card that is not included with the backup adaptor.

AI-SMART-ADAPTOR



Operator Interfaces

Unidrive M200 and M300 drives include a bright easy to see LED keypad.

The Unidrive M400 has an optional multi-language CI-KEYPAD. Remote keypads and HMI options are available for all drives. For the greatest flexibility select the Unidrive M400.



REMOTE-KEYPAD

Fieldbus Communications

The available fieldbus and industrial Ethernet networks are CANopen, DeviceNet, EtherCAT EtherNet/IP, Modbus RTU, Modbus TCP, PROFIBUS DP and PROFINET RT.



SI-ETHERNET

Expandable I/O

In addition to the standard built-in I/O, an SI-I/O module is available. For the highest digital and analog I/O count possible select the Unidrive M400.



SI-I/O



Our software allows you to optimize the drive tuning, back up the configuration, configure the onboard automation and motion controller and set up the drive-to-drive communications links.

UNIDRIVE M200/M201, M300 and M400 RATINGS

| | | | Motor Power | | Continuous Output Current | Peak Output Current | Motor Power | | Continuous Output Current | Peak Output Current | Peak Output Current |
|-------------------------|-------|-------------|---|------------|---------------------------|---------------------|-------------|------------|---------------------------|---------------------|---------------------|
| | | | hp ① | kW | | | hp ① | kW | | | |
| 100 / 120 VAC ±10% | | | Normal Duty | | | | Heavy Duty | | | | |
| Base Order Code Mx0x- ⑤ | Frame | Input Phase | hp @ 460 V | kW @ 400 V | IN (A) | (A) ② | hp @ 460 V | kW @ 400 V | I _H (A) | Open loop (A) ③ | RFC (A) ④ |
| 01100017A | 1 | 1 | For Normal Duty applications use Heavy Duty ratings | | | | 0.33 | 0.25 | 1.7 | 2.6 | 3.1 |
| 01100024A | 1 | 1 | | | | | 0.5 | 0.37 | 2.4 | 3.6 | 4.3 |
| 02100042A | 2 | 1 | | | | | 1 | 0.75 | 4.2 | 6.3 | 7.6 |
| 02100056A | 2 | 1 | | | | | 1.5 | 1.1 | 5.6 | 8.4 | 10.1 |

| | | | Motor Power | | Continuous Output Current | Peak Output Current | Motor Power | | Continuous Output Current | Peak Output Current | Peak Output Current |
|-------------------------|-------|-------------|---|------------|---------------------------|---------------------|-------------|------------|---------------------------|---------------------|---------------------|
| | | | hp ① | kW | | | hp ① | kW | | | |
| 200 / 240 VAC ±10% | | | Normal Duty | | | | Heavy Duty | | | | |
| Base Order Code Mx0x- ⑤ | Frame | Input Phase | hp @ 230 V | kW @ 220 V | IN (A) | (A) ② | hp @ 230 V | kW @ 220 V | I _H (A) | Open loop (A) ③ | RFC (A) ④ |
| 01200017A | 1 | 1 | For Normal Duty applications use Heavy Duty ratings | | | | 0.33 | 0.25 | 1.7 | 2.6 | 3.1 |
| 01200024A | 1 | 1 | | | | | 0.5 | 0.37 | 2.4 | 3.6 | 4.3 |
| 01200033A | 1 | 1 | | | | | 0.75 | 0.55 | 3.3 | 5 | 5.9 |
| 01200042A | 1 | 1 | | | | | 1 | 0.75 | 4.2 | 6.3 | 7.6 |
| 02200024A | 2 | 1/3 | | | | | 0.5 | 0.37 | 2.4 | 3.6 | 4.3 |
| 02200033A | 2 | 1/3 | | | | | 0.75 | 0.55 | 3.3 | 5 | 5.9 |
| 02200042A | 2 | 1/3 | | | | | 1 | 0.75 | 4.2 | 6.3 | 7.6 |
| 02200056A | 2 | 1/3 | | | | | 1.5 | 1.1 | 5.6 | 8.4 | 10.1 |
| 02200075A | 2 | 1/3 | | | | | 2 | 1.5 | 7.5 | 11.3 | 13.5 |
| 03200100A | 3 | 1/3 | | | | | 3 | 2.2 | 10 | 15 | 18 |
| 04200133A | 4 | 1/3 | | | | | 3 | 3 | 13.3 | 20 | 23.9 |
| 04200176A | 4 | 3 | | | | | 5 | 4 | 17.6 | 26.4 | 31.7 |
| 05200250A | 5 | 3 | 10 | 7.5 | 30 | 33 | 7.5 | 5.5 | 25 | 37.5 | 50 |
| 06200330A | 6 | 3 | 15 | 11 | 50 | 55 | 10 | 7.5 | 33 | 49.5 | 66 |
| 06200440A | 6 | 3 | 20 | 15 | 58 | 63.8 | 15 | 11 | 44 | 66 | 88 |
| 07200610A | 7 | 3 | 25 | 18.5 | 75 | 82.5 | 20 | 15 | 61 | 91 | 91.5 |
| 07200750A | 7 | 3 | 30 | 22 | 94 | 103.4 | 25 | 18.5 | 75 | 112 | 112.5 |
| 07200830A | 7 | 3 | 40 | 30 | 117 | 128.7 | 30 | 22 | 83 | 124 | 124.5 |
| 08201160A | 8 | 3 | 50 | 37 | 149 | 163.9 | 40 | 30 | 116 | 174 | 174 |
| 08201320A | 8 | 3 | 60 | 45 | 180 | 198 | 50 | 37 | 132 | 198 | 198 |
| 09201760A | 9 | 3 | 75 | 55 | 216 | 237.6 | 60 | 45 | 176 | 264 | 264 |
| 09202190A | 9 | 3 | 100 | 75 | 266 | 292.6 | 75 | 55 | 219 | 328 | 328.5 |
| 09201760E | 9 | 3 | 75 | 55 | 216 | 237.6 | 60 | 45 | 176 | 264 | 264 |
| 09202190E | 9 | 3 | 100 | 75 | 266 | 292.6 | 75 | 55 | 219 | 328 | 328.5 |

① Motor horsepower based on typical 4-pole motor ratings

② Peak current is 110% of drive rating for 165 seconds maximum*

③ Peak current is 150% of drive rating for 60 seconds maximum*

④ Frames 1 to 4 peak current is 180% of drive rating for 3 seconds maximum*

Frames 5 to 8 peak current is 200% of drive rating for 28 seconds maximum*

Frame 9 peak current is 175% of drive rating for 42 seconds maximum*

⑤ Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products

*Peak current duration is dependent on drive temperature.

UNIDRIVE M200/M201, M300 and M400 RATINGS

| | | | Motor Power | | Continuous Output Current | Peak Output Current | Motor Power | | Continuous Output Current | Peak Output Current | Peak Output Current |
|----------------------------|-------|-------------|--|---------------|---------------------------|---------------------|---------------|---------------|---------------------------|---------------------|---------------------|
| | | | hp ① | kW | | | hp ① | kW | | | |
| 380 / 480 VAC ±10% | | | Normal Duty | | | | Heavy Duty | | | | |
| Base Order Code Mx0x- ⑤ | Frame | Input Phase | hp @ 460 V | kW @ 400 V | IN (A) | (A) ② | hp @ 460 V | kW @ 400 V | I _h (A) | Open loop (A) ③ | RFC (A) ④ |
| 02400013A | 2 | 3 | For Normal Duty applications use Heavy Duty ratings | | | | 0.5 | 0.37 | 1.3 | 2.3 | 2.3 |
| 02400018A | 2 | 3 | | | | | 0.75 | 0.55 | 1.8 | 3.2 | 3.2 |
| 02400023A | 2 | 3 | | | | | 1 | 0.75 | 2.3 | 4.1 | 4.1 |
| 02400032A | 2 | 3 | | | | | 1.5 | 1.1 | 3.2 | 5.8 | 5.8 |
| 02400041A | 2 | 3 | | | | | 2 | 1.5 | 4.1 | 7.4 | 7.4 |
| 03400056A | 3 | 3 | | | | | 3 | 2.2 | 5.6 | 10.1 | 10.1 |
| 03400073A | 3 | 3 | | | | | 3 | 3 | 7.3 | 13.1 | 13.1 |
| 03400094A | 3 | 3 | | | | | 5 | 4 | 9.4 | 16.9 | 16.9 |
| 04400135A | 4 | 3 | | | | | 7.5 | 5.5 | 13.5 | 24.3 | 24.3 |
| 04400170A | 4 | 3 | | | | | 10 | 7.5 | 17 | 30.6 | 30.6 |
| 05400270A | 5 | 3 | 20 | 15 | 30 | 33 | 20 | 11 | 27 | 40.5 | 54 |
| 05400300A | 5 | 3 | 20 | 15 | 31 | 34.1 | 20 | 15 | 30 | 45 | 60 |
| 06400350A | 6 | 3 | 25 | 18.5 | 38 | 41.8 | 25 | 15 | 35 | 52.5 | 70 |
| 06400420A | 6 | 3 | 30 | 22 | 48 | 52.8 | 30 | 18.5 | 42 | 63 | 84 |
| 06400470A | 6 | 3 | 50 | 30 | 63 | 69.3 | 30 | 22 | 47 | 70.5 | 94 |
| 07400660A | 7 | 3 | 60 | 37 | 79 | 86.9 | 50 | 30 | 66 | 99 | 132 |
| 07400770A | 7 | 3 | 75 | 45 | 94 | 103.4 | 60 | 37 | 77 | 115 | 154 |
| 07401000A | 7 | 3 | 75 | 55 | 112 | 123.2 | 75 | 45 | 100 | 150 | 200 |
| 08401340A | 8 | 3 | 125 | 75 | 155 | 170.5 | 100 | 55 | 134 | 201 | 268 |
| 08401570A | 8 | 3 | 150 | 90 | 184 | 202.4 | 125 | 75 | 157 | 235 | 314 |
| 09402000A | 9 | 3 | 150 | 110 | 221 | 243.1 | 150 | 90 | 180 | 300 | 350 |
| 09402240A | 9 | 3 | 200 | 132 | 255 | 292.6 | 150 | 110 | 211 | 336 | 392 |
| 09402000E | 9 | 3 | 150 | 110 | 221 | 243.1 | 150 | 90 | 180 | 300 | 350 |
| 09402240E | 9 | 3 | 200 | 132 | 255 | 292.6 | 150 | 110 | 211 | 336 | 392 |

① Motor horsepower based on typical 4-pole motor ratings

② Peak current is 110% of drive rating for 165 seconds maximum*

③ Peak current is 150% of drive rating for 60 seconds maximum*

④ Frames 1 to 4 peak current is 180% of drive rating for 3 seconds maximum*

Frames 5 to 8 peak current is 200% of drive rating for 28 seconds maximum*

Frame 9 peak current is 175% of drive rating for 42 seconds maximum*

⑤ Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products

*Peak current duration is dependent on drive temperature.

UNIDRIVE M200/M201, M300 and M400 RATINGS

| | | | Motor Power | | Continuous Output Current | Peak Output Current | Motor Power | | Continuous Output Current | Peak Output Current | Peak Output Current |
|----------------------------|-------|-------------|---------------|---------------|---------------------------|---------------------|---------------|---------------|---------------------------|---------------------|---------------------|
| | | | hp ① | kW | | | hp ① | kW | | | |
| 500 / 575 VAC ±10% | | | Normal Duty | | | | Heavy Duty | | | | |
| Base Order Code Mx0x- ⑤ | Frame | Input Phase | hp @ 575 V | kW @ 575 V | IN (A) | (A) ② | hp @ 575 V | kW @ 575 V | I _H (A) | Open loop (A) ③ | RFC (A) ④ |
| 05500030A | 5 | 3 | 3 | 2.2 | 3.9 | 4.3 | 2 | 1.5 | 3 | 4.5 | 6 |
| 05500040A | 5 | 3 | 5 | 4 | 6.1 | 6.7 | 3 | 2.2 | 4 | 6 | 8 |
| 05500069A | 5 | 3 | 7.5 | 5.5 | 10 | 11 | 5 | 4 | 6.9 | 10.3 | 13.8 |
| 06500100A | 6 | 3 | 10 | 7.5 | 12 | 13.2 | 7.5 | 5.5 | 10 | 15 | 20 |
| 06500150A | 6 | 3 | 15 | 11 | 17 | 18.7 | 10 | 7.5 | 15 | 22.5 | 30 |
| 06500190A | 6 | 3 | 20 | 15 | 22 | 24.2 | 15 | 11 | 19 | 28.5 | 38 |
| 06500230A | 6 | 3 | 25 | 18.5 | 27 | 29.7 | 20 | 15 | 23 | 34.5 | 46 |
| 06500290A | 6 | 3 | 30 | 22 | 34 | 37.4 | 25 | 18.5 | 29 | 43.5 | 58 |
| 06500350A | 6 | 3 | 40 | 30 | 43 | 47.3 | 30 | 22 | 35 | 52.5 | 70 |
| 07500440A | 7 | 3 | 50 | 37 | 53 | 58.3 | 40 | 30 | 44 | 66 | 88 |
| 07500550A | 7 | 3 | 60 | 45 | 73 | 80.3 | 50 | 37 | 55 | 82.5 | 110 |
| 08500630A | 8 | 3 | 75 | 55 | 86 | 94.6 | 60 | 45 | 63 | 94.5 | 126 |
| 08500860A | 8 | 3 | 100 | 75 | 108 | 118.8 | 75 | 55 | 86 | 129 | 172 |
| 09501040A | 9 | 3 | 125 | 90 | 125 | 137.5 | 100 | 75 | 104 | 156 | 182 |
| 09501310A | 9 | 3 | 150 | 110 | 150 | 165 | 125 | 90 | 131 | 196 | 229.2 |
| 09501040E | 9 | 3 | 125 | 110 | 125 | 137.5 | 100 | 75 | 104 | 156 | 182 |
| 09501310E | 9 | 3 | 150 | 110 | 150 | 165 | 125 | 90 | 131 | 196 | 229.2 |

① vMotor horsepower based on typical 4-pole motor ratings

② Peak current is 110% of drive rating for 165 seconds maximum*

③ Peak current is 150% of drive rating for 60 seconds maximum*

④ Frames 1 to 4 peak current is 180% of drive rating for 3 seconds maximum*

Frames 5 to 8 peak current is 200% of drive rating for 28 seconds maximum*

Frame 9 peak current is 175% of drive rating for 42 seconds maximum*

⑤ Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products

*Peak current duration is dependent on drive temperature.

UNIDRIVE M200/M201, M300 and M400 RATINGS

| | | | Motor Power | | Continuous Output Current | Peak Output Current | Motor Power | | Continuous Output Current | Peak Output Current | Peak Output Current |
|----------------------------|-------|-------------|-------------|------------|---------------------------|---------------------|-------------|------------|---------------------------|---------------------|---------------------|
| | | | hp ① | kW | | | hp ① | kW | | | |
| 500 / 690 VAC ±10% | | | Normal Duty | | | | Heavy Duty | | | | |
| Base Order Code Mx0x- ⑤ | Frame | Input Phase | hp @ 690 V | kW @ 690 V | IN (A) | (A) ② | hp @ 690 V | kW @ 690 V | I _H (A) | Open loop (A) ③ | RFC (A) ④ |
| 07600190A | 7 | 3 | 25 | 18.5 | 23 | 25.3 | 20 | 15 | 19 | 28.5 | 38 |
| 07600240A | 7 | 3 | 30 | 22 | 30 | 33 | 25 | 18.5 | 24 | 36 | 48 |
| 07600290A | 7 | 3 | 40 | 30 | 36 | 39.6 | 30 | 22 | 29 | 43.5 | 58 |
| 07600380A | 7 | 3 | 50 | 37 | 46 | 50.6 | 40 | 30 | 38 | 57 | 76 |
| 07600440A | 7 | 3 | 60 | 45 | 52 | 57.2 | 50 | 37 | 44 | 66 | 88 |
| 07600540A | 7 | 3 | 75 | 55 | 73 | 80.3 | 60 | 45 | 54 | 81 | 108 |
| 08600630A | 8 | 3 | 100 | 75 | 86 | 94.6 | 75 | 55 | 63 | 94.5 | 126 |
| 08600860A | 8 | 3 | 125 | 90 | 108 | 118.8 | 100 | 75 | 86 | 129 | 172 |
| 09601040A | 9 | 3 | 150 | 110 | 125 | 137.5 | 125 | 90 | 104 | 156 | 182 |
| 09601310A | 9 | 3 | 175 | 132 | 155 | 170.5 | 150 | 110 | 131 | 196 | 229.2 |
| 09601040E | 9 | 3 | 150 | 110 | 125 | 137.5 | 125 | 90 | 104 | 156 | 182 |
| 09601310E | 9 | 3 | 175 | 132 | 155 | 170.5 | 150 | 110 | 131 | 196 | 229.2 |

① Motor horsepower based on typical 4-pole motor ratings

② Peak current is 110% of drive rating for 165 seconds maximum*

③ Peak current is 150% of drive rating for 60 seconds maximum*

④ Frames 1 to 4 peak current is 180% of drive rating for 3 seconds maximum*

Frames 5 to 8 peak current is 200% of drive rating for 28 seconds maximum*

Frame 9 peak current is 175% of drive rating for 42 seconds maximum*

⑤ Add 10101AB100 to the base order code when ordering standard US (60 Hz) default products

*Peak current duration is dependent on drive temperature.

UNIDRIVE M200/M201 and M300 FEATURES

Optional AI-485-ADAPTOR and AI-485-24V-ADAPTOR for RS485 communications

Optional AI-BACKUP-ADAPTOR allows the drive to use an SD card for parameter cloning and acts as an input for 24 V

Optional AI-SMART-ADAPTOR has 4 GB built-in memory for parameter cloning and 24 V

Optional IP66 (NEMA 4) rated remote keypad with intuitive plain text multilingual back-lit LCD display for rapid setup and superior diagnostics.

An optional IP54 (NEMA 12) remote real time clock keypad is also available with reverse button and battery backup.

Dual onboard Safe Torque Off (STO) terminals for easy SIL3 conformity (**M300**)

LED keypad fitted as standard for quick commissioning and ease of use

User-friendly control connections

Conventional surface mount and DIN rail alignment (DIN rail alignment available on size 1 and 2 only)

Useful parameter guide on drive's front panel

Easy-to-disconnect internal EMC filter

Drive rated to IP21 / UL open class (NEMA 1) on size 1 to 4 as standard

Conduit kits are available to meet UL Type 1 rating

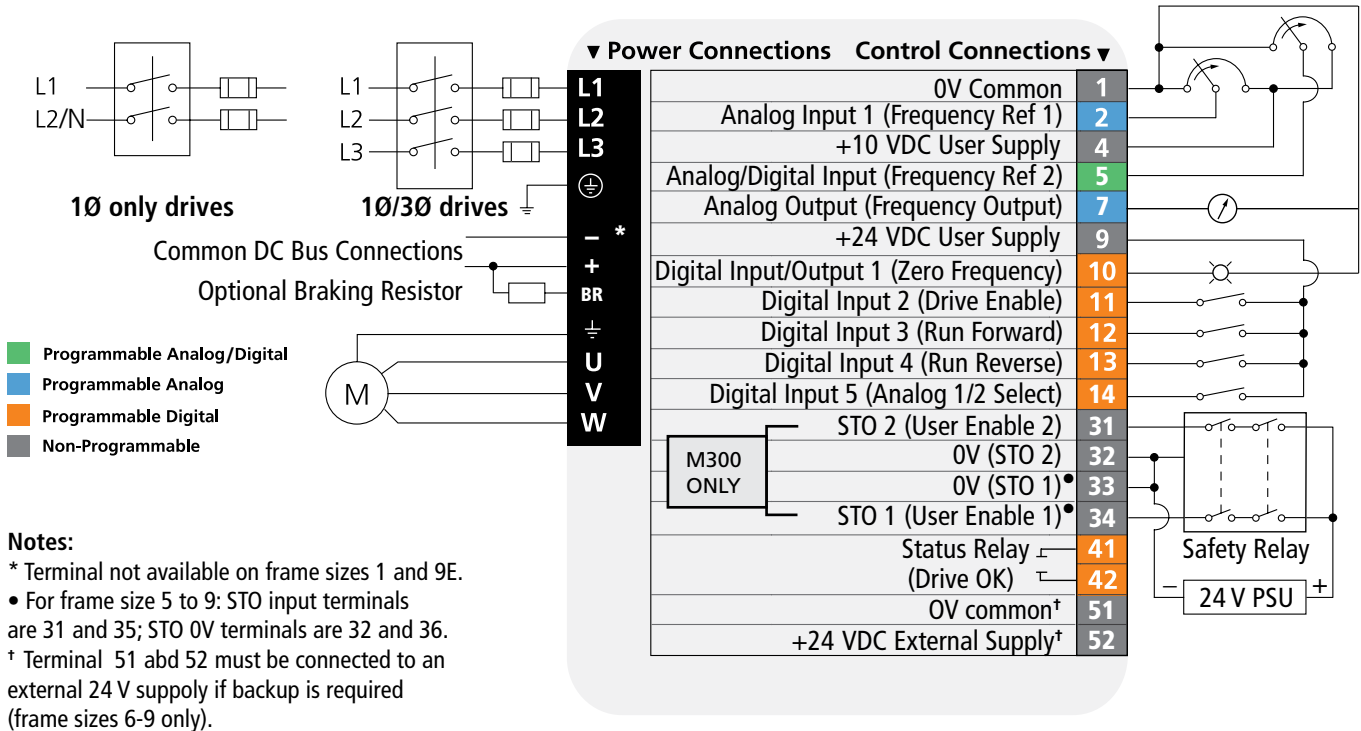
User-friendly power connections

Robust cable management system provides grounding point for shielded control and power cables

System Integration (SI) option module

System Integration (SI) module slot for communications, fieldbus, industrial Ethernet and additional I/O options (frame size 2 and upwards)

UNIDRIVE M200/M201 and M300 TERMINAL DIAGRAM



TERMINAL DESCRIPTION

| Pin # | Default Function | Type/Description | Notes |
|----------|-------------------------------|---|--|
| 1 | 0V common | Common for external analog signals | |
| 2 | Frequency reference 1 | Single ended analog input 11 bit | 0 to +10 Vdc, 0-20 mA or 4-20 mA |
| 4 | +10 Vdc user supply | Reference supply | 5 mA |
| 5 | Frequency reference 2 | Single ended analog input 11 bit or digital input | 0 to +10 Vdc or 0 to +24 Vdc |
| 7 | Output frequency | Single ended analog output | 0 to +10 Vdc |
| 9 | +24 Vdc user supply | Digital I/O supply | 100 mA |
| 10 | At zero frequency | Digital I/O 1 | 0 to +24 Vdc |
| 11 | Enable | Digital input 2 | 0 to +24 Vdc |
| 12 | Run Forward | Digital input 3 | 0 to +24 Vdc |
| 13 | Run Reverse | Digital input 4 | 0 to +24 Vdc |
| 14 | Analog input 1/2 select | Digital input 5 | 0 to +24 Vdc |
| 31 (35*) | Safe Torque Off/ Drive enable | STO 2 | 0 to +24 Vdc |
| 32 (36*) | 0V STO 2 | 0V STO 2 | 0V common for STO 2 |
| 33 (32*) | 0V STO 1 | 0V STO 1 | 0V common for STO 1 |
| 34 (31*) | Safe Torque Off/ Drive enable | STO 1 | 0 to +24 Vdc |
| 41 | Status relay (drive OK) | Normally open contact | 2 A, 240 Vac, 0.5 A, 30 Vdc inductive load |
| 42 | | | |
| 51† | 0V common | Common for backup supply | |
| 52† | +24 Vdc external supply | Backup control supply | 24 Vdc, 40 W |

M300 ONLY

UNIDRIVE M400 FEATURES

Optional AI-485-ADAPTOR and AI-485-24V-ADAPTOR for RS485 communications

Optional AI-BACKUP-ADAPTOR allows the drive to use an SD card for parameter cloning and acts as an input for 24 V backup. Optional AI-SMART-ADAPTOR has built-in memory for parameter cloning and 24 V backup

Optional CI-KEYPAD - intuitive plain text multilingual back-lit LCD keypad for rapid setup and superior diagnostics

Optional IP66 (NEMA 4) rated remote keypad with intuitive plain text multilingual back-lit LCD display for rapid setup and superior diagnostics

An optional IP54 (NEMA 12) remote real time clock keypad is also available with reverse button and battery backup

Drive rated to IP21 / UL open class (NEMA 1) on size 1 to 4 as standard

Conduit kits are available to meet UL Type 1 rating

Easy-to-remove terminal cover with tool-less close system (patent pending)

System Integration (SI) option module

Dual onboard Safe Torque Off (STO) terminals for easy SIL3 conformity

Power-on / drive status LED

Conventional surface mount and DIN rail alignment (DIN rail alignment available on size 1 and 2 only)

User-friendly control connections

Easy-to-disconnect internal EMC filter*

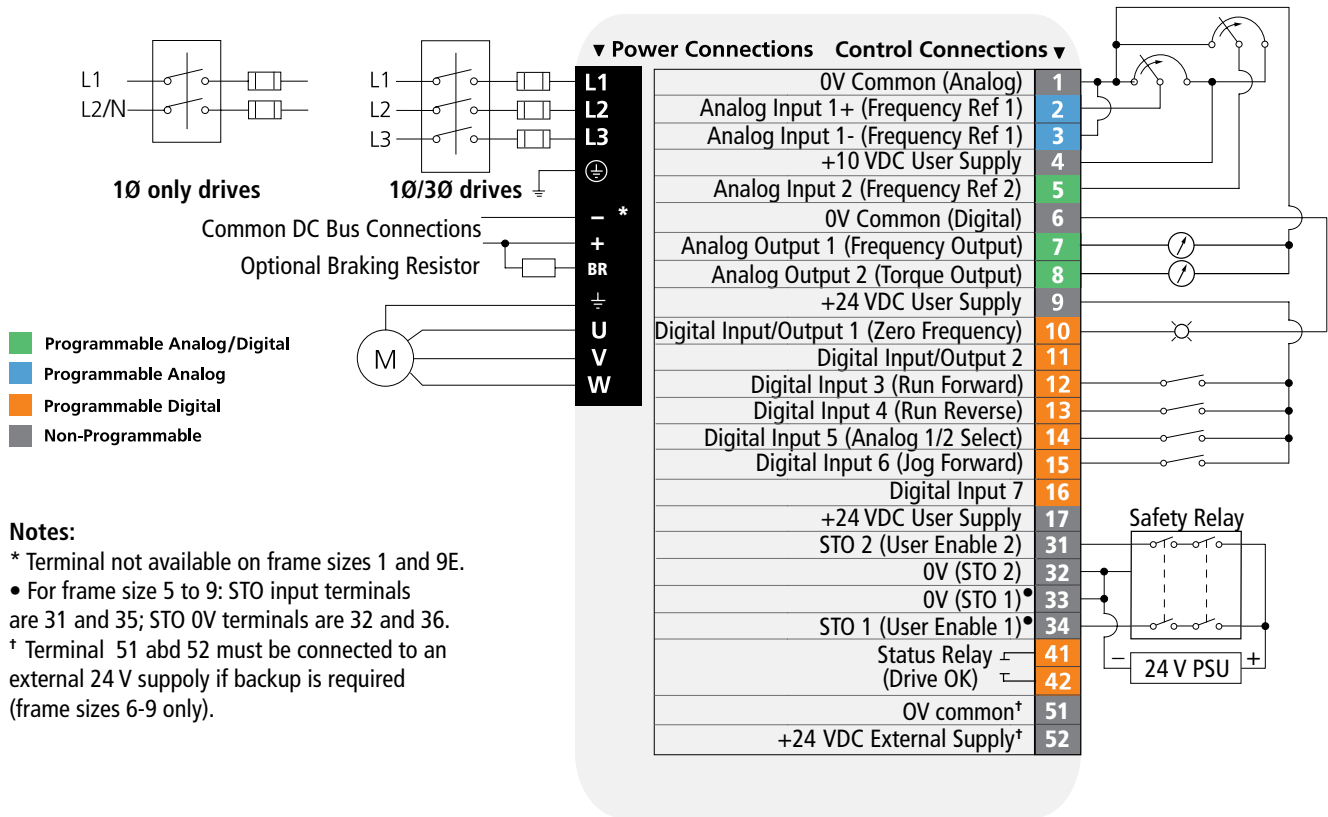
User-friendly power connections*

Robust cable management system providing grounding point for shielded control and power cables

System Integration (SI) module slot for communications, fieldbus, industrial Ethernet and additional I/O options (frame size 2 and upwards)

*Features and their locations vary on some drive sizes.

UNIDRIVE M400 TERMINAL DIAGRAM



TERMINAL DESCRIPTION

| Pin # | Default Function | Type/Description | Notes |
|----------|-------------------------------|---|---|
| 1 | 0V common | Common for external analog signals | |
| 2 | Frequency reference 1 | Single/double ended analog input 11 bit | 0 to +/-10 Vdc, 0-20 mA or 4-20 mA |
| 3 | Frequency reference 1 | Single/double ended analog input 11 bit | 0 to +10 Vdc, 0-20 mA or 4-20 mA |
| 4 | +10 Vdc user supply | Reference supply | 5 mA |
| 5 | Frequency reference 2 | Single ended analog input 11 bit or digital input | 0 to +10 Vdc, 0-20 mA or 4-20 mA or 0 to 24 Vdc |
| 6 | Digital I/O 0V | Common for external digital signals | |
| 7 | Output frequency | Single ended analog output or digital output | 0 to +10 Vdc, 0-20 mA or 4-20 mA or 0 to 24 Vdc |
| 8 | Output torque | Single ended analog output or digital output | 0 to +10 Vdc, 0-20 mA or 4-20 mA or 0 to 24 Vdc |
| 9 | +24 Vdc user supply | Digital I/O supply | 100 mA |
| 10 | At zero frequency | Digital I/O 1 | 0 to +24 Vdc |
| 11 | Unassigned | Digital I/O 2 | 0 to +24 Vdc |
| 12 | Run Forward | Digital input 3 | 0 to +24 Vdc |
| 13 | Run Reverse | Digital input 4 | 0 to +24 Vdc |
| 14 | Analog input 1/2 select | Digital input 5, thermistor input | 0 to +24 Vdc |
| 15 | Jog forward | Digital input 6 or Frequency or AB encoder input | 0 to +24 Vdc |
| 16 | Unassigned | Digital input 7 or AB encoder input | 0 to +24 Vdc |
| 17 | +24 Vdc user supply | | |
| 31 (35*) | Safe Torque Off/ Drive enable | STO 2 | 0 to +24 Vdc |
| 32 (36*) | 0V STO 2 | 0V STO 2 | 0V common for STO 2 |
| 33 (32*) | 0V STO 1 | 0V STO 1 | 0V common for STO 1 |
| 34 (31*) | Safe Torque Off/ Drive enable | STO 1 | 0 to +24 Vdc |
| 41 | Status relay (drive OK) | Normally open contact | 2 A, 240 Vac, 0.5 A, 30 Vdc inductive load |
| 42 | | | |
| 51† | 0V common | Common for backup supply | |
| 52† | +24 Vdc external supply | Backup control supply | 24 Vdc, 40 W |

UNIDRIVE M200/M201, M300 and M400 SPECIFICATIONS

| Environment | | Protection | |
|---------------------------------|---|--------------------------------|---|
| Ambient Operating Temperature | Size 1 -4: -20°C to 60°C (-4°F to 140°F) @ 3 kHz carrier freq. Size 5 - 9: -20°C to 55°C (-4°F to 131°F) @ 3 kHz carrier freq. Size 1-4: Operation to 60°C (140°F) with de-rating Size 5-9: Operation to 55°C (131°F) with de-rating | DC Bus Undervoltage Trip | 100 V models: 175 Vdc (approx. 61 Vac line voltage) 200 V models: 175 Vdc (approx. 123 Vac line voltage) 400 V models: 330 Vdc (approx. 233 Vac line voltage) 500 V models: 435 Vdc (approx. 308 Vac line voltage) 600 V models: 435 Vdc (approx. 308 Vac line voltage) |
| Cooling method | Convection and forced convection, model dependent | DC Bus Overvoltage Trip | 100 V models: 510 Vdc (approx. 180 Vac line voltage) 200 V models: 510 Vdc (approx. 361 Vac line voltage) size 1-4 415 Vdc (approx. 293 Vac line voltage) size 5-9 400 V models: 870 Vdc (approx. 615 Vac line voltage) size 1-4 830 Vdc (approx. 587 Vac line voltage) size 5-9 500 V models: 990 Vdc (approx. 700 Vac line voltage) 600 V models: 1190 Vdc (approx. 841 Vac line voltage) |
| Humidity | 95% maximum non-condensing at 40°C (104°F) | Drive Overload Trip | Current overload value is exceeded. Programmable to allow up to 150% of drive current for 60 seconds. |
| Storage Temperature | Size 1 - 4: -40°C to 60°C (-40°F to 140°F) — 24 months Max. Size 5 - 9: -40°C to 55°C (-40°F to 131°F) — 24 months Max. | Instantaneous Overcurrent Trip | Size 1 - 4: 220% of rated motor current Size 5 - 9: 150% to 220% of full rated motor current (model dependent) |
| Altitude | Derate the continuous output current by 1% for every 100 m (328 ft) above 1000 m (3,280 ft) to a maximum of 3000 m (9,840 ft). | Phase Loss Trip | DC bus ripple threshold exceeded |
| Vibration | Tested in accordance with IEC 60068-2-64 and IEC 60068-2-6 | Overtemperature Trip | Drive heatsink temperature exceeds 95°C (203°F) |
| Mechanical Shock | Tested in accordance with IEC 60068-2-27 and IEC 60068-2-29 | Short Circuit Trip | Protects against output phase-to-phase fault |
| Enclosure | IP20, NEMA 1 conduit kits available | Ground Fault Trip | Protects against output phase-to-ground fault |
| Electromagnetic | In compliance with IEC/EN61000-4-2/3/4/5/6/11, IEC/EN61000-6-1/2/3, IEC/EN61800-3 Immunity | Motor Thermal Trip | Electronically protects the motor from overheating due to loading conditions |
| RoHS | Meets the EU directive 2002-95-EC | Approval & Listings | |
| AC Supply Requirements | | UL, cUL | UL File #E171230 |
| Voltage | 100 V models: 100 to 120 Vac ±10% (size 1, 2) 200 V models: 200 to 240 Vac ±10% (size 1-9) 400 V models: 380 to 480 Vac ±10% (size 2-9) 500 V models: 500 to 575 Vac ±10% (size 5-9) 600 V models: 500 to 690 Vac ±10% (size 7-9) | CE | CE approval |
| Phase | 1Ø and 3Ø (Model dependent) | C✓ | N1652 |
| Maximum Supply Imbalance | 2% negative phase sequence, 3% voltage imbalance between phases | ISO | 9001:2015, 14001 |
| Input Frequency | 45 to 66 Hz | RoHS | RoHS Compliant |
| Input Displacement Power Factor | 0.97 | TÜV | EN ISO 13849-1 - Cat 4, PL e, EN61800-5-2/ EN62061/IEC 61508 - SIL 3 Safe Torque Off (Unidrive M300 & M400 only) UL yellow card certification reference FSPC E171230 |
| Control | | | |
| Carrier Frequency | Size 1 - 4: 0.667, 1, 2, 3, 4, 6, 8 12 & 16 kHz Size 5 - 9: 2, 3, 4, 6, 8 12 & 16 kHz | | |
| Output Frequency | Up to 550 Hz | | |
| Frequency Accuracy | ±0.02% of full scale | | |
| Frequency Resolution | 0.01 Hz | | |
| Analog Input Resolution | Voltage mode: 11 bits (unipolar) Voltage mode: 11 bits + 1 sign bit (bipolar) (M400 only) Current mode: 11 bits | | |
| Braking | DC injection braking standard. Dynamic braking transistor included, requires external resistor | | |

UNIDRIVE M200/M201, M300 and M400 DIMENSIONS

Size 1



Size 2



Size 3



Size 4



Size 5



Size 6



Size 7



Size 8



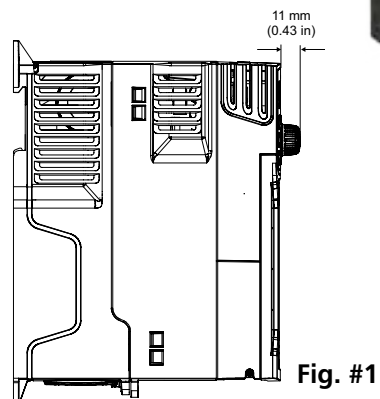
Size 9E



Size 9A



| Frame size | H | | W | | D | | Weight | |
|------------|------|------|------|-----|------|-----|--------|------|
| | in | mm | in | mm | in | mm | lbs | kg |
| 1 | 6.3 | 160 | 3.0 | 75 | 5.1 | 130 | 1.7 | .75 |
| 2 | 8.1 | 205 | 3.1 | 78 | 5.9 | 150 | 2.2 | 1.0 |
| 3 | 8.9 | 226 | 3.5 | 90 | 6.3 | 160 | 3.3 | 1.5 |
| 4 | 10.9 | 277 | 4.5 | 115 | 6.9 | 175 | 6.9 | 3.13 |
| 5 | 15.4 | 391 | 5.6 | 143 | 7.9 | 201 | 16.3 | 7.4 |
| 6 | 15.4 | 391 | 8.3 | 210 | 9.0 | 229 | 30.9 | 14 |
| 7 | 21.9 | 556 | 10.6 | 270 | 11.0 | 280 | 61.7 | 28 |
| 8 | 31.7 | 805 | 12.2 | 310 | 11.4 | 290 | 114.6 | 52 |
| 9E | 39.8 | 1010 | 12.2 | 310 | 11.4 | 290 | 101.4 | 46 |
| 9A | 43.6 | 1107 | 12.2 | 310 | 11.4 | 290 | 146.6 | 66.5 |



To accommodate the added depth with a potentiometer, add 0.43 in (11 mm) to the depth of the M201 drives. See Fig. #1 above. For NEMA Kit dimensions see page 30.

UNIDRIVE M200/M201, M300 and M400

OPTIONS AT-A-GLANCE

| Option | Description | Order code |
|--|--|----------------------------|
| Drive Configuration & Programming | Configuration software | UNIDRIVE-M-CONNECT |
| | USB Cable for PC to drive (requires a 485 adaptor) | CT-USB-CABLE |
| | Cloning and parameter storage (includes 4 GB SD card) | AI-SMART-ADAPTOR |
| | Cloning and parameter storage (requires SD card) | AI-BACKUP-ADAPTOR |
| | 8GB SD Card | CTSD8GB |
| Operator Interfaces | Fixed LED display | M200, M300 |
| | Fixed LED display with speed reference potentiometer | M201 |
| | Plain text multi-language LCD display | CI-KEYPAD-LCD (M400 only) |
| | Remote LCD display (requires cable) | REMOTE-KEYPAD |
| | Remote LCD display with real-time clock (requires cable) | REMOTE-KEYPAD-RTC |
| | Remote display cable | UM-LCD-485-XXX* |
| | HMI operator interfaces | See Unidrive M Accessories |
| Input/Output (Sizes 2 and up accept up to one SI total) | Extended I/O | SI-I/O |
| Communications (Sizes 2 and up accept up to one SI total) | Modbus RTU | AI-485-ADAPTOR |
| | Modbus RTU with 24 V backup connections | AI-485-24V-ADAPTOR |
| | Modbus RTU | CI-485-ADAPTOR (M400 only) |
| | PROFIBUS DP | SI-PROFIBUS |
| | DeviceNet | SI-DEVICENET |
| | CANopen | SI-CANOPEN |
| | PROFINET RT | SI-PROFINET |
| | EtherCAT | SI-ETHERCAT |
| | EtherNet /IP, Modbus TCP | SI-ETHERNET |
| Application Programming Software (IEC61131-3) | PLC programming | MACHINE-CONTROL-STUDIO |
| Power Accessories | Internal EMC filters | Standard |
| | External EMC filters | See Unidrive M Accessories |
| | Line & load reactors | |
| | Dynamic braking resistors | |
| Environmental Protection & Cable Management | NEMA 1 / UL Type 1 conduit box kits | See Unidrive M Accessories |
| | Retrofit kits for Commander SK replacement | |
| | Fan replacement kits | |

*XXX=cable length in 5 foot increments (max 330 ft), standard lengths are (005, 010, 015, 025 and 050)

UNIDRIVE M200/M201, M300 and M400

Options

The Unidrive M200-M400 series have been designed to offer simplicity with an impressive selection of options and standard features. It also offers functionality that enables users to get more productivity from their machines.

Drive Programming and Configuration

Parameter sets can be easily transferred between drives using an SD card with AI-BACKUP-ADAPTOR or AI-SMART-ADAPTOR.

The AI-BACKUP-ADAPTOR and AI-SMART-ADAPTOR provide fast and cost-effective drive-to-drive parameter transfer and storage using standard SD memory cards plus 24 Vdc control power back up connectivity. The smart adaptor includes a 4 GB SD card that is not included with the backup adaptor.

AI-BACKUP-ADAPTOR
(provides SD card usage for
programming / cloning)



AI-SMART-ADAPTOR
(provides SD card (supplied)
for programming / cloning)



Diagnostic Software

The **Drive Diagnostics APP** allows users to quickly diagnose faults. In the unlikely event that you get a drive error, download our free Diagnostics Tool app. It is available for Apple, Android and Windows operating systems. Just input the error code on your device and you'll be given a solution. You can download our Diagnostics Tool App at:
www.controltechniques.com/mobile-applications

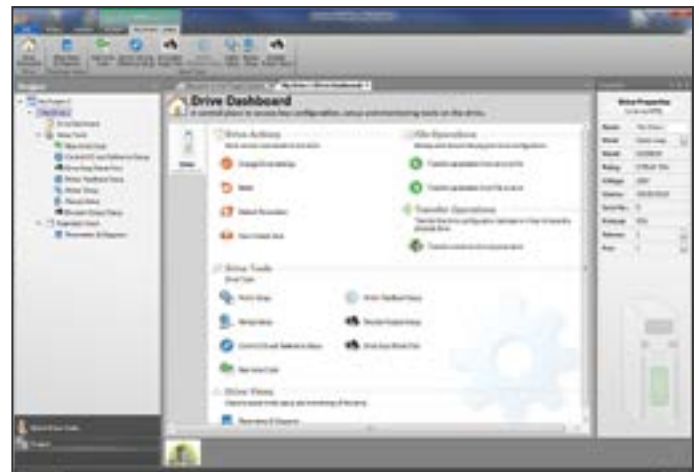


Programming and Commissioning Software

Unidrive M Connect commissioning tool

Unidrive M Connect is our latest drive configuration tool for commissioning, optimizing and monitoring drive/system performance. Its development draws from extensive user research, using human centered design principles to give the ultimate user experience:

- Task based commissioning is simplified via familiar Windows interface
- Intuitive graphical tools enhance and simplify user experience
- Dynamic drive logic diagrams and searchable listings are present
- Drive and motor performance can be optimized with minimal specialized drive knowledge
- Supports the import of Commander SK parameter files and allows full drive cloning
- Multiple simultaneous communications channels for a more complete overview of the system
- Drive Discovery gives the ability to find drives on a network automatically without the user having to specify their addresses



Unidrive M drive and
motor setup tool screen



Our software allows you to optimize the drive tuning, back up the configuration, configure the onboard automation and motion controller and set up the drive-to-drive communications links.

For more information, refer to the Unidrive M Accessories brochure.

UNIDRIVE M200/M201, M300 and M400

Operator Interfaces

Depending on the model, the Unidrive M200-M400 drives can operate and be set up using the standard fixed keypad, the REMOTE-KEYPAD, REMOTE-KEYPAD-RTC or the multi-language CI-KEYPAD-LCD (Unidrive M400 only).

The REMOTE-KEYPAD is a NEMA4 (IP66) rated LCD keypad that can be remote mounted with the same features as the CI-KEYPAD. The REMOTE-KEYPAD-RTC provides an additional auxiliary function button for remote forward/reverse or run reverse control and is rated to NEMA12 (IP65). Either an AI-485-ADAPTOR or CI-485-ADAPTOR (M400 only) is required plus a UM-485-xxx cable in order to connect a remote keypad option. These items must be ordered separately.

User Keypad Options

Unidrive M benefits from a number of keypad choices to meet your application needs. Unidrive M is quick and easy to set up. The drives may be configured using a selection of keypads, SD or SmartCard or the supplied commissioning software that guides the user through the configuration process.



Human Machine Interface (HMI)

These operator interface units complement the product line by offering an impressive way of accessing parameters and adding more programming power to your application. Optional keypads, remote keypads, and operator interface terminals enable greater control and oversight of your drives and applications. Our unique open communications platform allows; drive-to-PLC, drive-to-I/O, and drive-to-operator interface communication. HMI offerings extend from 2-line terminals to color touch-screen panels.

| Type | Benefit | M100 | M200 | M300 | M400 | Order Code |
|--|--|------|------|------|------|---|
| Fixed LED Keypad | LED keypad fitted as standard for quick and easy commissioning and use. | • | • | • | | Fixed Standard (not orderable separately) |
| Fixed LED keypad with speed reference potentiometer | LED keypad with user friendly speed reference potentiometer for quick and easy commissioning and use. | M101 | M201 | | | Fixed Standard (not orderable separately) |
| LCD Keypad | Three line plain text, multi-language LCD keypad for rapid setup and helpful diagnostics maximizes machine up-time. | | | | Opt | CI-KEYPAD-LCD |
| Remote Keypad | All the features of the CI-KEYPAD-LCD, but remote mountable. This allows flexible mounting on the outside of a panel and meets IP66 (NEMA 4). | | Opt* | Opt* | Opt* | REMOTE-KEYPAD |
| Remote Keypad RTC | The keypad is remote mountable, allowing flexible mounting on the outside of a panel (meets IP54/ NEMA 12). Three line multi-language plus custom text LCD keypad for rapid setup and helpful diagnostics. Battery operated real-time clock allows accurate time stamping of events, aiding diagnostics. | | Opt* | Opt* | Opt* | REMOTE-KEYPAD-RTC |

*Requires an RS485 adaptor and cable (order code: UM-LCD-485-xxx)

For more information, refer to the Unidrive M Accessories brochure.








UNIDRIVE M200/M201, M300 and M400

Communications & I/O







Integrate, automate, communicate with Unidrive M options

Unidrive M drives support a wide range of optional click-in System Integration (SI) modules that allow them to integrate seamlessly with existing automation systems and other vendor supplied equipment. These include communications, I/O, feedback devices, and onboard PLCs.

System Integration Modules

| Option | Description | Type | M100 | M200 | M300 | M400 |
|---|--|-----------------------|------|------|------|------|
| SI-ETHERNET  | Ethernet module supports EtherNet/IP and Modbus TCP/IP. | Communications | | • | • | • |
| SI-ETHERCAT  | EtherCAT interface module. | | | • | • | • |
| SI-PROFINET-V2  | PROFINET RT interface module. | | | • | • | • |
| SI-PROFIBUS  | PROFIBUS DP interface module. | | | • | • | • |
| SI-CANOPEN  | CANopen interface module | | | • | • | • |
| SI-DEVICENET  | DeviceNet interface module. | | | • | • | • |
| SI-I/O  | Extended I/O interface module - increase the number of analog and digital I/O on a drive. | Additional I/O | | • | • | • |

Drive Interface Units

| Option | Description | Type | M100 | M200 | M300 | M400 |
|---|--|-----------------------|------|------|------|------|
| AI-BACKUP-ADAPTOR  | Port adaptor for SD card parameter cloning, and an input for 24 V backup. | Backup | • | • | • | • |
| AI-SMART-ADAPTOR  | Built-in memory for parameter cloning and 24 V backup. | | • | • | • | • |
| AI-485-ADAPTOR  | RS485 Adaptor for Modbus RTU communications. | Communications | | • | • | • |
| AI-485-24V-ADAPTOR  | RS485 Adaptor for Modbus RTU communications with 24 V backup connections. | | | • | • | • |
| CI-485-ADAPTOR  | RS485 Adaptor for Modbus RTU communications. | | | | | • |
| CT-USB-CABLE  | USB Communications cable to connect to a PC for use with Unidrive M's PC tools. | Cable | | •† | •† | •† |

†Also requires an adaptor

Inputs and Outputs

| SI-I/O Option Module | Onboard - Unidrive M200 | Onboard - Unidrive M300 | Onboard - Unidrive M400 |
|---|---|--|--|
|  4 x Digital I/O 3 x Analog inputs (default) / digital inputs 1 x Digital input 2 x Relays |  3 x Analog I/O 5 x Digital I/O 1 x Relay |  3 x Analog I/O 5 x Digital I/O 2 x STO 1 x Relay |  4 x Analog I/O 7 x Digital I/O 2 x STO 1 x Relay |

PLC Programming Software

Machine Control Studio

Unidrive M200-M400's onboard PLC is programmed using Machine Control Studio which provides a flexible and intuitive environment for programming.



IEC 61131-3 automation programming

The programming environment is fully IEC 61131-3 compliant and therefore familiar, fast and easy to use for control engineers around the world.

Supports IEC 61131-3 programming languages:

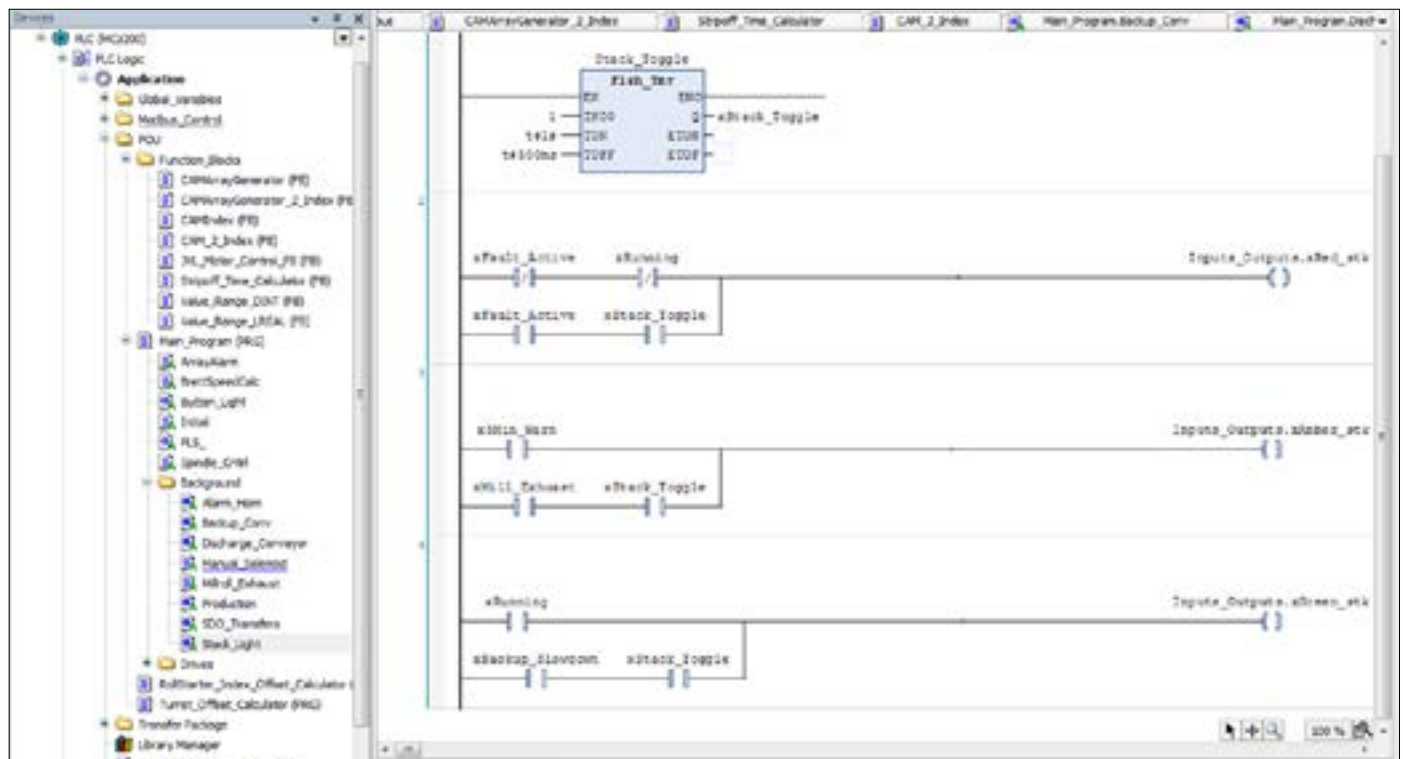
- Structured Text (ST)
- Function Block Diagram (FBD)
- Structured Function Chart (SFC)
- Ladder Diagram (LD)
- Instruction List (IL)

Also supported:

- Continuous Function Chart (CFC)

Intuitive IntelliSense functionality helps to write consistent and robust programs, speeding up software development.

Programmers have access to a vibrant open-source community for function blocks. Machine Control Studio also supports customers' own function block libraries, with on-line monitoring of program variables with user defined watch windows and help for on-line change of programs, in line with latest PLC practices.



Ladder Logic



Our software allows you to optimize the drive tuning, back up the configuration, configure the onboard automation and motion controller and set up the drive-to-drive communications links.

Power Accessories

Optional external EMC filters

Unidrive M built-in EMC filter complies with EN/IEC 61800-3. External EMC filters are required for compliance with EN/IEC 61000-6-4 as per the table below.



External EMC filter

| Frame size | Voltage | Phases | Type | Order code |
|------------|---------------|--------|-------------|------------|
| 1 | All | 1 | Standard | 4200-1000 |
| | All | 1 | Low leakage | 4200-1001 |
| 2 | 100 V | 1 | Standard | 4200-2000 |
| | 200 V | 1 | Standard | 4200-2001 |
| | | 1 | Low leakage | 4200-2002 |
| | | 3 | Standard | 4200-2003 |
| | | 3 | Low leakage | 4200-2004 |
| | 400 V | 3 | Standard | 4200-2005 |
| | | 3 | Low leakage | 4200-2006 |
| 3 | 200 V | 1 | Standard | 4200-3000 |
| | | 1 | Low leakage | 4200-3001 |
| | | 3 | Standard | 4200-3004 |
| | | 3 | Low leakage | 4200-3005 |
| | 400 V | 3 | Standard | 4200-3008 |
| | | 3 | Low leakage | 4200-3009 |
| 4 | 200 V | 1 | Standard | 4200-4000 |
| | | 1 | Low leakage | 4200-4001 |
| | | 3 | Standard | 4200-4002 |
| | | 3 | Low leakage | 4200-4003 |
| | 400 V | 3 | Standard | 4200-4004 |
| | | 3 | Low leakage | 4200-4005 |
| 5 | 200 V | 3 | Standard | 4200-0312 |
| | 400 V | 3 | Standard | 4200-0402 |
| | 575 V | 3 | Standard | 4200-0122 |
| 6 | 200 V | 3 | Standard | 4200-2300 |
| | 400 V | 3 | Standard | 4200-4800 |
| | 575 V | 3 | Standard | 4200-3690 |
| 7 | 200 V & 400 V | 3 | Standard | 4200-1132 |
| | 575 V & 690 V | 3 | Standard | 4200-0672 |
| 8 | 200 V & 400 V | 3 | Standard | 4200-1972 |
| | 575 V & 690 V | 3 | Standard | 4200-1662 |
| 9A | 200 V & 400 V | 3 | Standard | 4200-3021 |
| | 575 V & 690 V | 3 | Standard | 4200-1660 |
| 9E | 200 V & 400 V | 3 | Standard | 4200-4460 |
| | 575 V & 690 V | 3 | Standard | 4200-2210 |

Line and Load Reactors

Line reactors (sometimes called “line chokes”) are a common power accessory for electronic variable speed drives. These components add an extra margin of protection for AC drives from supply transients. Line reactors are strongly recommended for installation with AC drives that do not have built-in inductors. Load reactors are used on the output of AC drives to reduce the effects of high motor wiring capacitance and to “soften” the dV/dt (rate of change of voltage) applied to the motor windings.



Line/Load Reactor

DB Resistors

AC drives provide a constant torque stopping profile when a dynamic brake resistor is applied across the DC bus circuit. Dynamic braking can be employed under a stop command or anytime a decrease in motor speed is commanded, provided the AC drive is enabled and programmed for ramp stop (fast ramp mode). Two types of dynamic braking kits are available for Control Techniques AC Drives. The E-stop duty kits are rated for light start/stop or deceleration duty cycles. The cyclic duty kits are intended for heavy duty applications that need the capability to dissipate regenerated energy on a more continuous or repetitive basis such as downhill conveyors, hoists and feeders.



Galvanized NEMA 1 with normally closed thermostat

See the Unidrive M Accessories brochure for full details.

Environmental Protection and Cable Management

UL Type 1 Conduit boxes

| Frame size | Order code | H | | W | | D | |
|------------|------------|------|------|------|-----|------|-----|
| | | in | mm | in | mm | in | mm |
| 1 | C-BOX-OF1 | 9.9 | 252 | 3.0 | 75 | 5.1 | 130 |
| 2 | C-BOX-OF2 | 11.6 | 294 | 3.0 | 75 | 5.9 | 150 |
| 3 | C-BOX-OF3 | 12.4 | 314 | 3.5 | 90 | 6.3 | 160 |
| 4 | C-BOX-OF4 | 14.3 | 362 | 4.5 | 115 | 6.9 | 175 |
| 5 | C-BOX-F5 | 16.1 | 408 | 5.6 | 143 | 7.9 | 200 |
| 6 | C-BOX-F6 | 16.2 | 411 | 8.3 | 210 | 8.9 | 227 |
| 7 | C-BOX-F7 | 33.2 | 843 | 10.6 | 270 | 11.0 | 280 |
| 8 | C-BOX-F8 | 44.8 | 1139 | 14.0 | 356 | 12.4 | 315 |
| 9E | C-BOX-F9 | 55.3 | 1405 | 12.2 | 310 | 11.4 | 290 |
| 9A | C-BOX-F9 | 56.9 | 1444 | 12.2 | 310 | 11.4 | 290 |

For overall drive dimensions see pages 10 and 23.

Retrofit mounting brackets

These mounting brackets ensure the drive can be mounted in existing Commander SK installations.

| Frame size | Order code |
|------------|------------|
| 3 | 3470-0097 |
| 4 | 3470-0101 |
| 5 | 3470-0066 |
| 6 | 3470-0074 |
| 7 | 3470-0078 |
| 8 | 3470-0087 |
| 9A / 9E | 3470-0118 |

Fan replacement kits

| Frame size | Order code |
|------------|------------|
| 1 | 3470-0092 |
| 2 | 3470-0095 |
| 3 | 3470-0099 |
| 4 | 3470-0103 |



Unidrive M400 frame size 7 with
C-BOX-F7 conduit box kit installed



Compact & easy to install

Unidrive M drives are amongst the smallest in their class, ideal for machine builds where size matters.

Clear and concise start up guides

For first time users, our drives come with a step-by-step guide. This provides everything you need to know for basic installations, in a clear and concise way. Additionally, our quick-start webpage features 'how to' video guides and technical information. You can access the information at: www.drive-setup.com



Our software allows you to optimize the drive tuning, back up the configuration, configure the onboard automation and motion controller and set up the drive-to-drive communications links.

24/7 technical support

- 1-800-893-2321
- Techsupport.cta@mail.nidec.com

Quickly diagnose faults

In the unlikely event that you get a drive error, download our free Diagnostics Tool app. It is available for Apple, Android and Windows operating systems. Just input the error code on your device and you'll be given a solution. You can download our Diagnostics Tool App at:

www.controltechniques.com/mobile-applications



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theautomationengineer.com (blog)



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