

Unidrive M400 AC Drives

Quick setup and diagnostics with real text display, onboard PLC and safety inputs



Unidrive M400 Frame Size 1

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 industry standard fieldbuses, Ethernet and Modbus RTU communications. Additionally, the intuitive display makes it an ideal solution for stand-alone machine control.

Enhance up-time and system flexibility

- Flexible system integration and remote diagnostics through optional industrial ethernet and fieldbus communication
- Flexible I/O that is expandable with SI-I/O option module
- Enhanced functionality and onboard PLC programming provides a low-cost system solution, minimizing the need for additional equipment such as PLCs

High performance open loop motor control

- RFC-A (Rotor Flux Control) algorithm provides exceptional induction motor control and high stability for demanding applications
- S-ramp accel / decel profiling provides smooth speed transitions to minimize "jerk"
- Speed control for conveyors, fans, pumps, mixers, extruders, and material payoffs where fast setup and diagnostics are required

Key data

Heavy Duty Ratings:	0.33 hp to 150 hp (0.25 kW to 110 kW)
Normal Duty Ratings:	0.33 hp to 200 hp (0.25 kW to 132 kW)
Supply phases:	Frame size 1 and 2: 110 V drives 1Ø, 230 V drives 1Ø or 3Ø; Frame size 7 and larger 3Ø; 460, 575 and 690 V drives 3Ø
Control connections:	4x Analog I/O, 7x Digital I/O, 2x STO, 1x Relay
Drive rating:	IP21 / UL open class as standard
Keypad:	No keypad as standard
Option slots:	1 (frame size 2 and above)
Parameter cloning via:	PC tools, SD card

Voltage ratings	
100 / 120 VAC ± 10%	✓
200 / 240 VAC ± 10%	✓
380 / 480 VAC ± 10%	✓
500 / 575 VAC ± 10%	✓
500 / 690 VAC ± 10%	✓

Control mode	
Open loop vector or V/Hz induction motor control	✓
Open loop Rotor Flux Control for induction motors (RFC-A)	✓

How to select a drive

(Consult online catalog for complete drive information)

1. Electrical Considerations

- What is the supply voltage?
- Single or 3Ø input power?
- What is the motor rating?
 - Continuous current – FLA (Full Load Amps)
 - Select the drive based on motor Amps rather than horsepower

2. Load Type (choose one)

- Normal Duty: Peak current is 110% of drive rating (fans, pumps, etc.)
- Heavy Duty: Peak current is 180% (mixers, conveyors, etc.)

3. Drive Mechanical Mounting

- Panel mounting – as standard
- Wall mounting – UL conduit kits are available
- Through panel mounting – frames 5 and up



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



Order Information & Ratings

See the Unidrive M: General Purpose AC Drives brochure for our full product offering including 575 V and 690 V solutions.

115 VAC, Single Phase 50/60 Hz Input, 230 VAC 3-Phase Output				
Unidrive M400 Order Code*	Normal Duty		Heavy Duty	
	hp	Amps	hp	Amps
M400-01100017A	0.33	1.7	0.33	1.7
M400-01100024A	0.5	2.4	0.5	2.4
M400-02100042A	1	4.2	1	4.2
M400-02100056A	1.5	5.6	1.5	5.6

230 VAC, Single Phase Input, 3-Phase Output, 50/60 Hz Input				
Unidrive M400 Order Code*	Normal Duty		Heavy Duty	
	hp	Amps	hp	Amps
M400-01200017A	0.33	1.7	0.33	1.7
M400-01200024A	0.5	2.4	0.5	2.4
M400-01200033A	0.75	3.3	0.75	3.3
M400-01200042A	1	4.2	1	4.2
M400-02200024A	0.5	2.4	0.5	2.4
M400-02200033A	0.75	3.3	0.75	3.3
M400-02200042A	1	4.2	1	4.2
M400-02200056A	1.5	5.6	1.5	5.6
M400-02200075A	2	7.5	2	7.5
M400-03200100A	3	10	3	10
M400-04200133A	3	13.3	3	13.3

230 VAC, Three Phase Input, 3-Phase Output, 50/60 Hz Input				
Unidrive M400 Order Code*	Normal Duty		Heavy Duty	
	hp	Amps	hp	Amps
M400-02200024A	0.5	2.4	0.5	2.4
M400-02200033A	0.75	3.3	0.75	3.3
M400-02200042A	1	4.2	1	4.2
M400-02200056A	1.5	5.6	1.5	5.6
M400-02200075A	2	7.5	2	7.5
M400-03200100A	3	10	3	10
M400-04200133A	3	13.3	3	13.3
M400-04200176A	5	17.6	5	17.6
M400-05200250A	10	30	7.5	25
M400-06200330A	15	50	10	33
M400-06200440A	20	58	15	44
M400-07200610A	25	75	20	61
M400-07200750A	30	94	25	75
M400-07200830A	40	117	30	83
M400-08201160A	50	149	40	116
M400-08201320A	60	180	50	132
M400-09201760x**	75	216	60	176
M400-09202190x**	100	266	75	219

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

**x= A or E (9E frame requires an external AC Line Reactor)

460 VAC, Three Phase Input, 3-Phase Output, 50/60 Hz Input				
Unidrive M400 Order Code*	Normal Duty		Heavy Duty	
	hp	Amps	hp	Amps
M400-02400013A	0.5	1.3	0.5	1.3
M400-02400018A	0.75	1.8	0.75	1.8
M400-02400023A	1	2.3	1	2.3
M400-02400032A	1.5	3.2	1.5	3.2
M400-02400041A	2	4.1	2	4.1
M400-03400056A	3	5.6	3	5.6
M400-03400073A	3	7.3	3	7.3
M400-03400094A	5	9.4	5	9.4
M400-04400135A	7.5	13.5	7.5	13.5
M400-04400170A	10	17	10	17
M400-05400270A	20	30	20	27
M400-05400300A	20	30	20	30
M400-06400350A	25	38	25	35
M400-06400420A	30	48	30	42
M400-06400470A	50	63	30	47
M400-07400660A	60	79	50	66
M400-07400770A	75	94	60	77
M400-07401000A	75	112	75	100
M400-08401340A	125	155	100	134
M400-08401570A	150	184	125	157
M400-09402000x**	150	221	150	180
M400-09402240x**	200	255	150	211

**x= A or E (9E frame requires an external AC Line Reactor)

Order String - Frame Size Key
Example: M400-XX_ _ _ _ _ _
XX = Frame Size (01-09 above)

OPTIONS AT-A-GLANCE

Option	Description	Order Code
Drive Configuration & Programming	Configuration software	UNIDRIVE-M-CONNECT
	Drive to PC USB cable (requires a 485 adaptor)	CT-USB-CABLE
	Parameter cloning 4 GB (includes 4 GB SD card)	AI-SMART-ADAPTOR
	Parameter cloning (requires an SD card)	AI-BACKUP-ADAPTOR
Operator Interfaces	8 GB SD card	CTSD8GB
	Real text LCD display	CI-KEYPAD-LCD
	Remote LCD display	REMOTE-KEYPAD
	Remote LCD display with real-time clock	REMOTE-KEYPAD-RTC
	Remote display cable	UM-LCD-485-XXX****
Input / Output***	Extended I/O	SI-I/O
Communications***	Modbus RTU	AI-485-ADAPTOR
	Modbus RTU with 24 V	AI-485-24V-ADAPTOR
	Modbus RTU	CI-485-ADAPTOR
	PROFIBUS DP	SI-PROFIBUS
	DeviceNet	SI-DEVICENET
	CANopen	SI-CANOPEN
	PROFINET RT	SI-PROFINET
Application Programming Software & Diagnostics	EtherCAT	SI-ETHERCAT
	EtherNet/IP, Modbus TCP	SI-ETHERNET
	PLC programming	MACHINE-CONTROL-STUDIO
Power Accessories	Digital oscilloscope	CTSCOPE
	External EMC filter	See the Unidrive M: General Purpose AC Drives brochure
	Line & load reactors	
Dynamic braking resistors		
Environmental Protection & Cable Management	UL Type 1 conduit kits	See the Unidrive M: General Purpose AC Drives brochure
	Retrofit kits for Commander SK	
	Fan replacement kits	

***frame sizes 2 and up accept 1 SI option

****Shielded RS485 patch cable, CAT5e, conductive metal RJ45 connectors, XXX=cable length in 5 foot increments (max 330 ft), standard lengths are (005, 010, 015, 025 and 050)

Dimensions & Weights

Frame Size	Dimensions H x W x D (in)	Weight (lbs)
01	6.3 x 3.0 x 5.1	1.7
02	8.1 x 3.1 x 5.9	2.2
03	8.9 x 3.5 x 6.3	3.3
04	10.9 x 4.5 x 6.9	6.9
05	15.4 x 5.6 x 7.9	16.3
06	15.4 x 8.3 x 9.0	30.9
07	21.9 x 10.6 x 11.0	61.7
08	31.7 x 12.2 x 11.4	114.6
09E	39.8 x 12.2 x 11.4	101.4
09A	43.6 x 12.2 x 11.4	146.6



Additional distance should be added to the height dimension (H) when the AI options are fitted.

Diagnostic Software

Our **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.

Download our Diagnostics Tool App at: www.controltechniques.com/mobile-applications

