



UNIDRIVE M600

Manufacturing Automation drive

High performance drive for induction
and sensorless permanent magnet motors

Unidrive M100

Unidrive M200

Unidrive M300

Unidrive M400

Unidrive M600

Unidrive M700

0.75 kW – 2.8 MW Heavy Duty
(1.0 hp – 4,200 hp)
200 V | 400 V | 575 V | 690 V

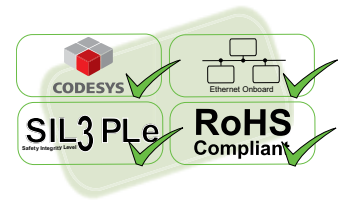


The Unidrive M Manufacturing Automation drive family

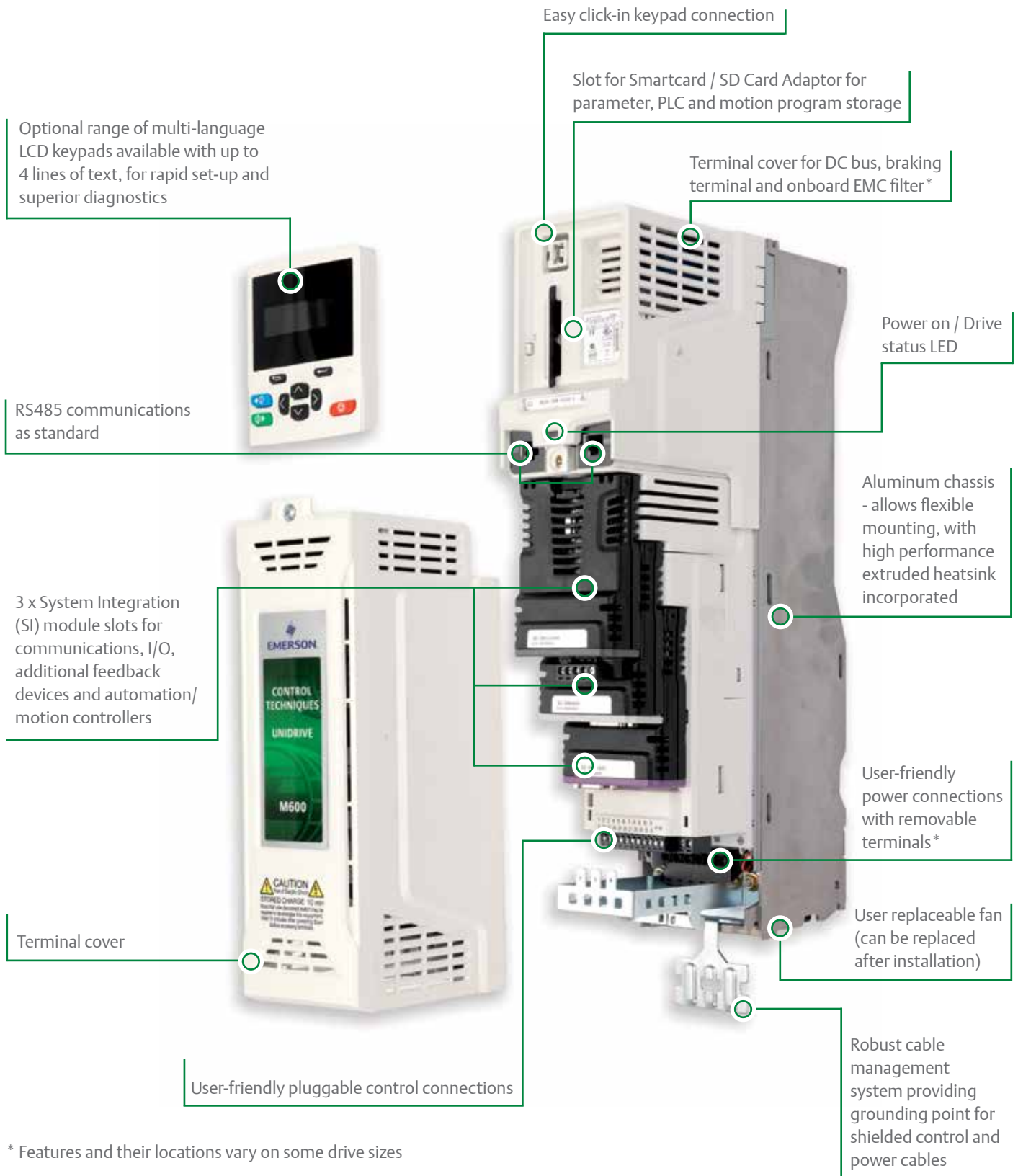
Unidrive M – The Manufacturing Automation drive family tailored to customer needs

Led by the results of extensive customer-driven market research, we have tailored six Unidrive M feature-sets to specific application needs identified within Manufacturing Automation. The Unidrive M600 adds enhanced motor control, a higher performance onboard PLC with CODESYS programming and greater system expansion capability to the range.

For more information on the full Unidrive M family, please download the Unidrive M Overview brochure or the 'Discover Unidrive M' App (available on the App Store, Android and online) via www.UnidriveM.com.



Unidrive M600 features



* Features and their locations vary on some drive sizes

Unidrive M600 AC drive

High performance drive for induction and sensorless permanent magnet motors

M600 delivers increased machine performance with sensorless induction and sensorless permanent magnet motor control, for dynamic and efficient machine operation. An optional encoder port can be used for precise closed loop velocity applications and digital lock/frequency following. Additional I/O, global fieldbus communications and encoder feedback options maximize system connectivity and flexibility.



Unidrive M600 Highlights

Maximize productivity with high performance control with all AC motors

Unidrive M600's advanced RFC control algorithm gives maximum stability and control, especially with high power motors. It provides a high bandwidth motor control algorithm with 62.5 μ s current loop update rates and 200% motor overload for heavy industrial machinery applications.

Permanent Magnet Solutions
Dyneo



Highly efficient permanent magnet motors from Leroy Somer

Flexible integration with automation systems

Unidrive M600 allows up to three optional System Integration modules to be fitted within the drive footprint. This additional speed feedback, I/O and fieldbus communications maximizes flexibility whilst minimizing cabinet space. The SI-Encoder option provides Closed loop Rotor Flux Control for induction motors (RFC-A) on the M600.

Enhanced open onboard PLC

Unidrive M600 provides an onboard PLC with a real-time task that can be used for basic logic control, speed following and digital lock to enhance drive application capability.

Using open CODESYS leading technology for Machine Control programming, Unidrive M600 is easily accessible to machine builders worldwide.





Reduce machine size and cost

Unidrive M600's compact drive dimensions are among the smallest in class at every power rating. Packed full of onboard features, such as programmable automation for simple applications, RS485 communications and 1 x Safe Torque Off terminal for compliance with SIL3, Unidrive M600 provides a powerful economical solution, eliminating the need for many external components.

Easy to access machine control features

Software tools, keypads and memory storage devices provide easy and fast access to Unidrive M's machine control features for configuration, monitoring and diagnostics.

Typical applications:

Speed control with high starting torque for extruders, slitters, material transport, compressors, manufacturing cranes, hydraulic replacement, ratio control, gearing, winding (coilers), web handling, metal cutting.



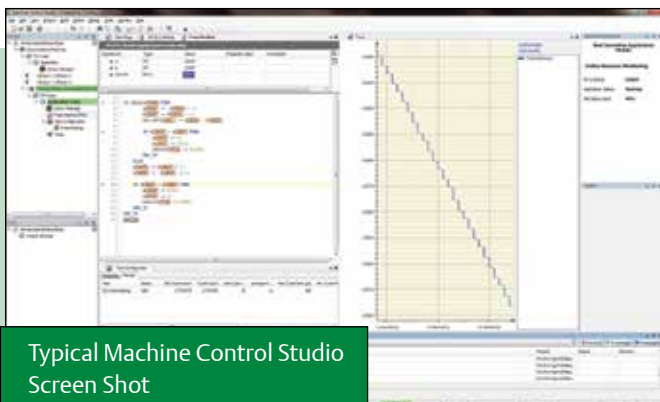


Machine Control Studio Software - Powered by CODESYS

Control Techniques Machine Control Studio provides a flexible and intuitive environment for programming Unidrive M's new automation and motion control features. This new software offers programming for the Unidrive M600's onboard PLC.



Machine Control Studio is powered by CODESYS, the leading open software for programmable machine control. The programming environment is fully IEC 61131-3 compliant, meaning that it is familiar and therefore fast and easy to use for control engineers around the world.



Typical Machine Control Studio Screen Shot

The following IEC 61131-3 programming languages are supported:

- 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 programming, speeding up software development. Programmers have access to a vibrant open-source community for function blocks. Control Techniques also provides support for customers' own function block libraries, with on-line monitoring of program variables with user defined watch windows and help for on-line change of program, in line with current PLC practice.

Power System Flexibility

Unidrive M's power stage enhances flexibility and energy efficiency

- Easy common DC bus configuration enables braking energy to be recycled within the drive system, reducing energy usage and eliminating external supply components. This economic method also provides a minimum footprint for a multiple drives solution.
- Unidrive M can run with a wide operating DC voltage input, from 24 V up to maximum volts, providing optimum choice of auxiliary power supply for back-up purposes.
- Low losses, up to 98% efficient.
- Low power standby mode. In some applications, drives can sit idle for significant periods; M600's reduced standby power saves energy.
- M600 supports sensorless (open loop) control of compact high efficiency permanent magnet motors.
- Active Front End to return braking energy to the power supply and minimize harmonic distortion.



Common DC bus configuration enables braking energy to be recycled within the drive system

Motor control options available include:

Control Mode	Control Strategy	Features
Open loop vector or V/Hz induction motor control	Frequency Speed	Open loop motor control for induction motors, providing the easiest configuration. V/Hz can be used in multi-motor systems.
Enhanced open loop Rotor Flux Control for induction motors (RFC-A)	Speed Torque	Vector algorithm utilizing closed loop current control to greatly enhance performance for all induction motor sizes.
New open loop permanent magnet motor control (RFC-S)	Speed Torque Position	Open loop motor control for permanent magnet motors utilizing closed loop current control. This mode offers good dynamic performance and enables more compact and higher efficiency motor technologies to be used. This mode also supports simple positioning without the need for encoder position feedback .
Optional enhanced closed loop Rotor Flux Control for induction motors (RFC-A) when SI-Encoder fitted	Speed Torque Position	Dynamic speed or position control of induction motors, supporting a wide range of feedback devices.
Enhanced Active Front End (AFE) Power Quality Converter	Regenerative	Active Front End (AFE) to return excess braking energy back onto the power line, reducing energy costs instead of dissipating this energy as heat. The AFE provides power factor control for power quality management and greatly reduces unwanted power harmonics.






Typical roller table application

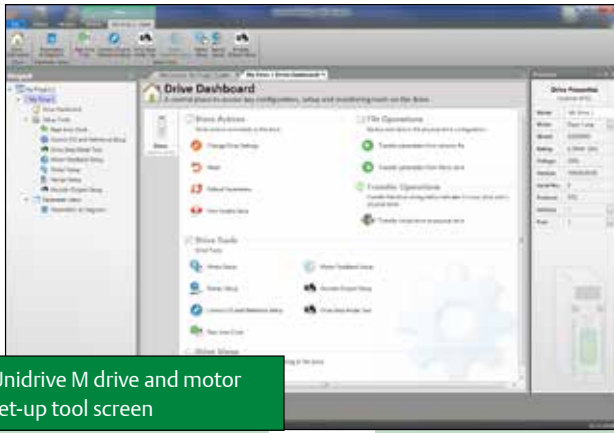
Fast and Easy access for Commissioning, Monitoring and Diagnostics

Unidrive M keypads, memory devices and software tools make it easy to access Unidrive M600's full feature set, allowing users to optimize drive tuning, back-up the configuration set and troubleshoot more quickly.

User interface options

Unidrive M benefits from a number of optional keypad choices to meet your application needs.

Type		Benefit
KI-Keypad: Removable plain text LCD keypad		Plain text, multi-language LCD keypad for in depth parameter and data descriptions for an enhanced user experience.
KI-Keypad RTC: Removable plain text LCD with real-time clock		All the features of the KI-Keypad, but with battery operated real-time clock, allowing accurate time stamping of diagnostics and aiding quick resolution.
Remote Keypad		Remote mountable, plain text, multi-language LCD keypad allows flexible mounting on the outside of a panel and meets IP66 (NEMA 4).



Unidrive M drive and motor set-up tool screen

Based on Control Techniques' 25 years experience, 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:

- Fast task based commissioning and easy maintenance of the Unidrive M family is simplified via familiar Windows interface
- Intuitive graphical tools enhance and simplify user experience
- For experienced users, dynamic drive logic diagrams and enhanced searchable listings are present
- Drive and motor performance can be optimized with minimal specialized drive knowledge
- Tool is scalable to match application requirements
- Supports the import of Unidrive SP parameter files and allows full drive cloning (i.e. parameter sets and application program)
- 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
- Automatic RTU baud rate scanning on the M600 RS485 connection

Unidrive M's portable memory devices

Smartcard

The optional Smartcard memory device can be used to back-up parameter sets and basic PLC programs, as well as copying them from one drive to another, including from a Unidrive SP. It also allows:

- Simplified drive maintenance and commissioning
- Quick set-up for sequential build of machines
- Machine upgrades to be stored on a Smartcard and sent to the customer for installation

SD card

Unidrive M600 uses popular SD cards for quick and easy parameter and program storage using an SD Card Adaptor, allowing them to fit in the drive Smartcard slot. SD cards provide a huge memory capability allowing a complete system reload if required, and can be easily pre-programmed on a common PC.

Performance motor control

Control Techniques' unique motor control algorithms combined with the latest microprocessor technology ensure that Unidrive M600 offers the high stability and bandwidth for many industrial motor types. This enables you to maximize machine throughput and efficiency in every application using open loop permanent magnet and AC induction motors.

Unidrive M600 feature and specification table

Performance	Current loop update: 62 μ s
	Heavy Duty peak rating: 200 % (3s)
	Maximum output frequency: 550 Hz
	Switching frequency range: 2, 3, 4, 6, 8, 12, 16 kHz (3 kHz default)
Onboard intelligence	Programmable Logic Control (PLC)
	Real-time tasks
	Digital lock control
Onboard comms	RS485
Mechanical attributes	Tile mounting on sizes 3, 4, 5
	Common DC bus connections on sizes 3, 4, 5, 6
Parameter back-up	Serial port cloning
	SD card (using SD Card Adaptor)
	Smartcard reader support
Feedback	Optional SI-Encoder
Onboard I/O	3 x Analog input, 2 x Analog output
	4 x Digital input, 1 x Digital output, 3 x Bidirectional digital input or output
	1 x Relay output
Machine safety	1 x Safe Torque Off (STO) terminal
Power and motor control	Stationary autotune for permanent magnet motors
	Wide operating range back-up DC supply
	24 V control back-up
Other	Temperature controlled fan operation with user adjustable speed limit
	User replaceable fan(s)
	Conformal coating
	Standby mode (energy saving)

Control Mode

Open loop vector or V/Hz induction motor control

Open loop Rotor Flux Control for induction motors (RFC-A)



Open loop permanent magnet motor control (RFC-S)



Closed loop Rotor Flux Control for induction motors (RFC-A)



Active Front End (AFE)
power quality converter



Optional Drive Programming and Operator Interface

Unidrive M Connect



KI-Keypad



KI-Keypad RTC



Remote Keypad



Operator Interface



Smartcard



SD Card using SD Card
Adaptor



KI-485 Adaptor



Input/Output

SI-I/O



4 x Digital I/O
3 x Analog input (default) / Digital input
1 x Analog output (default) / Digital input
2 x Relay

Standard





5 x Analog I/O 8 x
Digital I/O (including
2 x high speed I/O
[250 μ s])
1 x Relay output
1 x STO



Applications with PLC Functionality

Standard

Easy to use onboard PLC using industry standard CODESYS programming environment



Communications

Standard

RS485



SI-EtherCAT



SI-PROFIBUS



SI-Ethernet



SI-DeviceNet



SI-CANopen




SI-PROFINET




Safety

SI-Safety




Feedback

SI-Encoder



SI-Universal Encoder




DC back up power supply

24 - 1067 Vdc power



24 Vdc control



Unidrive M600 ratings and specifications

200/240 Vac ±10%						
Drive	Heavy Duty			Normal Duty		
	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)
M600-03200050A	5	0.75	1	6.6	1.1	1.5
M600-03200066A	6.6	1.1	1.5	8	1.5	2
M600-03200080A	8	1.5	2	11	2.2	3
M600-03200106A	10.6	2.2	3	12.7	3	3
M600-04200137A	13.7	3	3	18	4	5
M600-04200185A	18.5	4	5	24	5.5	7.5
M600-05200250A	25	5.5	7.5	30	7.5	10
M600-06200330A	33	7.5	10	50	11	15
M600-06200440A	44	11	15	58	15	20
M600-07200610A	61	15	20	75	18.5	25
M600-07200750A	75	18.5	25	94	22	30
M600-07200830A	83	22	30	117	30	40
M600-08201160A	116	30	40	149	37	50
M600-08201320A	132	37	50	180	45	60
M600-09201760A*	176	45	60	216	55	75
M600-09202190A*	219	55	75	266	75	100
M600-09201760E	176	45	60	216	55	75
M600-09202190E	219	55	75	266	75	100
M600-10202830E	283	75	100	325	90	125
M600-10203000E	300	90	125	360	110	150

380/480 Vac ±10%						
Drive	Heavy Duty			Normal Duty		
	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)
M600-03400025A	2.5	0.75	1	3.4	1.1	1.5
M600-03400031A	3.1	1.1	1.5	4.5	1.5	2
M600-03400045A	4.5	1.5	2	6.2	2.2	3
M600-03400062A	6.2	2.2	3	7.7	3	5
M600-03400078A	7.8	3	5	10.4	4	5
M600-03400100A	10	4	5	12.3	5.5	7.5
M600-04400150A	15	5.5	10	18.5	7.5	10
M600-04400172A	17.2	7.5	10	24	11	15
M600-05400270A	27	11	20	30	15	20
M600-05400300A	30	15	20	30	15	20
M600-06400350A	35	15	25	38	18.5	25
M600-06400420A	42	18.5	30	48	22	30
M600-06400470A	47	22	30	63	30	40
M600-07400660A	66	30	50	79	37	50
M600-07400770A	77	37	60	94	45	60
M600-07401000A	100	45	75	112	55	75
M600-08401340A	134	55	100	155	75	100
M600-08401570A	157	75	125	184	90	125
M600-09402000A*	200	90	150	221	110	150
M600-09402240A*	224	110	150	266	132	200
M600-09402000E	200	90	150	221	110	150
M600-09402240E	224	110	150	266	132	200
M600-10402700E	270	132	200	320	160	250
M600-10403200E	320	160	250	361	200	300

* Future availability

500/575 Vac ±10%						
Drive	Heavy Duty			Normal Duty		
	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)
M600-05500030A	3	1.5	2	3.9	2.2	3
M600-05500040A	4	2.2	3	6.1	4	5
M600-05500069A	6.9	4	5	10	5.5	7.5
M600-06500100A	10	5.5	7.5	12	7.5	10
M600-06500150A	15	7.5	10	17	11	15
M600-06500190A	19	11	15	22	15	20
M600-06500230A	23	15	20	27	18.5	25
M600-06500290A	29	18.5	25	34	22	30
M600-06500350A	35	22	30	43	30	40
M600-07500440A	44	30	40	53	37	50
M600-07500550A	55	37	50	73	45	60
M600-08500630A	63	45	60	86	55	75
M600-08500860A	86	55	75	108	75	100
M600-09501040A*	104	75	100	125	90	125
M600-09501310A*	131	90	125	150	110	150
M600-09501040E	104	75	100	125	90	125
M600-09501310E	131	90	125	150	110	150
M600-10501520E	152	110	150	200	130	200
M600-10501900E	190	132	200	200	150	200

500/690 Vac ±10%						
Drive	Heavy Duty			Normal Duty		
	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)	Max Continuous Current (A)	Motor Shaft Power (kW)	Motor Shaft Power (HP)
M600-07600190A	19	15	20	23	18.5	25
M600-07600240A	24	18.5	25	30	22	30
M600-07600290A	29	22	30	36	30	40
M600-07600380A	38	30	40	46	37	50
M600-07600440A	44	37	50	52	45	60
M600-07600540A	54	45	60	73	55	75
M600-08600630A	63	55	75	86	75	100
M600-08600860A	86	75	100	108	90	125
M600-09601040A*	104	90	125	125	110	150
M600-09601310A*	131	110	150	150	132	175
M600-09601040E	104	90	125	125	110	150
M600-09601310E	131	110	150	155	132	175
M600-10601500E	150	132	175	172	160	200
M600-10601780E	178	160	200	197	185	250

* Future availability

Heavy Duty

Suitable for demanding applications, current overload of 200% is available for dynamic loads.

Normal Duty

Suitable for most applications, with a current overload capacity of 110%.

For a full explanation of the drive order code, refer to page 19.

Unidrive M600 ratings and specifications

Environmental safety and electrical conformance

- IP20 / NEMA1 / UL TYPE 1*
*UL open class as standard, additional kit needed to achieve Type 1
- IP65 / NEMA4 / UL TYPE 12 rating is achieved on the rear of the drive when through panel mounted
- Ambient temperature -20 °C to 40 °C as standard. Up to 55 °C with derating
- Humidity 95 % maximum (non-condensing) at 40 °C
- Altitude: 0 to 3000m, derate 1 % per 100 m between 1000 m and 3000 m
- Random Vibration: Tested in accordance with IEC 60068-2-64
- Mechanical Shock Tested in accordance with IEC 60068-2-29
- Storage temperature -40 °C to 70 °C
- Electromagnetic Immunity complies with EN 61800-3 and EN 61000-6-2
- With onboard EMC filter, complies with EN 61800-3 (2nd environment)
- EN 61000-6-3 and EN 61000-6-4 with optional footprint EMC filter
- IEC 60146-1-1 Supply conditions
- IEC 61800-5-1 (Electrical Safety)
- IEC 61131-2 I/O
- Safe Torque Off, independently assessed by TÜV to IEC 61800-5-2 SIL 3 and EN ISO 13849-1 PL
- UL 508C (Electrical Safety)

Optional media and accessories

Description	Order code
SD Card Adaptor	
Smartcard (64 kB)	2214-0010

Internal brake resistor

Frame size	Order code
3	1220-2752
4 & 5	1299-0003

DC bus paralleling kit

Frame size	Order code
3	3470-0048
4	3470-0061
5	3470-0068
6	3470-0063
6 (connect to frame 3,4 & 5)	3470-0111

Through hole IP65 kit

Frame size	Order code
3	3470-0053
4	3470-0056
5	3470-0067
6	3470-0055
7	3470-0079
8	3470-0083
9E & 10	3470-0105
10 Inverter	3470-0108
10 Rectifier	3470-0106

Tile mount kit

Frame size	Order code
3	3470-0049
4	3470-0060
5	3470-0073

UL Type 1 Conduit kit

Frame size	Order code
3 & 4	6521-0071
5	3470-0069
6	3470-0059
7	3470-0080
8	6500-0106
9E & 10	3470-0115

Retrofit brackets

To allow Unidrive M drives to be fitted in existing Unidrive SP surface mount installations.

Frame size	Order code
4	3470-0062
5	3470-0066
6	3470-0074
7	3470-0078
8	3470-0087
9E & 10	3470-0118

Cable grommet kit

Frame size	Order code
7	3470-0086
8 - Single cable	3470-0089
8 - Dual cable	3470-0090
9E & 10	3470-0107

General kit items

Item	Order code
Keypad blanking cover (10 pieces in pack)	3470-0058
Frame size 3 & 4 power connector split kit	3470-0064
Frame 3 through hole multi-axis kit **	3470-0065
I/O commissioning extender adaptor	3000-0009

** To allow multiple drives to be through hole mounted with no space between them.

Optional external EMC filters

Unidrive M built-in EMC filter complies with EN 61800-3. External EMC filters are required for compliance with EN 61000-6-4.

Frame size	Voltage	Order code
3	200 V	4200-3230
	400 V	4200-3480
4	200 V	4200-0272
	400 V	4200-0252
5	200 V	4200-0312
	400 V	4200-0402
	575 V	4200-0122
6	200 V	4200-2300
	400 V	4200-4800
	575 V	4200-3690
7	200 V & 400 V	4200-1132
	575 V & 690 V	4200-0672
8	200 V & 400 V	4200-1972
	575 V & 690 V	4200-1662
9	200 V & 400 V	4200-3021
	575 V & 690 V	4200-1660
9E & 10	200 V & 400 V	4200-4460
	575 V & 690 V	4200-2210

For a full list of patents and patent applications, visit www.controltechniques.com/patents.

Dimensions, weight and frame size ratings

SINGLE DRIVES



Frame size		3	4	5	6	7	8	
Dimensions (H x W x D)	mm	382 x 83 x 200	391 x 124 x 200	M200 to M400 391 x 143 x 192 M600 to M800 391 x 143 x 200	M200 to M400 391 x 210 x 221 M600 to M800 391 x 210 x 227	557 x 270 x 280	803 x 310 x 290	
	in	15.0 x 3.3 x 7.9	15.4 x 4.9 x 7.9	M200 to M400 15.4 x 5.6 x 7.6 M600 to M800 15.4 x 5.6 x 7.6	M200 to M400 15.4 x 8.3 x 8.7 M600 to M800 15.4 x 8.3 x 8.9	21.9 x 10.6 x 11.0	31.6 x 12.2 x 11.4	
Weight	kg (lb)	4.5 (9.9) Max	6.5 (14.3)	7.4 (16.3)	14 (30.9)	28 (61.7)	52 (114.6)	
Line Choke	Internal	•	•	•	•	•	•	
	External							
	@ 200 V	0.75 kW - 2.2 kW (1 hp - 3 hp)	3 kW - 4 kW (3 hp - 5 hp)	5.5 kW (7.5 hp)	7.5 kW - 11 kW (10 hp - 15 hp)	15 kW - 22 kW (20 hp - 30 hp)	30 kW - 37 kW (40 hp - 50 hp)	
	@ 400 V	0.75 kW - 4 kW (1 hp - 5 hp)	5.5 kW - 7.5 kW (10 hp)	11 kW - 15 kW (20 hp - 25 hp)	18.5 kW - 22 kW (30 hp)	30 kW - 45 kW (50 hp - 75 hp)	55 kW - 75 kW (100 hp - 125 hp)	
	@ 575 V			1.5 kW - 4 kW (2 hp - 5 hp)	5.5 kW - 22 kW (7.5 hp - 30 hp)	30 kW - 37 kW (40 hp - 50 hp)	45 kW - 55 kW (60 hp - 75 hp)	
	@ 690 V					15 kW - 45 kW (20 hp - 60 hp)	55 kW - 75 kW (75 hp - 100 hp)	

All dimensions include mounting brackets except for the DIN rail alternative for frames 1 and 2.

MODULAR DRIVES

INVERTER & RECTIFIER



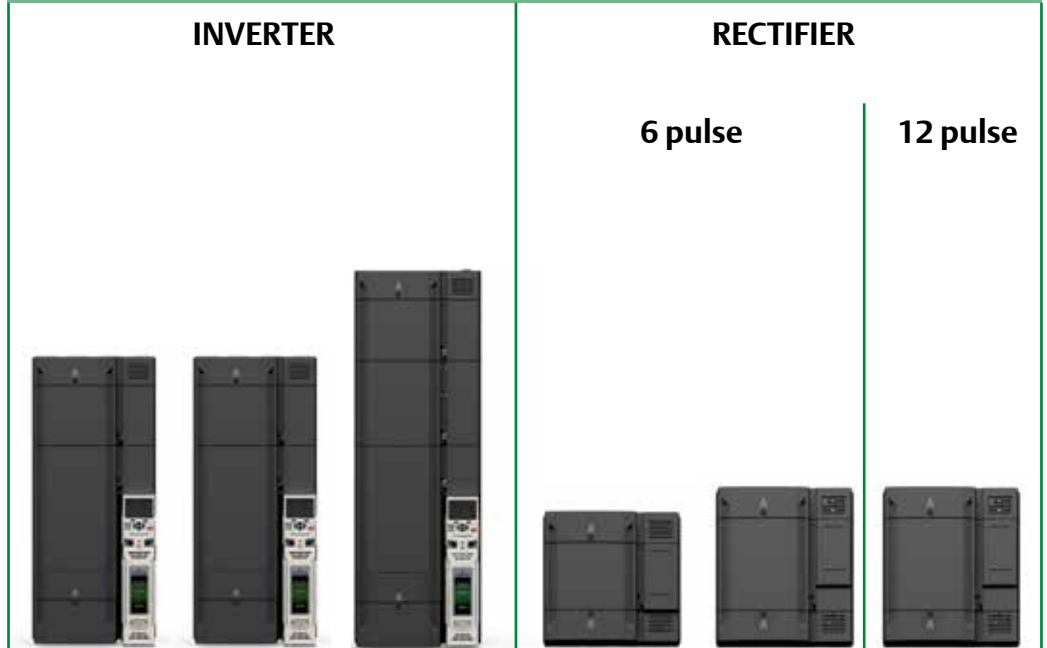
	9A*	9E	10	11*	9	10	11*
	1108 x 310 x 290	1069 x 310 x 288	1069 x 310 x 288	1410 x 310 x 310	1069 x 310 x 289	1069 x 310 x 289	1410 x 310 x 310
	43.6 x 12.2 x 11.4	42.1 x 12.2 x 11.3	42.1 x 12.2 x 11.3	55.5 x 12.2 x 12.2	42.1 x 12.2 x 11.4	42.1 x 12.2 x 11.4	55.5 x 12.2 x 12.2
		46 (101.4)	46 (101.4)				
	•						
		•	•	•	•	•	•
	45 kW - 55 kW (60 hp - 75 hp)	45 kW - 55 kW (60 hp - 75 hp)	75 kW - 90 kW (100 hp - 125 hp)	N/A	45 kW - 55 kW (60 hp - 75 hp)	75 kW - 90 kW (100 hp - 125 hp)	N/A
	90 kW - 110 kW (150 hp)	90 kW - 110 kW (150 hp)	132 kW - 160 kW (200 hp - 250 hp)	185 kW - 250 kW (300 hp - 400 hp)	90 kW - 110 kW (150hp)	132 kW - 160 kW (200 hp - 250 hp)	185 kW - 250 kW (300 hp - 400 hp)
	75 kW - 90 kW (100 hp - 125 hp)	75 kW - 90 kW (100 hp - 125 hp)	110 kW - 132 kW (150 hp - 200 hp)	150 kW - 225 kW (200 hp - 300 hp)	75 kW - 90 kW (100 hp - 125 hp)	110 kW - 132 kW (150 hp - 200 hp)	150 kW - 225 kW (200 hp - 300 hp)
	90 kW - 110 kW (125 hp - 150 hp)	90 kW - 110 kW (125 hp - 150 hp)	132 kW - 160 kW (175 hp - 200 hp)	185 kW - 250 kW (250 hp - 300 hp)	90 kW - 110 kW (125 hp - 150 hp)	132 kW - 160 kW (175 hp - 200 hp)	185 kW - 250 kW (250 hp - 300 hp)

*Future availability

Modular ratings up to 2.8 MW (4,200 hp) through parallel connected inverters.

Dimensions include mounting brackets.

MODULAR DRIVES

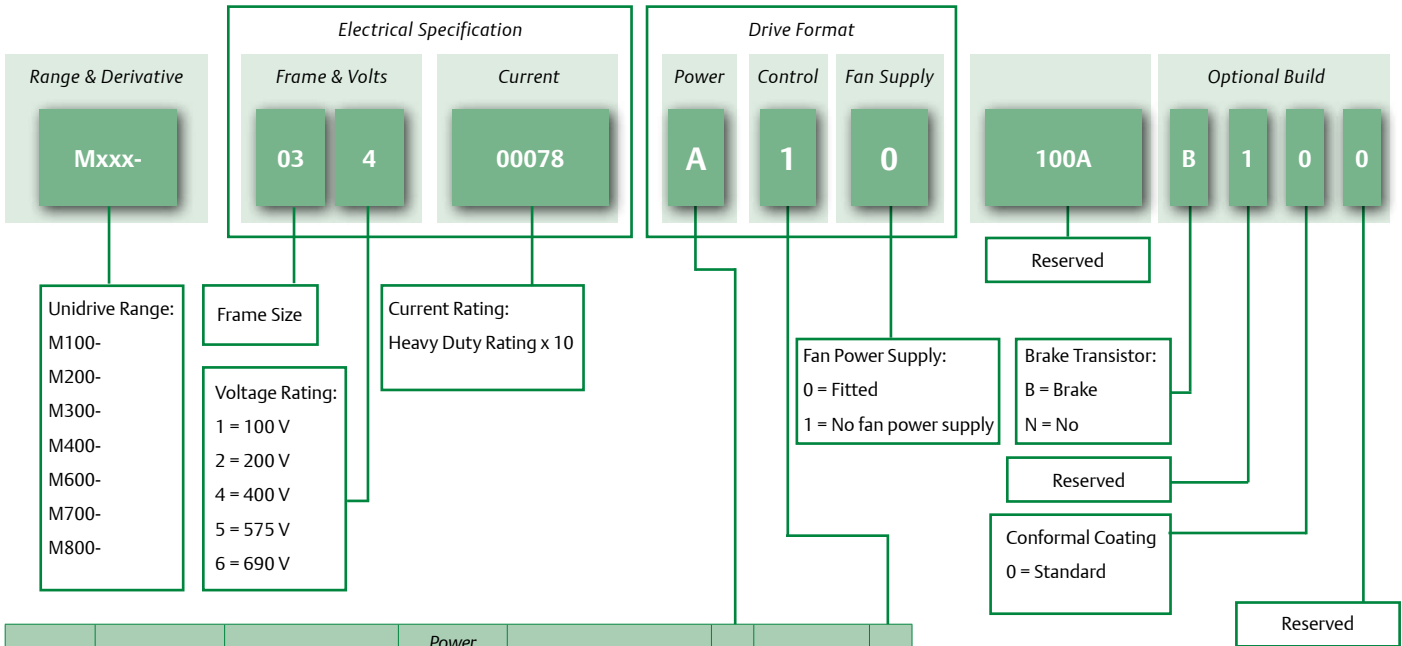


Frame size		9	10	11*	10	11*	11*
Dimensions (H x W x D)	mm	773 x 310 x 290	773 x 310 x 290	880 x 310 x 310	355 x 310 x 290	570 x 310 x 310	570 x 310 x 310
	in	30.4 x 12.2 x 11.4	30.4 x 12.2 x 11.4	34.7 x 12.2 x 12.2	15.8 x 12.2 x 11.4	22.4 x 12.2 x 12.2	22.4 x 12.2 x 12.2
Weight	kg (lb)						
Line Choke	Internal						
	External				•	•	•
Max Continuous Heavy Duty kW Rating / A Rating	@ 200 V	45 kW - 55 kW (60 hp - 75 hp)	75 kW - 90 kW (100 hp - 125 hp)	N/A	410 A	N/A	410 A
	@ 400 V	90 kW - 110 kW (150hp)	132 kW - 160 kW (200 hp - 250 hp)	185 kW - 250 kW (300 hp - 400 hp)	452 A	681 A	2 x 415 A
	@ 575 V	75 kW - 90 kW (100 hp - 125 hp)	110 kW - 132 kW (150 hp - 200 hp)	150 kW - 225 kW (200 hp - 300 hp)	248 A	485 A	2 x 398 A
	@ 690 V	90 kW - 110 kW (125 hp - 150 hp)	132 kW - 160 kW (175 hp - 200 hp)	185 kW - 250 kW (250 hp - 300 hp)			

Modular ratings up to 2.8 MW (4,200 hp) through parallel connected inverters.
Dimensions include mounting brackets.

*Future availability

Unidrive M Range - Identification



Frames	Range ID	Functionality	Power Description	Power Format	14	Control	15
03 to 09	Single drives Mxxx-	No paralleling. Control & fan power supply always fitted	AC to AC	Internal Choke 6P Rectifier + Inverter	A	Standard	1
09 to 11	Single drives Mxxx-	No paralleling. Control & fan power supply always fitted	AC to AC	External Choke (order separately) 6P Rectifier + Inverter	E	Standard	1
	Modular drives M000- (Unassigned power stage with no control fitted)	Can be paralleled. With or without fan power supply	DC to AC	12P Rectifier + Inverter	T	Unassigned	U
			DC to AC	18P Rectifier + Inverter	N	Master	M
				Inverter	D	Follower	F

Control Module Range for Unassigned Modular Drives
Mxxx-STANDARD011100A0100
Mxxx-MASTER00011100A0100
M000-FOLLOWER011100A0100

Unidrive M Rectifier Range - Part Number

Supply Voltage	Power Supply	Frame	DC Output Current	Item Number
200 V	6 Pulse	10	410 A	RECT-10204100A10100A0100
400 V	6 Pulse	10	452 A	RECT-10404520A10100A0100
575 V	6 Pulse	10	243 A	RECT-10502430A10100A0100
690 V	6 Pulse	10	248 A	RECT-10602480A10100A0100

For a full list of patents and patent applications, visit www.controltechniques.com/patents.

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