Unidrive M Overview

AC and Servo Drive Family for Industrial Applications

0.25 kW - 2.8 MW Heavy Duty (0.33 hp - 4,200 hp)

100 V | 200 V | 400 V | 575 V | 690 V

Key Unidrive M family benefits include:

World leading drive performance

- Increased throughput – exceptional motor control using induction, permanent magnet, servo and linear motors in open or closed loop configuration for total flexibility
- Increased productivity through improved machine control – onboard real-time Ethernet supporting Precision Time Protocol (IEEE 1588 V2)

Open Automation Systems

Openness is at the heart of Unidrive M. Unidrive M supports a wide range of industry standard technologies and protocols including:

- Open programming languages using IEC 61131-3
- Open fieldbuses and networks including EtherNet/IP, EtherCAT, PROFINET and PROFIBUS
- Ethernet protocols, including PTP protocol for clock synchronization to IEEE 1588 V2

This open approach provides significant benefits to machine builders and OEMs:

- Optimized system performance with access to the latest industry technologies, programming languages and communication protocols
- Future proofing is assured with adherence to open standards for continuous compatibility with the latest technologies and avoidance of the lock-in risk associated with proprietary products
- System development speed is maximized due to use of familiar industrial programming languages and compatibility with standard components
- Large choice of compatible 'best-in-class' components
- Innovation and talent recruitment optimized through broad industry knowledge of open technologies

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Control Techniques™

EMERSON™
Industrial Automation

Ease of use

- Fast installation and start-up – intuitive keypads, software tools and easy cable management minimizing installation time

Functional safety

Unidrive M offers different levels of safety functionality to suit various needs, helping users to meet SIL3 (Safety Integrity Level 3) and PLe (Performance Level e), the highest level of safety standard currently available:

- Single and dual Safe Torque Off (STO) inputs
- Advanced safety functions as defined by IEC-61800-5-2 (including Safe Stop 1 and 2, Safe Limited Speed, Safe Limited Position) when an optional SI-Safety module is fitted

Extend the lifetime of your application with ease

As well as retrofitting existing applications that use Emerson's Commander SK and Unidrive SP drives, Unidrive M provides a immediate performance upgrade.

- Unidrive M100, M200, M300 and M400 offer an upgrade from Commander SK
- Unidrive M600, M700, M701 and M702 offer an upgrade from Unidrive SP
- Smartcards can be used to transfer parameter settings from Unidrive SP to Unidrive M
- The SI-Applications module allows existing Unidrive SP SyPTPro programs to be easily recompiled for Unidrive M700

Reduced machine size

- Compact drive dimensions, among the smallest in class at every power rating

High performance

M700

Flexible Automation

Class leading automation drive providing the highest levels of universal performance with servo, AC and permanent magnet motors. With integrated Ethernet, flexible motion and advanced PLC control

M600

Industrial Performance

High performance industrial drive for standard AC induction and high efficiency permanent magnet motors

Flexibility

M400

Diagnostics and PLC

Fast set-up and diagnostics with plain text display, integrated PLC and safety inputs

M300

Safety

Open loop AC drive with flexible safety integration capabilities

Value

M200

Communications

Open loop AC drive with easy communication integration options

M100

Value

Value and quality for simple applications

	M700	M600	M400	M300	M200	M100
	Up to 2.8 MW (4,200 hp)		Up to 110 kW (150 hp)			Up to 7.5 kW (10 hp)
Programmable IEC61131-3 controller using Machine Control Studio software	✓	✓	✓			
Open loop vector or V/Hz induction motor control	✓	✓	✓	✓	✓	✓
Enhanced 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)	✓	Option				
Closed loop permanent magnet/servo motor control (RFC-S)	✓					
Active Front End (AFE) power quality converter*	✓	✓				

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