

# Onboard Advanced Motion Controller

It wasn't easy,  
but we got it all in there.  
(Without charging extra!)

- Real-Time Onboard Ethernet IEEE 1588
- Comprehensive Position Feedback
  - FREE Configuration Software
  - FREE Programming Software
  - Drives Multiple Motor Types
  - High Speed Position Freeze
  - Motion Profile Generator
    - Velocity Control
    - Electronic Gearbox
    - Dual Loop Control
    - PLC Programming
    - Interpolated Cam
    - Homing Functions
      - Camming
      - Indexing



Advanced Motion Controller available on  
Unidrive M700 series AC/Servo drives.

## Unidrive M Advanced Motion Controller. Additional functionality at no additional cost.

The Advanced Motion Controller (AMC) is a powerful, high performance motion controller onboard Unidrive M700 series universal AC/Servo drives. Integrated in the standard drive product, the AMC provides extremely fast position loop update rates and is ideally suited for demanding positioning applications.



Automotive



Packaging



Metals

The AMC functionality can be easily configured and controlled in a variety of ways in single-axis and multi-axis applications. You can easily set up and control the AMC using intuitive drive-mounted keypads, Unidrive M Connect software, CTVue HMIs or Engineering Control Studio software (powered by CODESYS). The AMC can also be controlled remotely by other Unidrive M drives in a multi-axis system over high speed, real-time Ethernet using integrated IEEE1588 Precision Time Protocol or by external controllers over a range of industrial networks.

To provide extremely cost effective motion control solutions, the integrated AMC functionality and real-time Ethernet, coupled with Unidrive M Connect drive configuration and Engineering Control Studio programming software tools. Software available for download at no charge on the Control Techniques website: [www.controltechniques.com](http://www.controltechniques.com)

### Typical Applications

- Gearing & ratio control
- Web handling
- Metals
- Flying shear
- Rotary knife
- Test machines
- Printing
- Packaging machines
- Textiles
- Woodworking
- Labeling
- Pick & Place
- Automotive



## Unidrive M



1 hp to 4,200 hp  
(0.75 kW to 2.8 MW)  
230 V | 460 V | 575 V | 690 V

### Real-Time Ethernet

Unidrive M700 and M702 drives' onboard real-time Ethernet (using IEEE 1588 V2) provides improved machine control with fast and flexible communications. Synchronization of drive loops can be achieved across the network below 1µs, with update rates as low as 250µs with a virtually unlimited node count.

## Advanced Motion Controller Features

- Velocity control
- Homing functions (9 types)
- Indexing
- Electronic gearbox
- Camming
- Interpolated cam
- High speed position freeze
- Motion profile generator
- Dual loop control
- Multiple motor types
- PLC programming
- FREE configuration software
- FREE programming software

## Control Modes

- Enhanced closed loop permanent magnet/servo motor control
- Enhanced closed loop Rotor Flux Control for induction motors
- Open loop permanent magnet motor control
- Enhanced open loop Rotor Flux Control for induction motors
- Open loop vector or V/Hz induction motor control

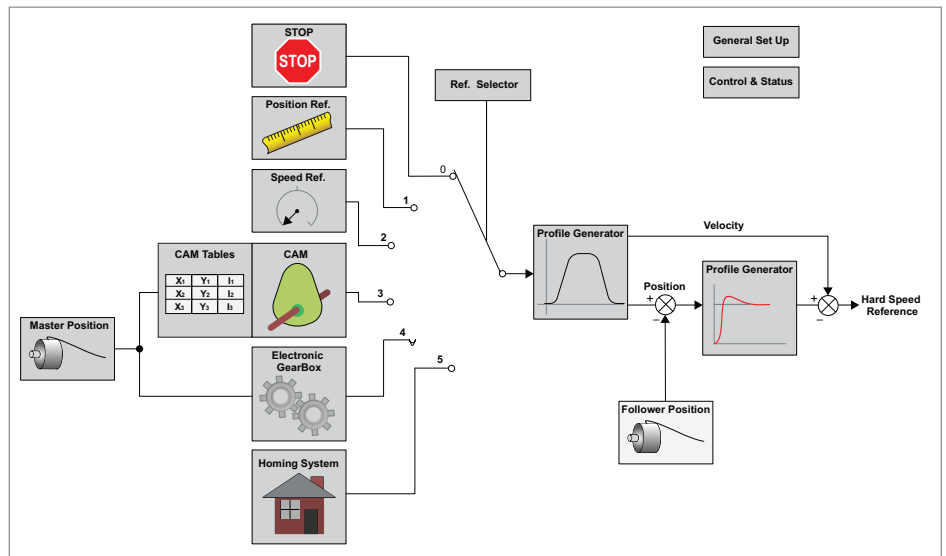
## Maximum Performance

Unidrive M700 series drives allow you to choose the right encoder technology based on performance and cost for your application. The onboard feedback interface provides high performance connectivity to multiple encoder channels and supports virtually any standard encoder feedback technology including resolver, HiPerface®, BiSS™ and EnDat® devices.

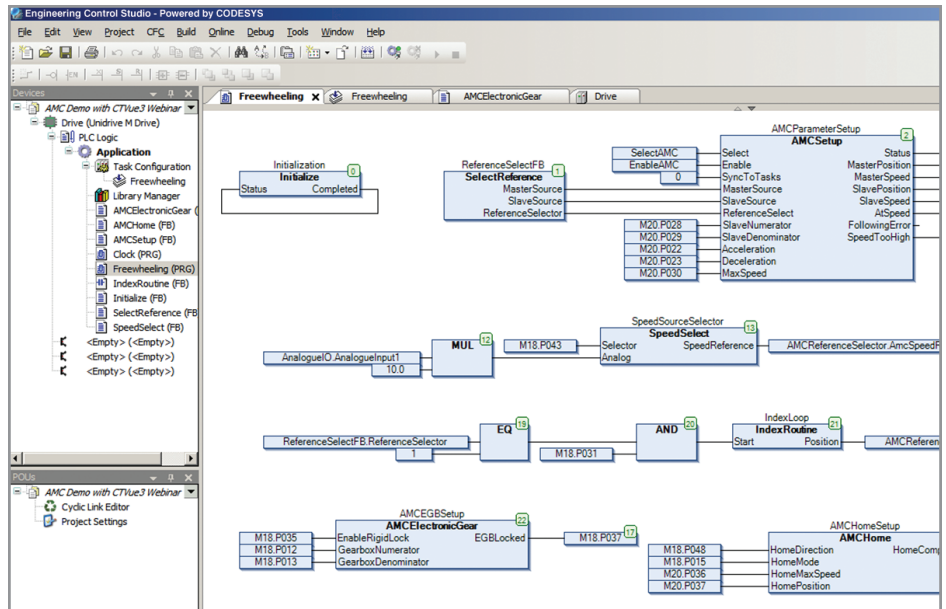
## Flexible Programming

Unidrive M700 series drives can be configured with Unidrive M Connect commissioning software or, for a more advanced approach to machine control, the Engineering Control Studio software can be used. Both software applications are readily available at no charge from our website.

## Advanced Motion Controller Overview



**Engineering Control Studio** provides a flexible, intuitive environment for programming Unidrive M's new automation and motion control features. Powered by CODESYS, the leading open software for programmable machine control, Engineering Control Studio is fully IEC 61131-3 compliant, meaning that it is familiar and therefore fast and easy to use for control engineers around the world. This new software offers programming for Unidrive M700 series' onboard PLC via Ethernet or Modbus RTU connectivity.



## Flexible Motor Choices

Unidrive M drives maximize machine throughput with exceptional control performance with virtually any industrial motor type including; servo, AC induction, permanent magnet, synchronous reluctance and linear.



Want more details? Get complete details and ordering information in the **Servo Motors** brochure.



p/n BRO-SRVOMTRS

Want more details? Get complete details and ordering information in the **Unidrive M700** brochure.



p/n 0778-0011-06