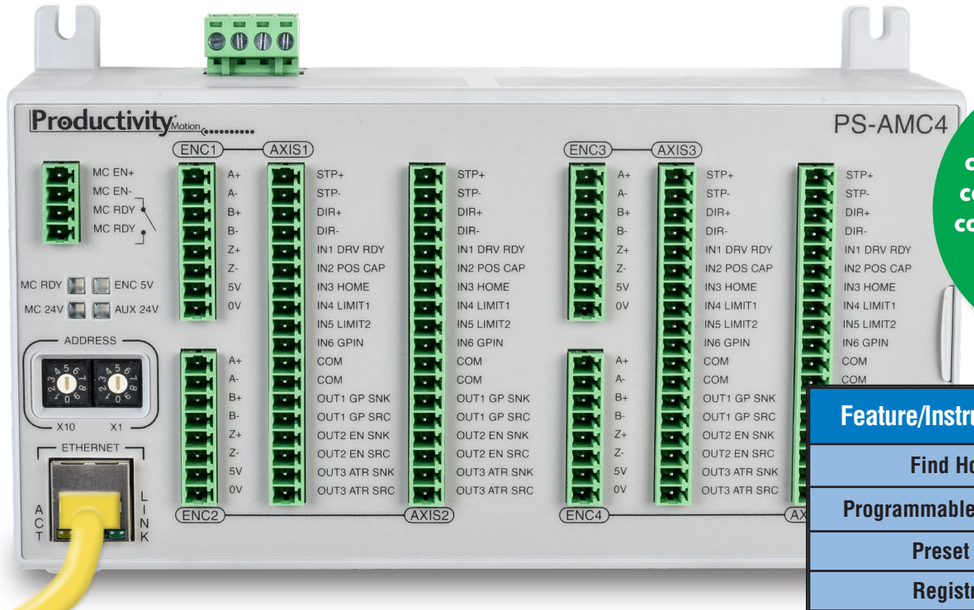
# From simple to sophisticated, we've got an affordable motion control solution for you.

Productivity® Motion




**PS-AMC motion controller provides coordinated motion control with easy-to-use, built-in instructions**

## PS-AMC Enhanced Motion Controller

Starting at only $331.00

The PS-AMC motion controller is an ideal choice for low-cost coordinated motion that's easy to use and reliable. Designed to work effortlessly with the Productivity family of CPUs, the AMC provides accurate, synchronized, motion control on up to four axes per module for a very attractive price.

### Use the PS-AMC with select Productivity series CPUs for low cost, coordinated motion control in any application

- Flying cut-off systems
- Press feeds
- In-line bottle filling
- Auger fillers
- Label applicators
- Smart conveyor systems (random timing infeeds)
- Rotary tables
- Vertical-form-fill-seal
- Case erectors/ packers
- Cut to length systems
- High-speed mail sorting
- Web/film handling
- Boring/drilling/tapping
- Coil winding
- Wrapping
- Thermo-formers
- Rotary knives
- And many more...

| Feature/Instruction/Application | PS-AMC | P2-HSI | P2-HSO |
|---|---|---|---|
| Find Home (HOME) | ✓ | --- | ✓ |
| Programmable Limit Switch (PLS) | --- | ✓ | --- |
| Preset Table (PST) | --- | ✓ | --- |
| Registration (REG) | --- | ✓ | --- |
| Manual Registration (MREG) | ✓ | --- | --- |
| Auto Registration Correction (AREG)* | ✓ | --- | --- |
| Simple Move (SMOV) | ✓ | --- | ✓ |
| Set Position (SPOS) | ✓ | ✓ | ✓ |
| Velocity Move (VMOV) | ✓ | --- | ✓ |
| Write HS Outputs (WHSO) | --- | ✓ | ✓ |
| Write AMC Outputs (WAMO) | ✓ | --- | --- |
| Electronic Gearing (GEAR)* | ✓ | --- | --- |
| Rotary Table Application (RTA)* | ✓ | --- | --- |
| AMC Axis Enable (AEN) | ✓ | --- | --- |
| Flying Cutoff (FCO)* | ✓ | --- | --- |
| Motion Sequencer (MSEQ)* | ✓ | --- | --- |
| Coordinated Motion | ✓ | --- | --- |
| Max # Axes per Motion Controller or Motion Module** | 4 (PS-AMC4) | 2 | 2 |

** Application-specific instructions*
*** Up to four PS-AMC controllers can be connected to a Productivity2000 CPU for up to 16 axes total*

For the latest prices, please check AutomationDirect.com.



**HSI/HSO modules provide reliable, straight-forward open-loop motion control**

## P2-HSI / P2-HSO Modules

Priced at $278.00 ea.

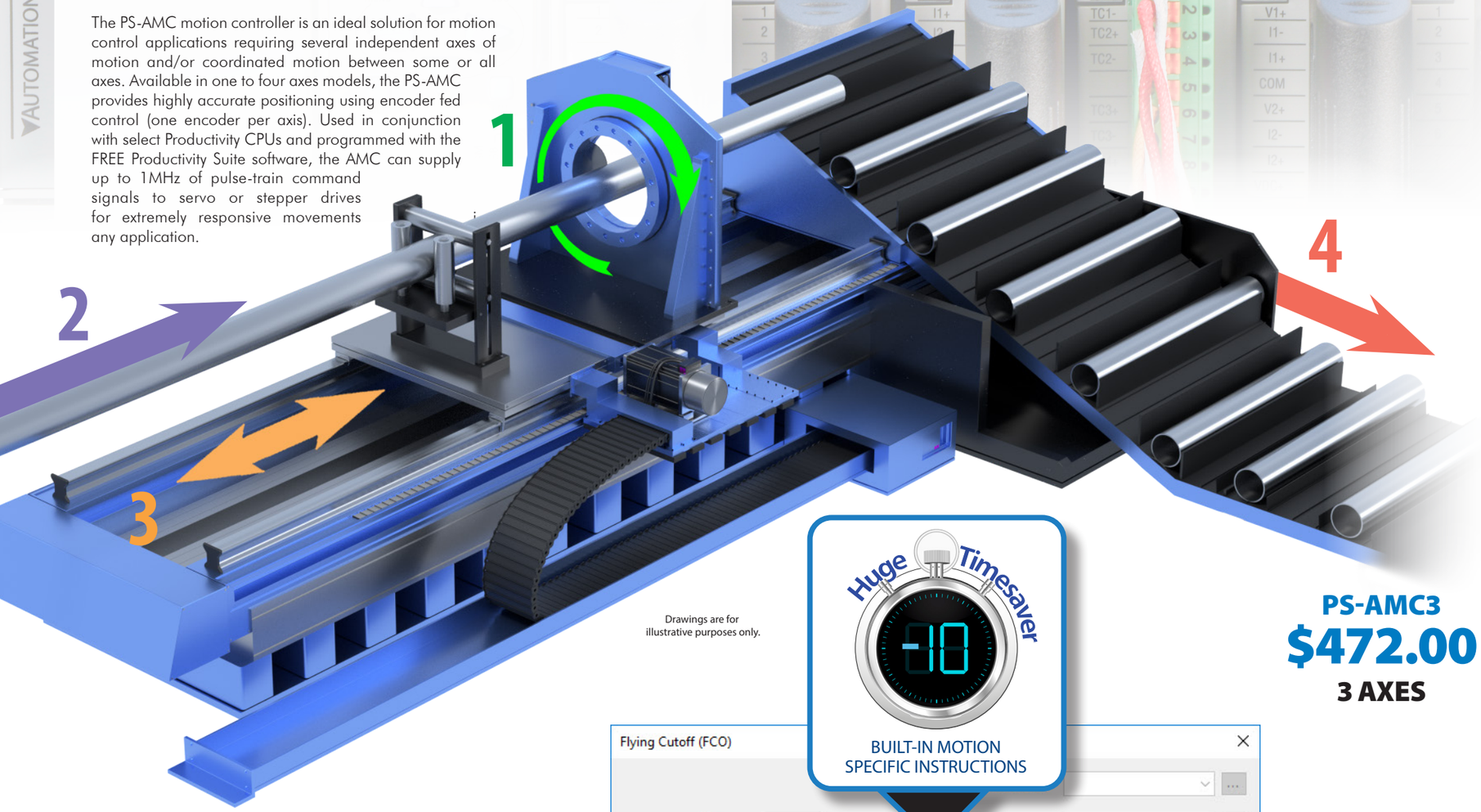
If you need to perform simple motion commands like homing routines, set position, preset tables, etc. on up to 2 axes per module, then the P2-HSI and P2-HSO modules may be all you need. These modules slide right into any open slot in any local or remote rack, easily adding low-cost basic motion control to your Productivity2000 system.

For the latest prices, please check AutomationDirect.com.



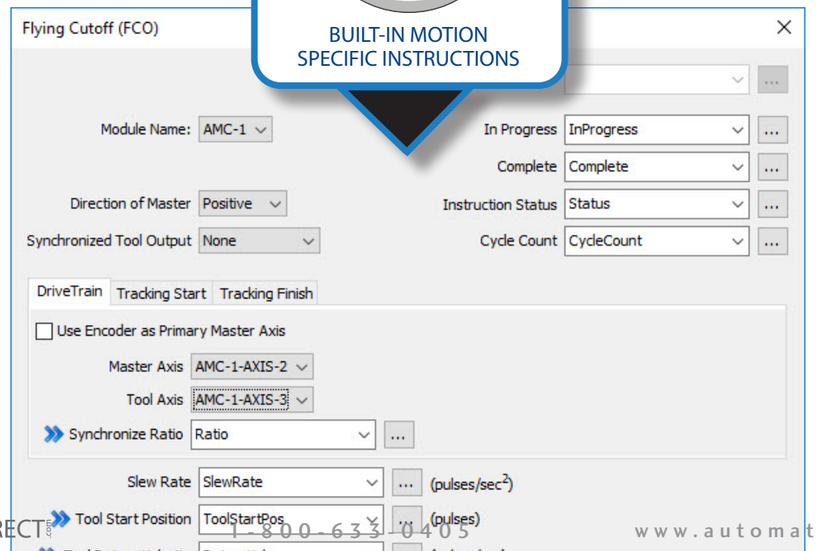
# Multi-axis motion control that's accurate and affordable

The PS-AMC motion controller is an ideal solution for motion control applications requiring several independent axes of motion and/or coordinated motion between some or all axes. Available in one to four axes models, the PS-AMC provides highly accurate positioning using encoder fed control (one encoder per axis). Used in conjunction with select Productivity CPUs and programmed with the FREE Productivity Suite software, the AMC can supply up to 1MHz of pulse-train command signals to servo or stepper drives for extremely responsive movements any application.




Drawings are for illustrative purposes only.



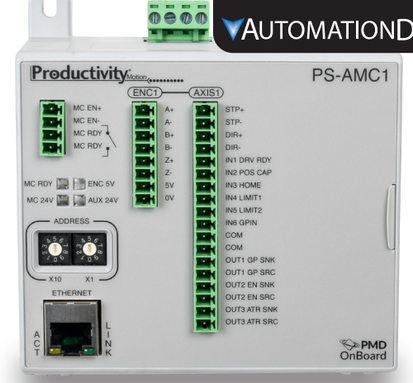




## Flying cut-off application

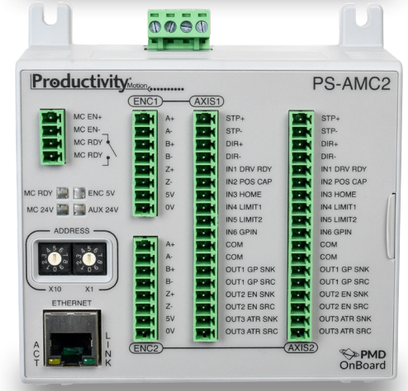
The primary function of a flying cut-off system is to synchronize the speed of a servo-driven carriage, on which a cutting mechanism is mounted, with the speed of a continuously fed material to make a perpendicular cut without stopping the feed. These applications are used where it isn't practical to stop and start a continuous production operation.

The flying cut-off shown above employs four axes of motion, a rotating pipe cutter[1], a continuous pipe infeed system[2], carriage positioning drive[3], and outbound conveyor[4]. With the PS-AMC4, all four of these axes can be easily controlled and synchronized within the same controller, and it's only $542.00!

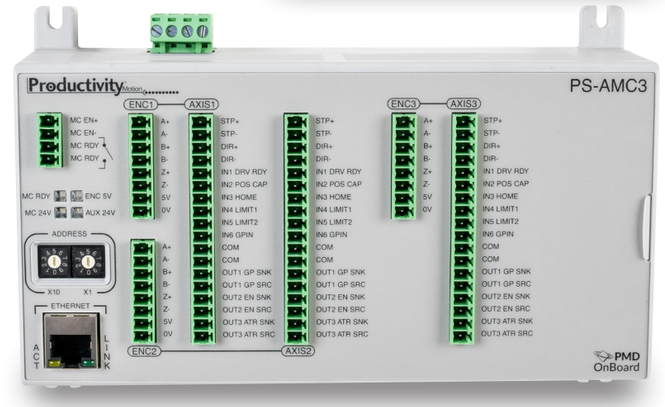
**PS-AMC1**
**$331.00**
**1 AXIS**




**PS-AMC2**
**$401.00**
**2 AXES**




**PS-AMC3**
**$472.00**
**3 AXES**




**PS-AMC4**
**$542.00**
**4 AXES**

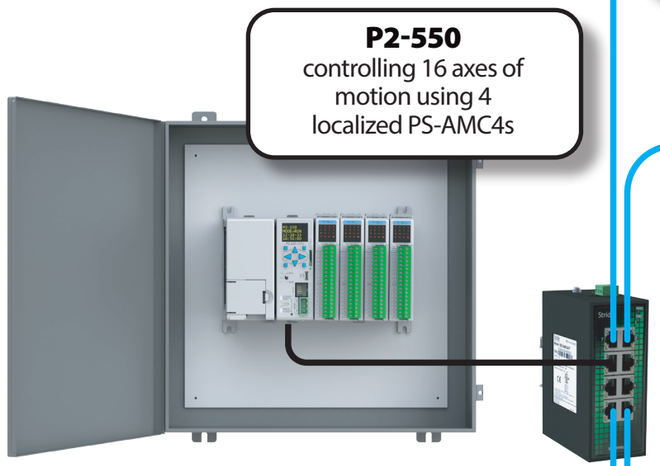
Productivity® Motion

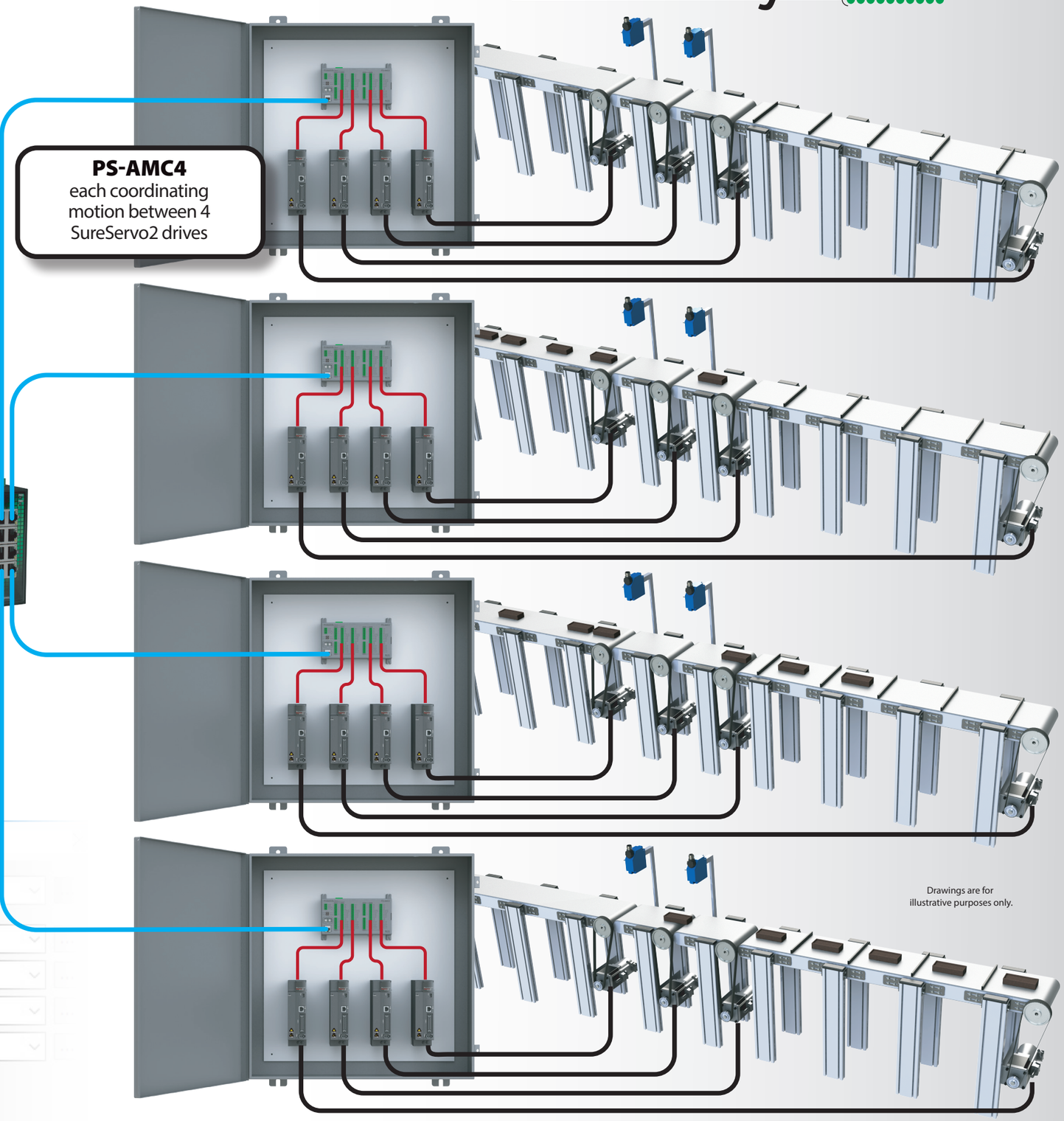
# Easily control up to 16 axes of motion across your facility

Each remote I/O capable Productivity2000/3000 CPU can control up to 16 axes using four PS-AMC4 controllers each coordinating up to four axes on their own (P1000 systems can control up to 4 axes using 1 PS-AMC controller). So whether you have a single system with 4 or more axes of motion, multiple coordinated systems across your facility, or if you're anticipating future expansion, the PS-AMC is a perfect solution for your motion application.

The Productivity Suite software provides the following for the PS-AMC:

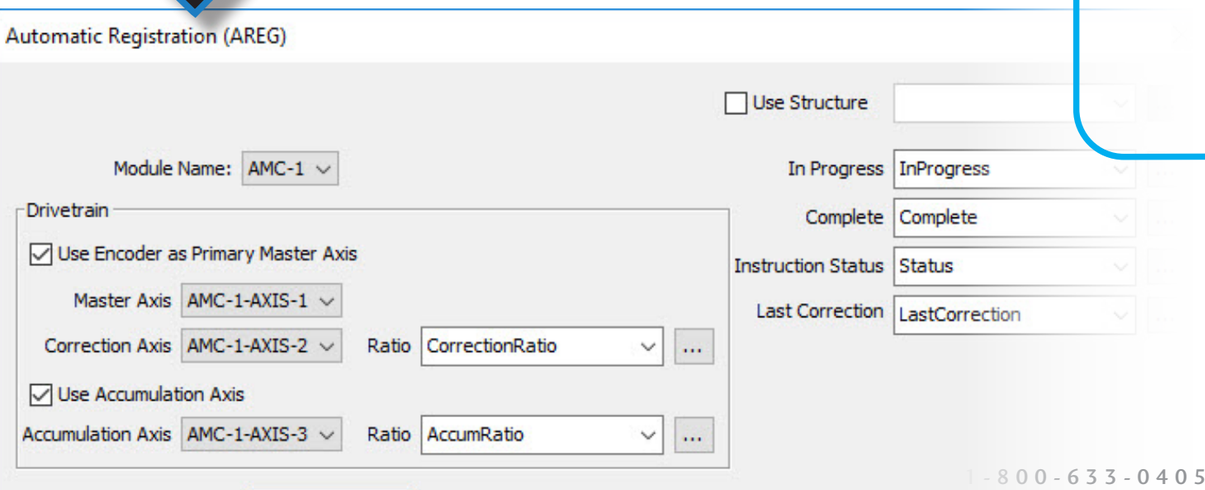
- Motion profile set-up with easy-to-use built-in motion instructions
- Software test tool allows you to test the hardware without any ladder code – very useful for validating the physical wiring
- Real-time status and diagnostic information
- Plug-and-play hardware configuration using auto-discovery of the AMC units


## Smart conveyor application

When it comes to package handling, pick-and-place or similar applications, product spacing is very important. One way to ensure proper spacing is to send the products through a smart conveyor system. With a smart conveyor, products arriving from an upstream process are brought to the right distance and phase position using several belts that are electronically coupled with each other through a PS-AMC controller. Each conveyor's servo motor will speed up or slow down to achieve the appropriate spacing between products. Four coordinated four-belt smart conveyor systems can be controlled with just one CPU.



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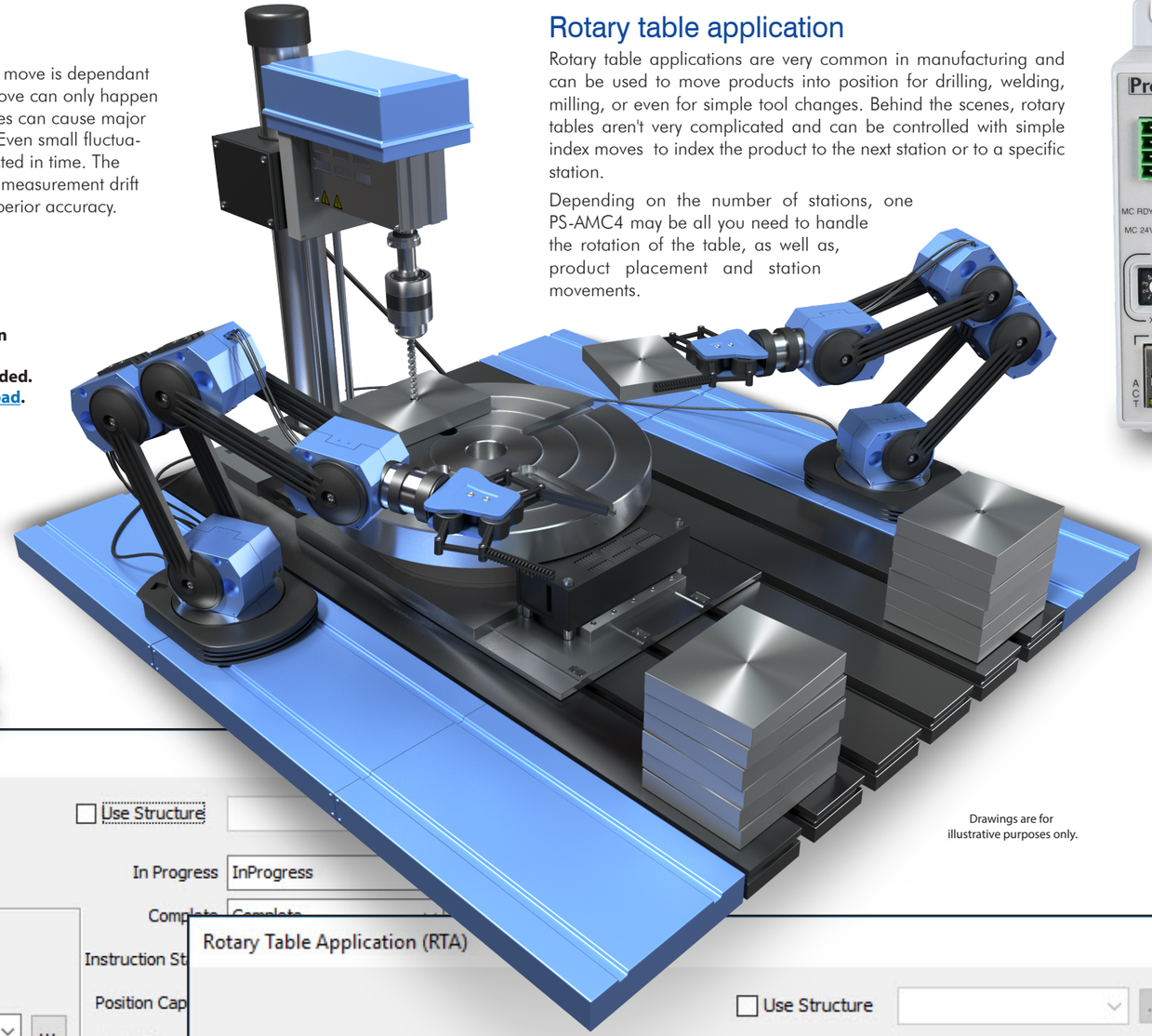
# Precise positioning for when close enough just won't cut it

With machinery that uses coordinated motion where one move is dependant on another, especially in situations where a secondary move can only happen once the first has cleared its path, positioning inaccuracies can cause major production loss or even substantial equipment damage. Even small fluctuations can compound and become big issues if not corrected in time. The Productivity AMC has features built-in to compensate for measurement drift and allows on-the-fly position corrections to maintain superior accuracy.

**FREE SOFTWARE**

**FREE Software!**
**Download as often as you need.**
**No license or key needed.**
**Click here to download.**



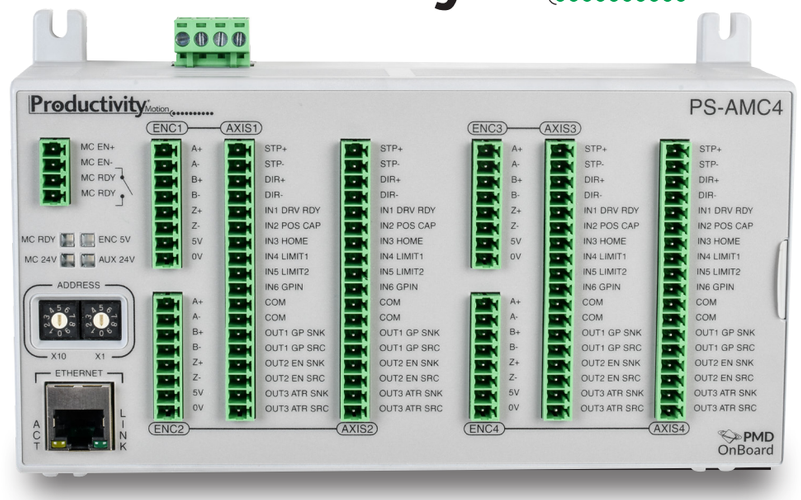
## Rotary table application

Rotary table applications are very common in manufacturing and can be used to move products into position for drilling, welding, milling, or even for simple tool changes. Behind the scenes, rotary tables aren't very complicated and can be controlled with simple index moves to index the product to the next station or to a specific station.

Depending on the number of stations, one PS-AMC4 may be all you need to handle the rotation of the table, as well as, product placement and station movements.

Drawings are for illustrative purposes only.

Productivity Motion




**PS-AMC4**

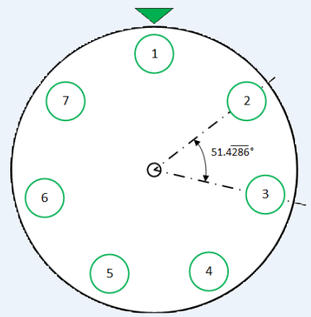
**$542.00**

**4 AXES**

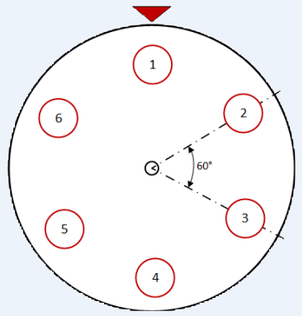
## Stay on target!

One inherent problem with this type of application (as well as other continuous, same direction motion applications), is when the difference between steps/stations is fractional. If the controller doesn't account for these fractions, the system will drift. The PS-AMC controller takes this into consideration and will accurately handle fractional steps to prevent drifting over time and always remain on target.

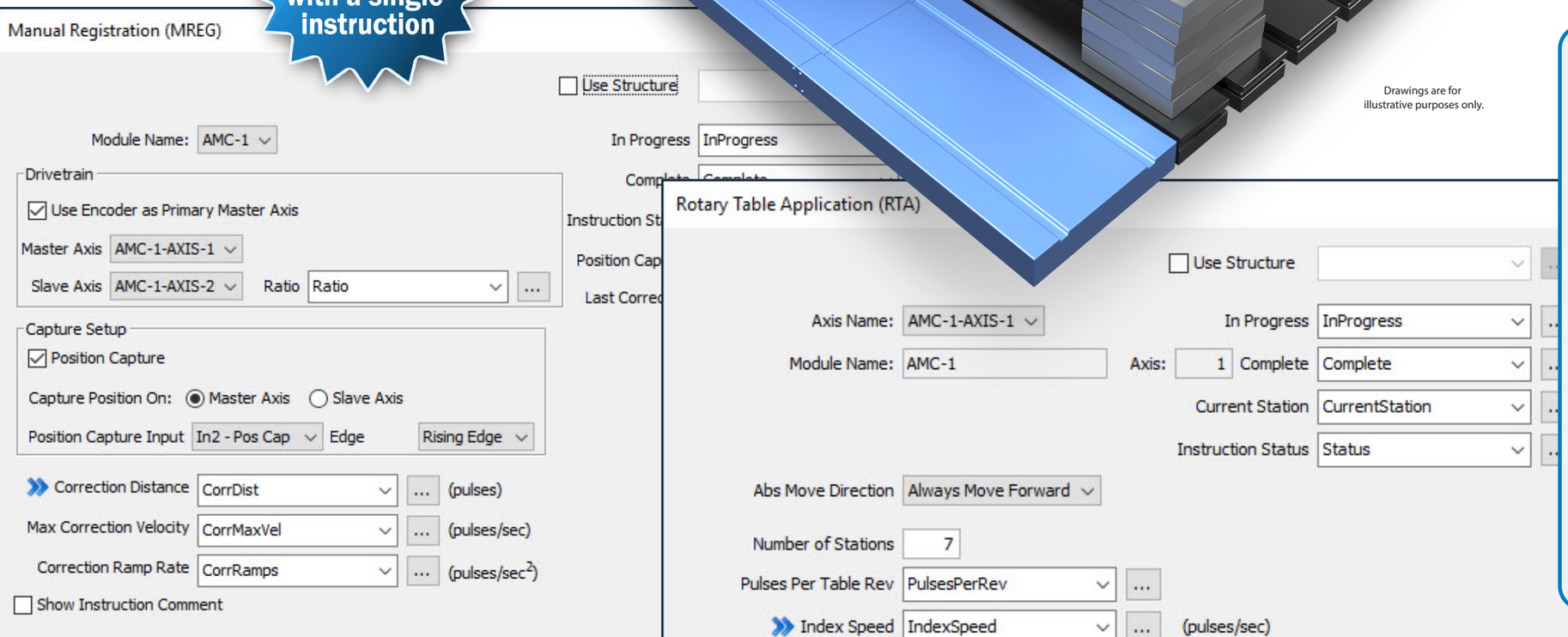
7-station rotary table with fractional measurements

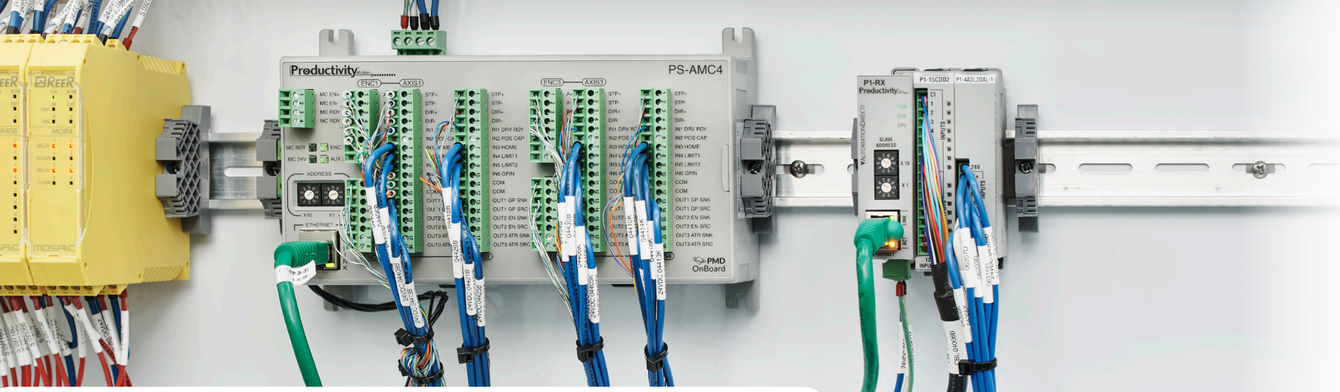



6-station rotary table with non-fractional measurements




**On-the-fly position corrections with a single instruction**






# A-M-C, easy as 1-2-3!

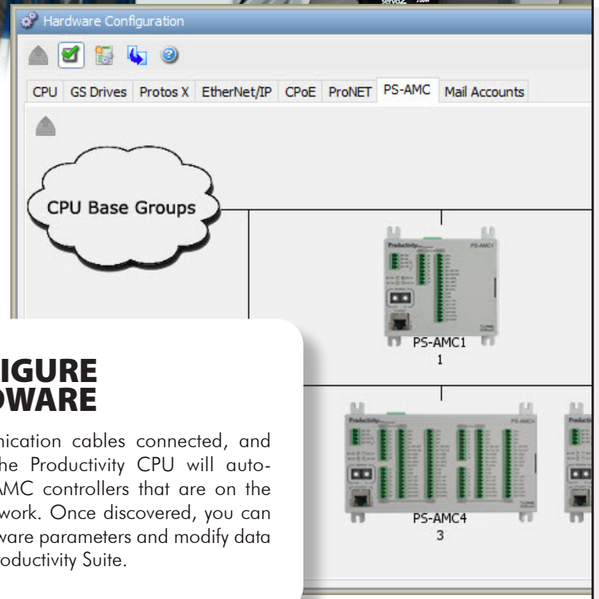
## 1 INSTALL HARDWARE

Once your PS-AMC arrives, install the controller either locally to or remotely from the CPU and connect the needed Ethernet cable(s). Wire up the system, power the controllers, and download the free Productivity Suite software to your PC if you haven't already. At this point, you could use the software test tool in Productivity Suite to test the hardware and verify the physical wiring, otherwise on to step 2.



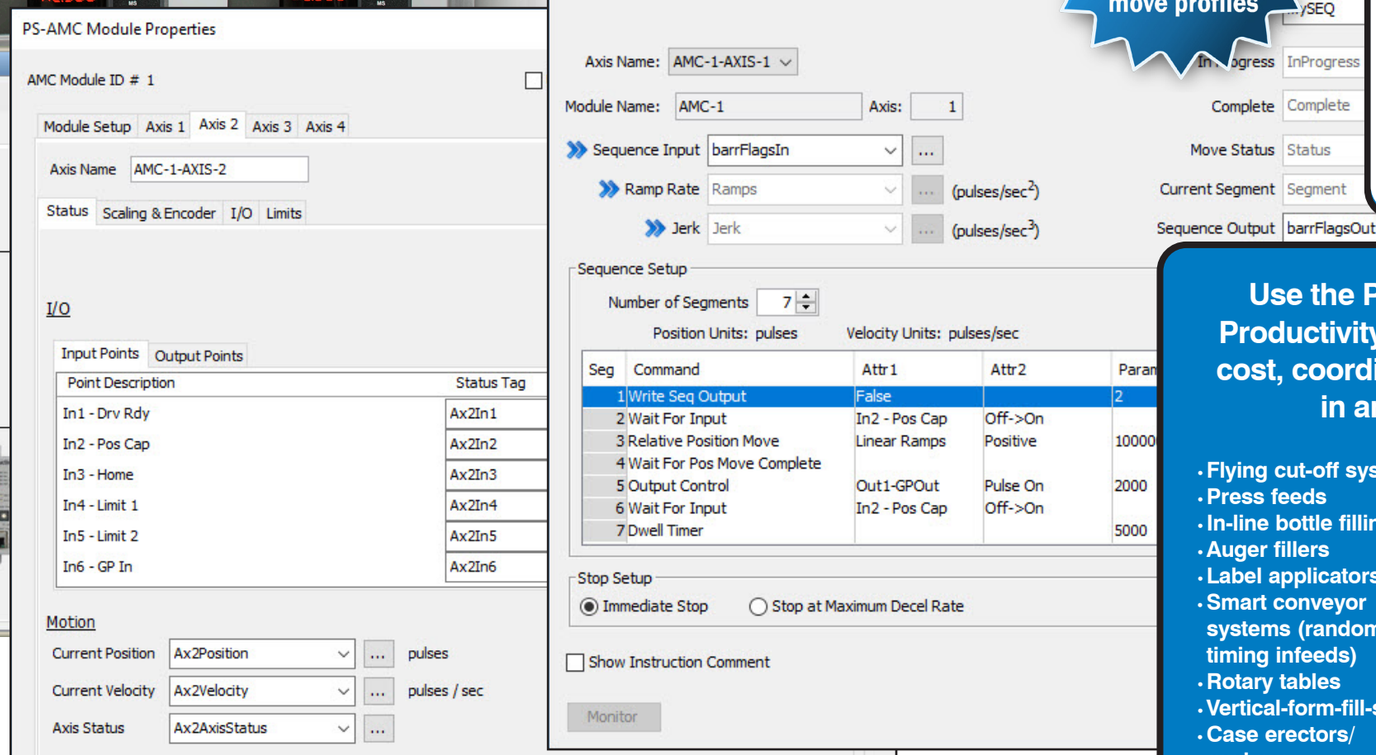
## 2 CONFIGURE HARDWARE

With the communication cables connected, and power applied, the Productivity CPU will auto-discover any PS-AMC controllers that are on the same Ethernet network. Once discovered, you can easily set the hardware parameters and modify data tags from within Productivity Suite.




## 3 SET UP MOTION PROFILE

Productivity Suite has numerous built-in motion instructions that allow you to quickly and easily configure standard motion profiles like flying cut off, rotary tables, and more using simple drop-down selections. If you need something different, you can also create your own custom move profiles using the Motion Sequencer (MSEQ) instruction. Create your profile, download the updated project file to the CPU, and you are done!




**BUILD YOUR OWN!**
**Create custom position & velocity move profiles**

### Motion Instruction Set

- AEN AMC Axis Enable
- AREG Automatic Registration
- FCO Flying Cutoff
- GEAR Gear Drivetrain
- HOME Find Home
- MREG Manual Registration
- MSEQ Motion Sequencer
- RTA Rotary Table Application
- SMOV Simple Move
- SPOS Set Position
- VMOV Velocity Move
- WAMO Write AMC Outputs

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