

# TSM14POE Integrated Motor

Datasheet



## Description

The TSM14POE StepSERVO™ Integrated Motor with Power over Ethernet (PoE) is a unique, single-cable solution for motion control applications requiring minimal wiring and a small footprint. By combining power and Ethernet communications into a single connector, wiring to the integrated motor is greatly simplified and the motor can be mounted almost anywhere.

Built upon Applied Motion Products' StepSERVO™ closed-loop stepper technology, TSM14POE integrated motors provide numerous performance benefits over conventional, open-loop step motor systems including higher torque and greater efficiency.



## Benefits

- Simplified installation using a single, standard Ethernet cable (e.g. Cat6) for power and communications. No other connections to the motor are required.
- Compact size and integrated control electronics allow the motor to be mounted almost anywhere.
- StepSERVO™ technology provides higher torque, faster acceleration, better efficiency, decreased motor heating and less audible noise than traditional, open-loop step motor systems.
- Easily adapt to your existing industrial Ethernet network with support for common protocols.
- Compatible with readily available PoE+ switches and injectors.

## Applications

The TSM14POE integrated motor is ideally suited for applications where compact, accurate motion control is required, and minimal wiring is a plus. The single-cable PoE solution makes the motor particularly useful for...

- Mobile robots
- Medical devices
- End-of-arm tooling
- Electric grippers
- Small linear actuators
- Building automation
- Robotic pipe inspection systems
- And much more...



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## Details

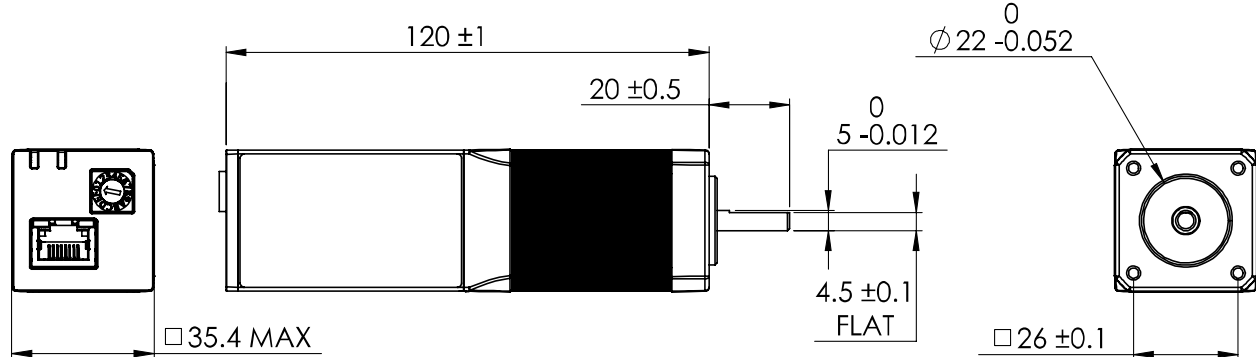
For all inquiries contact your local sales rep or contact Applied Motion Products directly at [applied-motion.com/contact](http://applied-motion.com/contact).

- NEMA 14 frame size motor with integral 4096-count magnetic encoder and on-board closed-loop motor controller.
- High position and velocity accuracy, excellent control characteristics.
- Compatible with IEEE 802.3at Type 2 specifications for PoE+.
- Network compatible with Ethernet TCP/IP, EtherNet/IP and Modbus TCP industrial Ethernet protocols.
- Two connector options, X-coded M12 or modular RJ-45, allow the use of standard, widely available Ethernet cables such as Cat6.
- PC-based software tools for setup, configuration and tuning.
- On-board motion control with Q Programming.

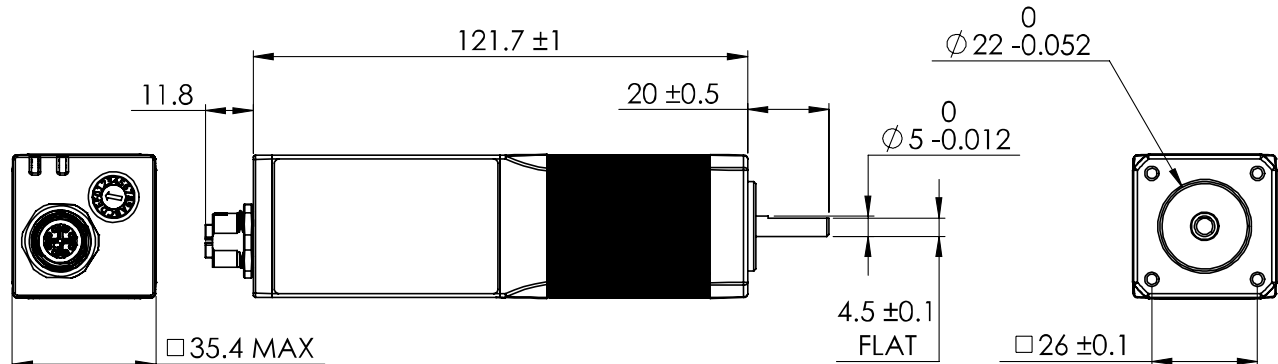
Part Numbers	Frame Size	IP Rating	Holding Torque	Connector Type
TSM14POE3M-IPEJ	NEMA 14	IP40	32 oz-in	RJ-45
TSM14POE3M-IPEM	NEMA 14	IP40	32 oz-in	M12

## Dimensions (mm)

RJ-45 connector version:



M12 connector version:

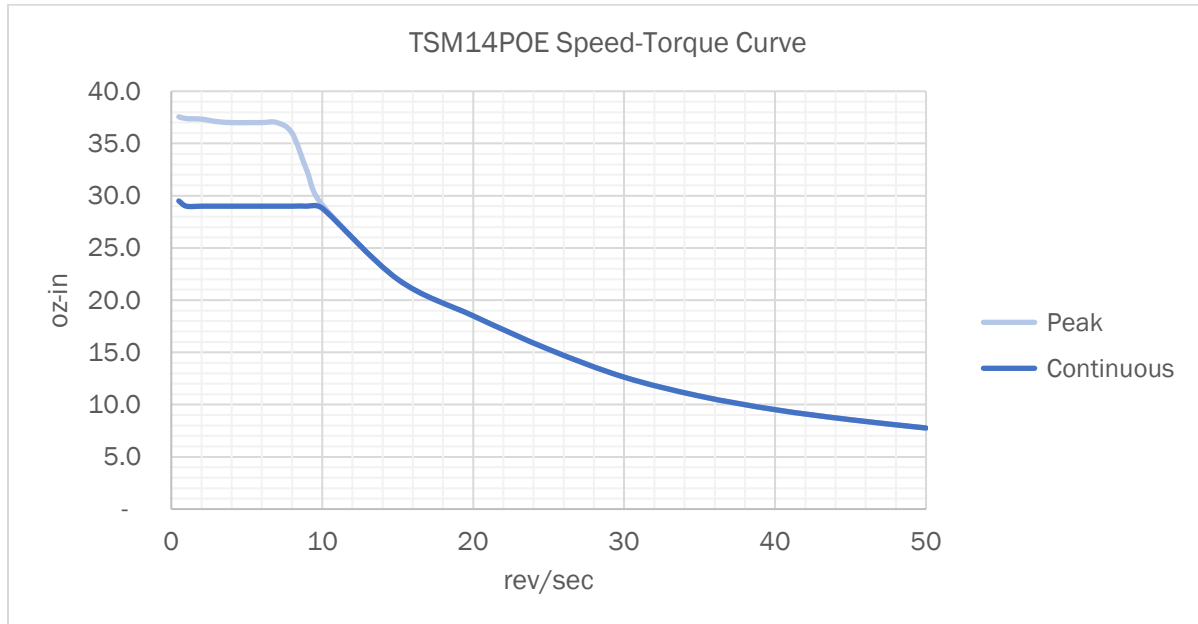


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## Speed-Torque Curve

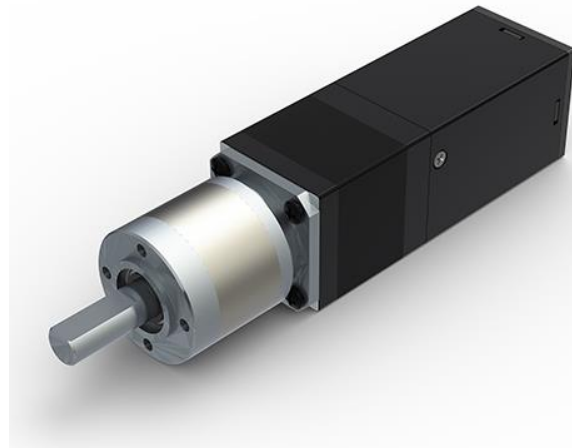


## Planetary Gearheads

TSM14POE integrated motors are available pre-assembled with [PH Mini Planetary Gearheads](#). These planetary gearboxes come in a wide range of ratios and significantly increase output torque for applications that require greater torque.

Standard ratios available:

- 4.62:1
- 5.70:1
- 12.07:1
- 32.50:1
- Additional ratios available upon request.



## Accessory - PoE+ Injector

The PoE+ injector enables a TSM14POE integrated motor to be installed in an existing Ethernet network where a PoE+ enabled switch is not available.

- PoE+ Injector part number: 1000-382

