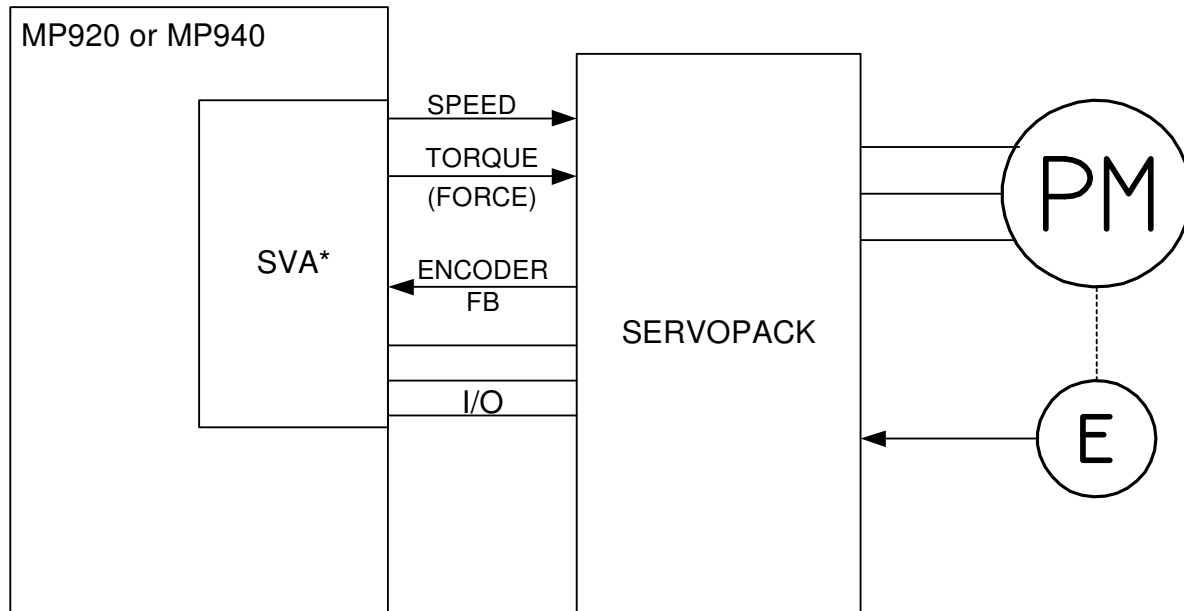


The SVA module is the name of the analog servo interface for Yaskawa's MP900 and MP2000 series products.

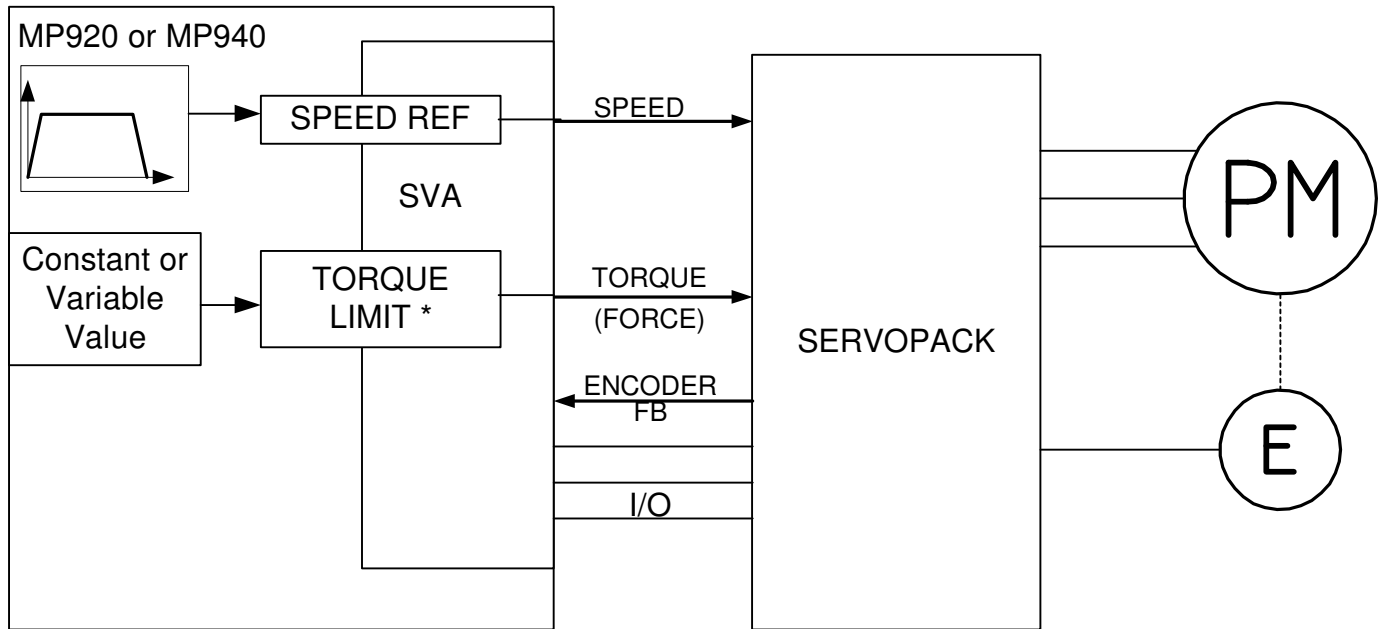
The module has the ability to close the position loop using encoder feedback as well as command an open loop speed or torque.



\* If this is an MP920 then this diagram is for a two axes SVA-02 module it has a "speed" and "torque" (force) output. The 4 axis SVA-01 only has a "speed" command output.

There are four basic control modes:

**1. Speed Reference Mode:** Speed is commanded and the speed loop is closed by the servo amplifier. It is possible to command variable speed AC drives (Inverters) also.



Note: Torque Limit is for MP920's SVA-02 and MP940 only.

**2. Torque Reference Mode:** Torque torque is commanded (or force) in the case of a Linear motor. The current loop is closed in the servo amplifier. Often this method is used to limit torque and or control force.

**3. Position Control Mode:** Speed is commanded using a defined profile and the position loop is closed using the encoder feedback from the motor. This allows the system to move to a target position and hold that position.

**4. Phase Control Mode:** Phase Control Mode is a position locked speed mode. This allows for very accurate encoder following and CAM profiles to be implemented.

There is an additional Control mode called **“Zero Point Return.”** This mode uses preprogrammed sequences that return the axis to the machine “zero point.”

It is possible to change modes on the fly. Combinations of modes can be applied, allowing the controller to command torque while limiting speed, or speed while limiting torque.